



VAJIRAM & RAVI

Institute for Civil Services Examination



CURRENT AFFAIRS 'QUICK REVISION' PRELIMS 2021 (PART 1)

June to December 2020

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PRELIMS 2021 QUICK REVISION (PART 1)
(Current Affairs – June To December 2020)

Polity

- PM-CARES
- Inner Line Permit System
- First Bell
- National Institute of Public Finance and Policy
- Anti Defection Law and Power of Speaker
- OBC Sub-Categorisation Commission
- Postal Ballot System
- Compulsory Licensing
- Andhra Pradesh Panchayat Raj (Second Amendment) Ordinance, 2020
- Digital Accountability and Transparency Act
- Election Commission's Power to Delay Polls
- NATGRID and NCRB
- Second Voluntary Review of SDG
- e-SamikSha Platform
- National Human Rights Commission
- Press Council of India
- National Legal Services Authority (NALSA)
- Ayushman Bharat Yojana
- Atal Pension Yojana
- Common Service Centres Scheme
- Star Rating of Garbage Free Cities
- Pradhan Mantri Vaya Vandana Yojana
- Grants-in-aid for Rural Local Bodies
- Consumer Protection Act, 2019
- National Financial Reporting Authority
- Plea Bargaining
- Contempt of Court
- Merger under 10th Schedule

- AuditOnline Application
- Committee on Content Regulation in Government Advertising (CCRGA)
- Governor's Power to Summon the House
- AIM-iCREST
- E-Commerce Sites Must State Country of Origin
- Habeas Corpus
- Negative Import List for Defence
- Comptroller and Auditor General of India
- Clause 6 of the Assam Accord
- Demand for 6th Schedule Status for Arunachal Pradesh
- Whip
- Union Public Service Commission (UPSC)
- Global Rights Index
- Affordable Rental Housing Complexes
- Saansad Adarsh Gram Yojana
- BharatNet Project
- Pradhan Mantri Aawas Yojana- Gramin
- Rashtriya Swachhata Kendra (RSK)
- New Rules for Postal Ballot
- Bodoland Poll
- Star Campaigner
- River Management Board
- Right to Information Act, 2005
- SVAMITA Scheme
- Goa declared First Har Ghar Jal State
- Tech for Tribals
- Saral Jeevan Bima
- District Development Councils
- Maharashtra Withdraws ‘General Consent’ to CBI
- Integrity Pact in Government Organisations
- National Anti-Doping Agency
- Need to Amend the Official Languages Act

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- Swasthya Portal
- Curative Petition
- Domicile-based Job Quota
- Vaccine Nationalism
- Swachh Survekshan Report 2020
- Appointment of Election Commissioners
- Atal Bimit Vyakti Kalyan Yojana
- Lokayukta
- No Confidence Motion
- Attorney General
- Armed Forces Tribunal
- UDAN Scheme
- Supreme Court Judgement on Sub-Classification of SCs/STs
- New Rules for Administration in Jammu & Kashmir
- Particularly Vulnerable Tribal Groups
- National Register of Citizens (NRC)
- National Population Register (NPR)
- Review Petition
- International Covenant on Civil and Political Rights
- Question Hour
- Mission Karmayogi
- Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)
- Special Marriage Act, 1954
- Committee on Content Regulation in Government Advertising
- Mid-Day Meal Scheme
- ODF+ and ODF++
- Office of Profit
- Criminalisation of Politics
- Village Poverty Reduction Plan (VPRP)
- Breach of Legislature's Privilege
- Five Star Village Scheme
- EC Revises Timeline for Political Parties & Candidates
- Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS)
- IRAD App
- Mekedatu Project
- Supplementary Grants
- National Capital Territory of Delhi (Amendment Bill) 2020
- Pradhan Mantri Swasthya Suraksha Yojana
- Samarth Scheme
- Suspension of MPs from the House
- Select Committees
- Official Secrets Acts
- Lok Adalat
- National Medical Commission
- HC Questions the set up of Special Courts for MPs and MLAs
- States Refusal to Implement Central Laws
- Pardoning Powers of the Governor
- Panel to Review TRP Norms
- Haryana Passed a bill to Recall Panchayat Member
- Competition Commission of India
- Attorney General's Consent to Contempt of Courts
- Accused can get Bail if Probe not completed within Prescribed Time
- Jammu & Kashmir Roshni Act
- Uttar Pradesh Prohibition of Unlawful Conversion of Religion Ordinance, 2020
- Members of Parliament Local Area Development Scheme (MPLADS)
- Convicted Legislators Cannot be Barred for Life from Contesting Polls
- Voting by Post for NRIs
- Model Code of Conduct
- Overseas Citizen of India
- Delimitation Commission

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- Paray Samadhan (Redressal in the Neighbourhood)
- Good Governance Day
- Move To Seek Ban On Vehicular Movement Inside Cubbon Park
- Constitution Day
- World Habitat Day
- ARIIA 2020 Rankings
- Digital Quality of Life Index 2020
- National Council for Transgender Persons
- Kerala to set up India's first International Women's Trade Centre
- Dharma Chakra Day
- Raja Parba Festival
- Raja Ravi Verma
- UNESCO
- National List of Intangible Cultural Heritage
- Ambubachi Mela
- Khudai Khidmatgar Movement
- Jagannath Rath Yatra
- Maharana Pratap
- Rabindranath Tagore
- Toda Embroidery
- Gandhi Peace Prize
- Katkari Tribe
- Purandara Dasa
- Madhubani Paintings
- Bal Gangadhar Tilak
- Chandra Shekhar Azad
- Natesa & Pratihara Architecture
- Subhash Chandra Bose Aapda Prabandhan Puraskar
- Jyotirao Phule
- Gandhi-King Scholarly Exchange Initiative Act
- Abanindranath Tagore
- Quit India Movement
- National Flag of India
- Nagara Architecture of Ayodhya's Ram Mandir
- Thenzawl Golf Resort
- Museums for Tribal Freedom Fighters
- Thumbimahotsavam 2020
- Living Planet Report
- Istanbul's Chora Museum
- Nuakhai Juhar
- DekhoApnaDesh 50th Webinar Series
- Warli Painting
- Pulikkali to go Online this Onam

History and Culture

- Six Nation Peace Initiative
- Gaan-Ngai Festival
- Kotla Narsimhlupalle Village
- Abdul Hamid Lahori
- Bon Bibi
- Sankalp Parva
- Rabari, Bharvad and Charan Tribes of Gujarat
- Padmanabhaswamy Temple
- Antifa
- SPIC MACAY
- Kolkata Port Trust renamed as Syama Prasad Mookerjee
- Talamaddale
- Pashupatinath Temple
- Axone
- Chaolung Sukapha
- International Day of Yoga
- Variyamkunnath Kunjahammed Haji
- Mar Thoma Church
- Indira Gandhi National Centre for the Arts
- Tangam Community and their Language
- Mangolian Kanjur

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- Seven New Circles of Archaeological Survey of India
- Mahatma Ayyankali
- WWII Spy Noor Inayat Khan
- Odisha to give Facelift to 11th century Lingaraj Temple
- Renati Chola Era Inscription Unearthed in Andhra pradesh
- Webinar Titled Hampi
- Indira Gandhi Peace Prize
- Webinar Titled “Punjab- A Historic Perspective”
- Patrika Gate in Jaipur
- Punnapara-Vayalar Revolt
- 125th birth anniversary celebrations of Sri Viswanatha Satyanarayana
- National School of Drama
- An Ancient Temple’s Transition Over Years of Neglect
- International Day of Sign Languages 2020
- Jnanpith Award Presented To Renowned Malayalam Poet Akkitham
- Shanti Swarup Bhatnagar Prize 2020
- Amnesty International to halt India operations
- 77th Year of Formation of Azad Hind Government
- “Life in Miniature” Project
- Evidence of Dairy Production in the Indus Valley Civilisation
- Parampara Series 2020- National Festival of Music & Dance
- Rashtriya Ekta Diwas
- Maharani Jindan Kaur
- The Miyas of Assam and Char-Chapori Culture
- Avadhanam
- Separate Religious Code for the Sarna Tribals
- Birsa Munda
- Bru Refugees Demand Immediate Implementation of Settlement Pact
- AICTE's Lilavati Award-2020
- Lachit Borphukan
- 1st Bird Festival At Nagi-Nakti Bird Sanctuaries in Bihar
- Culture and Peace: On India’s Stand against ‘UN’s Selectivity on Religions
- Mahaparinirvan Diwas
- Hanukkah
- Vijay Diwas 2020
- Yogasana is Now a Sport
- Monpa Handmade Paper
- Adopt a Heritage: Apni Dharohar, Apni Pehchaan

Environment

- World Environment Day
- Sundarbans
- Mangrove
- Nagar Van Scheme
- iCommit Initiative
- Healthy and Energy Efficient Buildings
- Biggest Biodiversity Park in Uttarakhand
- India’s first Online Waste Exchange Platform
- Environmental Performance Index (EPI Index 2020)
- Scorpionfish
- Asiatic Lions
- Indian Gaur
- Malabar Gliding Frog
- World Crocodile Day
- International Horseshoe Crab Day

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- Fishing Cats
- Gee's Golden Langur
- Hyacinth Macaw
- Marmots
- Golden Birdwing
- Ophiocordyceps Nutans
- Rare Orchid Species
- South Asian River Dolphin
- Two New Butterfly
- Globba Andersonii
- Central Zoo Authority
- Coccothophores
- Advisory To Import Live Exotic Animals
- Poaching During Lockdown
- 66-million-year-old egg found in Antarctica "The Thing"
- Preventing the Next Pandemic: Zoonotic diseases and How to Break the Chain of Transmission Report
- Assam Gas leak
- Oil Spill in Russia's Arctic region
- Seabed 2030 Project
- Forest Fire Prevention and Management Scheme
- Global Warming and Arctic Sea
- Reducing Emissions from Deforestation and forest Degradation (REDD+)
- Jet Zero Plan
- Assessment of Climate Change over the Indian Region
- Aerosol radiation effects in Western-Trans Himalayas
- Ozone Pollution
- Anthropause or Great Pause
- Global E-waste Monitor 2020
- Decarbonising Transport in India
- Renewable Energy and Indian Railways
- Rewa Solar Project
- Medicinal and Aromatic Plants Genetic Resources (MAPGRs)
- Saharan Cheetah
- National Board for Wildlife (NBWL)
- National Green Tribunal (NGT)
- Black Panther in Netravali Sanctuary
- Sal forest tortoise
- World Migratory Bird Day (WMBD)
- International Day for Biological Diversity
- World Turtle Day
- World Dugong Day 2020
- Fly Ash
- Bhagirathi Eco-Sensitive Zone
- National Award of Excellence
- Bathynomus Raksasa
- Lonar Lake
- Indian Bullfrog
- Pied Cuckoo to be Tracked
- Dhole
- KURMA App
- National Transit Pass System (NTPS)
- International Tiger Day
- High levels of Ammonia in Yamuna Water
- RAISE Initiative
- EV Charging Plaza
- Global Forest Resources Assessment
- Blue Poppy
- Green – Ag Project
- Nagarjunasagar Srisailam Tiger Reserve
- Plastic Waste
- Northern European Enclosure Dam (NEED)
- Giant Garuda
- Hornbill
- World Elephant Day
- Seed-Bombs
- Lead Pollution
- Leopard Poaching
- Pangolin

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- Environmental Impact Assessment (EIA) notification 2020/ Draft EIA notification
- **Tanystropheus**
- Environmental Emergency
- National Parks & Reserves in News
- Indian Peacock Soft-Shell Turtle
- India's Sprawling Renewable Energy Park
- Eco-Ducts or Eco-Bridges
- Ischaemum Janarthanamii
- Exotic Pets
- Myristica Swamp Treefrog
- Himalayan Serow
- Himalayan Trillium
- Status of Leopards in India 2018
- Firefly Bird Diverters to Save the Great Indian Bustard
- Ladakh's Tso Kar Wetland Complex: India's 42nd Ramsar Site
- Emission Gap Report 2020
- Malayan Giant Squirrel
- Kolar Leaf-Nosed Bat
- Sutlej-Yamuna Link (SYL)
- 'No-Go' forests
- African Hunting Cheetah
- State Pollution Control Board
- Drinking Water Supply
- National Clean Air Programme (NCAP)
- Nationally Determined Contributions (NDC)
– Transport Initiative for Asia (TIA)
- Barn Owls
- Association of Renewable Energy Agencies of States (AREAS)
- Coal Gasification and Liquefaction
- World's Largest Solar Tree
- Green Term Ahead Market (GTAM)
- Maharashtra to declare 600 acres of Aarey as Reserve Forest
- Low Ozone Over Brahmaputra River Valley
- International Day of Clean Air for Blue Skies
- Climate Smart Cities Assessment Framework
- Living Planet Report 2020
- Policy on Promotion of City Compost
- Kharai Camel
- Global Initiative to reduce Land Degradation and Coral Reef
- Blue Flag Beaches
- Nandankanan Zoological Park and Sloth Bear
- Mass Pilot Whale Strandings
- Stubble Burning
- Environment Pollution (Prevention and Control) Authority
- World Rhino Day
- Robber Flies: The assassins of the insect world
- Komodo Dragon
- Fridays For Future
- Maharashtra modifies Forest Rights Act
- Six Mega Projects under Namami Gange Mission
- India-Denmark Green Strategic Partnership
- Mumbai maps its biodiversity
- Zombie fires
- Decarbonization and Energy Transition Agenda
- Amazon risks Changing from Forest to Savanna
- Ecosystem Services
- Yuddh Pradushan Ke Virudh
- Tree Transplantation Policy
- Red Light On, Gaadi Off
- Bio-Decomposer Solution
- Green Delhi App
- Wildlife Week-2020
- Air Quality Index

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- Abortelphusa Namdaphaensis
- Graded Response Action Plan
- Commission To Manage NCR Air Quality
- National Butterfly
- Animal and Plant Discoveries 2019
- Earthshot Prize
- Furry Puss Caterpillars and Murder Hornets
- Advanced High-resolution Air Quality Early Warning System
- Wildlife Institute of India (WII)
- Indian Institute of Forest Management (IIFM)
- Indian Plywood Industries Research and Training Institute
- Kaleshwaram Lift Irrigation Project (KLIP)
- State of Global Air 2020
- International Snow Leopard Day
- First National Protocol to Enumerate Snow Leopard Population
- Himalayan Brown Bear
- Travancore Tortoise
- Tarballs
- 2nd National water Awards
- Minks
- Haiderpur Wetland
- Willow Warbler
- Deemed Forests
- Global Renewable Energy Investment Meeting and Expo (RE-Invest 2020)
- Blue Tide
- Presena Glacier
- Athirapally Hydel Electric Project
- Mont Blanc
- Earthquake in India
- Great Oxidation Event
- Disaster Management Act
- Neradi barrage over Vamsadhara River
- Decommissioning Request of the Ithai Barrage
- Operation Meghdoot
- Project Chetak
- Nag River
- Bihad area in Gwalior—Chambal region
- Kutch Mainland Fault (KMF)
- Hajigak Mines
- Azad Pattan Hydel Power Project
- Agatti Island
- Kerala Landslide
- Hurricane Hanna
- Tuting-Tidding Suture Zone (TTSZ)
- Tsunami Ready
- Mount Sinabung
- Mahatma Gandhi Setu
- IFLOWS-Mumbai
- Teesta River Dispute
- Guwahati gets India's longest ropeway over Brahmaputra river
- Hurricane Laura
- Government Nod for Pampa Sand Removal
- Doklam and Naku La
- Ladakh's Pangong Tso's south bank
- Baltic Nations
- What counts as 'Act of God'
- Krishna-Godavari (KG) basin, an excellent source of fuel methane
- Astronomers spy Phosphine on Venus, a potential sign of life

Geography and Disaster Management

- Cyclone Nisarga
- Kohala Hydropower Project
- Tropical Storm Cristobal
- Amery Ice Shelf

- Climate change: Warmth shatters section of Greenland ice shelf
- Tidal Disruption Events (TDE)
- World's Longest High-Altitude Shinkun La Tunnel
- Atal Tunnel, world's longest highway tunnel
- Kozhikode-Wayanad tunnel road
- Climate Change Spurs Doubling Of Disasters Since 2000: UN
- Construction of Zojila tunnel to begin
- Formation of State Water Grid to overcome Flood crisis
- India launched Flash Flood Guidance services for South Asian countries
- Girnar Ropeway
- Mansar Lake Development Plan
- La Nina is back
- World Wide Fund for Nature Report on Water scarcity
- Luhri Stage-I Hydro Power Project
- National Monsoon Mission
- Indonesian Volcano Mount Ili Lewotolok Erupts
- Strategic Significance of Lungro La pass
- How Mount Everest got 3 feet higher
- Why 2020 Might Be The Best Geminid Meteor Shower Of All-Time
- Dip in Delhi's Temperature
- India and Bangladesh restore Haldibari – Chilahati rail link
- Coalition for Disaster Resilient Infrastructure (CDRI)
- Why IMD has advised people not to drink alcohol during the cold wave
- Meteorological Centre at Leh opened
- Centre examining options of Zero Liquid Discharge
- State of Food and Agriculture Report, 2020

- Groundwater Extraction Norms Tightened

Social Issues

- PM SVANidhi
- SWADES
- Sahakar Mitra
- World Day Against Child Labour
- Garib Kalyan Rojgar Abhiyan
- Global Trends Report
- End Violence Partnership:
- Animal Husbandry Infrastructure Development Fund
- World Drug Report 2020
- Nasha Mukt Bharat: Annual Action Plan (2020-21)
- State of World Population Report 2020
- The Sample Registration System – Statistical Report
- Disabled are entitled to same benefits of SC/ST quota
- Extension of Pradhan Mantri Ujjwala Yojana (PMUY)
- Govt notifies draft rules for Code on Wages
- Start-up Village Entrepreneurship Programme (SVEP)
- Mukhyamantri Matru Pushti Uphaar
- Indira Rasoi Yojana
- Mukhyamantri SHRAMIK (Shahri Rozgar Manjuri For Kamgar)
- Tribal Cooperative Marketing Development Federation of India (TRIFED)
- Godhan Nyay Yojana
- Special Window for Affordable and Mid Income Housing(SWAMIH) fund
- Operation Muskaan

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- Samarth programme
- Women Entrepreneurship and Empowerment initiative
- Khadi Agarbatti Atma Nirbhar Mission
- Parivar Pehchan Patra
- Economically Weaker Sections (EWS) Quota
- SC's verdict on Hindu women's inheritance rights
- Invalid Pension
- Achieving Zero Hunger by 2030 in doubt, UN report warns
- Global Multidimensional Poverty Index (MPI) 2020
- India joins 'Alliance for Poverty Eradication' at UN as founding member
- International Religious Freedom Alliance
- TRIFED's Virtual Office
- Global Education Monitoring Report 2020
- Digital Learning Platform "Skills Build Reignite"
- Project 'Strengthening Teaching-Learning and Results for States Program (STARS)
- QS World University Rankings 2021
- India Rankings 2020
- PRAGYATA Guidelines for Digital Education
- Science and Technology of Yoga and Meditation (SATYAM)
- Alzheimer Inhibitor Ber-D
- Immunity Passport
- India's COVID-19 Social Protection Response Programme
- First indigenous vaccine for infant pneumonia approved
- The Advanced Persistent Threat 29 (APT-29)
- WHO launches Covid-19 law lab
- COVAX Alliance
- Play Little, Study Little Scheme
- Global Education Coalition
- Prime Minister's Research Fellows (PMRF) Scheme
- National Test Abhyas
- Aatma Nirbhar Bharat Abhiyaan: Technology Driven Education
- National Education Policy, 2020
- Manodarpan Initiative
- NISHTHA Programme
- INDSAT exam under 'Study in India' Programme
- Higher Education Funding Agency (HEFA)
- Rapid Antigen Detection Tests
- Airborne Transmission
- Oropharyngeal Secretions
- RECOVERY Trial
- Solidarity Trial
- Global Vaccine Summit
- Global Outbreak Alert and Response Network (GOARN)
- Bubonic Plague
- Kawasaki disease
- Kala Azar Disease
- Healthcare & Hygiene EXPO 2020
- Global Nutrition Report 2020
- Cytokine Storms
- Vertical transmission
- Polio-fighting strategy of India
- African Swine Fever(ASF)
- Report On Immunisation
- Sero-Surveillance
- COVAX Facility
- BeYo, India's first Covid-19 blockchain platform

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- Pradhan Mantri Jan Arogya Yojna (PM-JAY)
- Smallpox
- Malaria
- ChAdOx1 COVID-19 Vaccine
- Covishield
- Inflammageing
- Electronic Vaccine Intelligence Network
- Tick-Borne Virus
- Salmonella Infection
- ‘Beaten or Broken? Informality and COVID-19’ Report by World Bank
- Soil-Transmitted Helminthiases (STH)
- CuRED
- Regional Raw Drug Repository
- Gyan Circle Venture
- Parliament passes labour Bills
- Global Hunger Index (GHI) 2020
- International Day of Older Persons
- Poverty and Shared Prosperity 2020 report
- The Assisted Reproductive Technology (ART) (Regulation) Bill, 2020
- Ambedkar Social Innovation and Incubation Mission (ASIIM)
- Crime in India report 2019
- Ayushman Sahakar Scheme
- Strengthening Teaching-Learning and Results for States (STARS)
- Free Coaching for SC and OBC Students scheme
- Global Burden of Disease (GBD) study 2019
- Annual Status of Education Report (ASER)
- Meri Saheli' initiative
- Commitment to Reducing Inequality (CRI) Index 2020
- Migration and Development Brief
- World Polio Day
- National Portal For Transgender Persons
- Rice Fortification
- Organ Donation Day
- Academic Freedom Index
- Poshan Abhiyaan’s Progress Report
- Minimum Requirements For Annual Mbbs Admissions Regulations (2020)
- Civil Registration System (CRS) Report
- Step Up For TB 2020 Report
- Cost Of A Plate Of Food Report
- Deendayal Antyodaya Yojana- National Rural Livelihood Mission (DAY-NRLM)
- Child Care Leave
- Mental Health Day
- Kiran Helpline
- Health in India report
- Household Social Consumption on Education in India
- Report on Nutrient Requirements for Indians
- Human Capital Index 2020
- Glanders disease
- Tinnitus
- Dhanwantari Rath
- Partners in Population and Development
- UN Award For Control Of Non-Communicable Diseases
- Catch The Rain Campaign
- World Diabetes Day
- Vision 2035: Public Health Surveillance in India’
- Namath Basai
- Remote Learning Reachability report
- Mucormycosis
- National Digital Health Mission (NDHM)
- Dry Swab-Direct RT-PCR Method
- Mission COVID Suraksha
- Pneumonia and Diarrhoea Progress Report 2020
- Plasmodium Ovale Malaria

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- Measles
- Shigella Infection
- Guillain Barre Syndrome (GBS).
- Cord Blood Banking
- Neutralising Antibodies
- Global Prevention Coalition (GPC) for HIV Prevention
- Havana Syndrome
- Aquifer Mapping Program
- National Recruitment Agency
- 2019 Global Health Estimates
- Human Rights Day
- Replacement level fertility rate
- Cannabis
- National Family Health Survey (NFHS)

Economy

- India Ideas Summit
- Geographical indication (GI) Tags
- Cooperative Banks Under RBI Supervision
- Real Time Market (RTM) for Electricity
- FASTag
- ASEEM Portal
- Digital India AatmaNirbhar Bharat Innovate Challenge
- Agriculture Infrastructure Fund
- Rights Issues
- Statistics Day
- Indian Gas Exchange (IGX)
- Periodic Labour Force Survey (PLFS)
- Liberalised Remittance Scheme (LRS)
- GI Tag for Basmati
- Curbs On Public Procurement
- Zoram Mega Food Park Scheme
- Automotive Solutions Portal for Industry, Research and Education (ASPIRE)
- Financial Stability Report
- Gramodyog Vikas Yojana

- Panel to Probe Alleged Violations by Rajiv Gandhi Foundation
- Currency Swap Pact with Central Bank of Sri Lanka
- India Digitization Fund
- World's Longest Subsea Power Cable
- Arakunomics
- Emergency Credit Line Guarantee Scheme (ECLGS)
- 'Sahakar Cooptube Channel
- Andaman And Nicobar To Be Maritime And Startup Hub
- Samadhan-se-vikas Scheme
- Development Of An Economic Corridor
- India Water Resources Information System (India-WRIS)
- Krishi Megh
- Universal Eligibility Condition for World Bank Loan
- GST compensation Cess
- Vodafone case & Retrospective taxation
- SAROD-Ports
- Consumer Price Index for Industrial Workers (CPI-IW)
- Aatmanirbhar Bharat ARISE-Atal New India Challenges (ANIC)
- Start-up Ranking 2019
- Suspicious Activity Reports (SARs)
- Fugitive Economic Offender (FEO)
- National Authority for Recycling of Ships
- Multi-modal Logistic Park (MMLP)
- Global Wealth Report 2020
- IFSCA Introduces Framework For Regulatory Sandbox
- Expansion Of Jute Packaging
- Asafoetida Or Heeng Cultivation
- Mobile Application For Geo Tagging
- Production Linked Incentive (PLI) Schemes
- Draft Coastal Shipping Bill 2020

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- Dam Rehabilitation and Improvement Project (DRIP)
- Dobra Chanti Bridge
- Kasturi Cotton
- World Fisheries Day
- Gujarat Maritime Cluster (GMC)
- Viability Gap Funding Scheme(VGF)
- Draft Model Act on Land Titling
- World Energy Outlook (WEO) 2020
- World Economic Outlook 2020 report
- Anti-trust laws
- New Development Bank (NDB)
- Asian Development Bank (ADB)
- Global Innovation Index
- State Business Reform Action Plan (BRAP):
- Revised Priority Sector Lending Guidelines.
- Zero Coupon Bonds (ZCBS)
- Municipal Bonds
- Foreign direct investment (FDI) in Defence Sector
- Revised DTH Guidelines
- Green National Highway Corridors
- The Aircraft (Amendment) Bill, 2020
- Infrastructure Investment Trusts (InvIT)
- The Farmers Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020 (FPTC)
- CAROTAR 2020
- Hybrid Renewable Energy Park
- E-20 Fuel
- The Petroleum and Natural Gas Regulatory Board (PNGRB)
- Dedicated Freight Corridor
- Recognition of Prior Learning (RPL) Program
- RTGS and NEFT Payment Systems
- Technical Textiles
- Unified Payments Interface (UPI)
- Technical Recession
- Participatory Notes
- Pradhan Mantri Kisan Sampada Yojana (PMKSY)
- National Strategy For Financial Inclusion
- Asian Infrastructure Investment Bank (AIIB)

International Affairs

- WHO Foundation
- Mission Sagar
- Spratly and Paracel Islands Disputes
- World Health Organization (WHO)
- Japan Renames Area Containing Senkaku Islands
- Constitution of Nepal (Second Amendment) Bill 2077
- Shwe project in Myanmar
- Uyghur Human Rights Policy Act of 2020
- China Passes Hong Kong Security Law
- Pakistan-Afghanistan Transit Trade Agreement (APTTA)
- Chabahar Project
- Visiting Forces Agreement (VFA)
- Kohala Hydropower Project
- India Clears 'RELOS' Deal with Russia
- India Elected to UNSC's Non-Permanent Member Seat
- China to Join UN Arms Trade Treaty
- Open Sky Agreement
- Expat Quota Bill
- Natanz Nuclear Facility
- Naval Liaison Officers at Madagascar and Abu Dhabi
- H-1B visa programme
- Kholongchhu Hydro Electric project
- Malathion 95% ULV Insecticides to Iran
- Victory Day Parade
- Mary Jackson

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- Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG)
- Israel-UAE Peace Deal
- 1947 Tripartite Agreement on Gurkha soldiers
- Operation Breathing Space
- U.K. To Issue Coin In Honour Of Mahatma Gandhi
- Pakistan's New Map
- Constitutional Amendments in Russia
- Bhutan issues Demarches to China
- China Tells USA to Close Consulate in Chengdu
- China halts Hong Kong extradition pacts with Canada, Australia, U.K.
- Turkey Approves Social Media Law
- Britain Bans China's Huawei From 5G
- Parcel Train to Bangladesh
- India-Bhutan Open New Trade Route
- Cotton Warehouse in Vietnam
- Loya Jirga
- GCC Backs UN Arms Embargo on Iran
- 75th Anniversary Of Hiroshima Atomic Bombing
- High Impact Community Development Projects (HICDP)
- Gandhi-King Scholarly Exchange Initiative Act
- 15th India-EU Summit
- Istanbul Convention
- Weibo Diplomacy
- United Nation Peacekeeping Operations
- Milk Tea Alliance
- Oil exploration in South China Sea
- India-France to Launch Constellation of Maritime Surveillance Satellites
- Flash Flood Guidance Services for South Asia
- Quad Ministerial Meeting
- India-US 2+2 Ministerial Dialogue
- India-Australia Circular Economy Hackathon (I-ACE)
- G20 Banknote Depicting J&K As Separate Entity
- Azerbaijan vs Armenia: An old Regional conflict
- China-Bangladesh Friendship
- Chinese Assistance to Sri Lanka
- Thailand Anti-Government Protests
- India-Central Asia Dialogue
- G-20 Anti-Corruption Working Group Meeting
- Sri Lanka: Controversial 20th Amendment passed
- Israel-Sudan Peace Deal
- Five Eyes group of nations
- France Encourages EU Allies to Take Measures Against Turkey
- UK Accuses China Of Treaty Breach In Hong Kong
- China Passes Export Law
- Sichuan-Tibet Railway line
- 12th BRICS Summit
- 17th ASEAN-India Summit
- India-Luxembourg Virtual Summit
- India Assumes Chairmanship Of Governing Body Of ILO
- UAE Widens Its Golden Visa Programme
- Pakistan on 'Enhanced Follow-up List'
- Mega Trade Bloc RCEP Takes Off
- 15th East Asia Summit
- New Caledonia Rejects Independence From France
- United Nations Human Rights Council (UNHRC)
- Armed Clashes In Ethiopia's Tigray
- Puerto Rico Votes In Favor Of Statehood

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- New START treaty
- Bhutan Establish full-fledged Diplomatic Ties with Germany
- Second Management Positions Act
- Tibetan Parliament-In-Exile
- Provincial Status For Gilgit Baltistan
- Pangda Village
- Skal International Asia Area (SIAA) Congress
- Food and Agriculture Organisation (FAO)
- FAO Launches Food Coalition
- Good Laboratory Practice of OECD
- Bongosagar Exercise
- Oaxaca
- India – Denmark Virtual Summit
- India & Israel to Develop hi-tech Weapon Systems
- India-Angola First Joint Commission Meeting
- BRICS Culture Ministers' Meet
- World Solar Technology Summit
- G7 Backs extension of G20 Debt Service Suspension Initiative (DSSI)
- Virtual Summit of Education Ministers of G-20 nations
- International Day of Peace
- The 1619 Project
- US-Maldives Defence Cooperation Agreement
- New Changes In Qatar's Labour Laws
- UK Signs First Major post-Brexit Trade Deal with Japan
- Shanghai Cooperation Organization (SCO) Meet
- SAARC Virtual Meet of Foreign Ministers
- India Wins Three Elections To Key UN Bodies
- Afghan Peace Process
- US-India Strategic Partnership Forum (USISPF)
- India-UK Defence Logistics Pact
- India -Sri Lanka Virtual Bilateral Summit
- India - Japan Reciprocal Provision of Supplies and Services
- India-Japan Cooperation in 5G tech, AI and Critical Information Infrastructure
- India-Norway Joint Commission Meeting
- India-Mexico High level Group on Trade, Investment and Cooperation
- China opposes India-Taiwan trade ties
- India-Uzbekistan Virtual Bilateral Summit
- Singapore Convention on Mediation
- G4 countries
- International Atomic Energy Agency (IAEA)
- Foreign Agents Registration Act (FARA)
- Arab League
- Queen's Counsel
- Conference on Interaction and Confidence-Building Measures in Asia (CICA)
- France's New National Security Bill
- Bangladesh Relocates Rohingyas To Bhasan Char Island
- Tibetan Policy and Support Act
- Bribery for Presidential Pardon Scheme
- India-Vietnam Virtual Bilateral Summit
- UNSC 1267 Sanctions Committee
- SCO meet in India
- Organisation for the Prohibition of Chemical Weapons (OPCW):
- Association of World Election Bodies (AWEB)
- Asia-Pacific Broadcasting Union
- United Nations Conference on Trade and Development (UNCTAD)
- United Nations Population Award

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- ASEAN Defence Ministers' Meeting Plus (ADMM Plus)
- United Nations Alliance of Civilizations (UNAOC)
- US Currency Watch List
- Legion of Merit Award
- Djibouti Code of Conduct (DCOC)
- Shaheen-IX
- Indra-exercise
- Ind-Indo Corpat
- PASSEX
- SITMEX-20.
- Organization of Petroleum Exporting Countries Plus (OPEC+)
- Organisation of Islamic Cooperation (OIC)
- Asia-Pacific Economic Cooperation (APEC)
- UN Advisory Committee on Administrative and Budgetary Questions (ACABQ)
- Inter Parliamentary Union (IPU)
- SLINEX-20
- Sprut Light Tanks
- Supersonic Missile Assisted Release of Torpedo (SMART)
- BrahMos Successfully Flight Tested
- Integrated Theatre Command
- INS Kavaratti
- Raising Day of Indo-Tibetan Border Police (ITBP)
- Stand-Off Anti Tank (SANT) Missile
- Corporatisation of OFB
- Tsirkon hypersonic missile
- Shaurya missile
- Anti-Tank Guided Missile (ATGM)
- SAI (Secure Application for Internet)
- RUDRAM
- RUSTOM-2
- Supersonic Missile Assisted Release of Torpedo (SMART)
- Sagar Kavach
- Matla Abhiyan Exercise
- Army Aviation Corps
- Frontier Highway Project
- Global Conference on Criminal Finances and Cryptocurrencies
- Uttar Pradesh Special Security Force (UPSSF)
- Golden Arrows Squadron
- Special Frontier Force (SFF)
- Assam Rifles
- ABHYAS - High-speed Expendable Aerial Target (HEAT) vehicles
- Enhanced Pinaka Mk-1 Missile
- Quick Reaction Surface-to-Air Missile (QRSAM)
- Export of Akash Missiles
- INS Vagir

Internal Security

- Spike-LR Anti-Tank Guided Missiles
- DAC Approved New Weapons
- Sprinklr controversy
- Operation Desert Chase
- Naval Innovation and Indigenisation Organisation (NIIO)
- OPV Sarthak
- Draft Defence Production and Export Promotion Policy (2020)
- APT29
- Anti-tank Guided Missile 'Dhruvastra'
- Arad and Carmel
- Kargil Vijay Diwas
- BlackRock
- T-90 Tanks
- Negative Imports List for Defence
- SRIJAN Portal
- Draft 'Aids to Navigation Bill 2020'

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- MQ-9B Sea Guardian Unarmed Drones
- Microwave Weapons
- National Maritime Domain Awareness Centre (IMAC)
- Cryogenic Propellant Tank (C32 LH2)
- BSF Raising Day
- Mission Sagar-III
- DRDO Systems Handed to Defence Services
- Medium Range Surface to Air Missile (MRSAM)
- S-400 Air Defence Systems
- F/A-18 Super Hornet Fighter Jets
- 'Tour of Duty' Recruitment Model

Science and Technology

- Demo-2 mission
- Earth's Magnetic Field
- GW190412
- Deep Fakes and Deep Nudes
- Hope: UAE Mars Mission
- T- Cells
- Paddy Watch app
- Comet C/2020 F3 Neowise
- Supercapacitor
- Kuaizhou-11 Rocket
- Lithium Production in Stars
- More Metal in Moon
- Winter Diesel
- Captain Arjun
- RT-nPCR Test
- miR-155
- Nature Index 2020
- Axons
- Light Detection And Ranging (Lidar)
- Sun's Coronal Heating
- Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)
- Quantum Satellite Micius
- 163348 (2002 NN4)

- Terminal High Altitude Area Defense (THAAD)
- Global Partnership on Artificial Intelligence (GPAI)
- MAAREECH
- Ionospheric Irregularities
- Nanozymes
- Extreme Helium Star (EHe)
- Serotonin
- Indian National Space Promotion and Authorisation Centre (IN-SPACe)
- NASA's Gateway Lunar Orbiting Outpost
- Aditya: India's First Solar Ferry
- National Artificial Intelligence Portal
- Placebo Effect
- Crypto-jacking
- BeiDou Navigation Satellite System
- Bharat Air Fibre
- Ammonium Nitrate
- Sputnik V
- Aspirin to Prevent Cataract
- Time Capsules
- RaTG13 sarbecovirus
- Sunspots
- Dilophosaurus
- Elyments app
- OneWeb
- Biosafety Levels
- Oxford-AstraZeneca vaccine
- ZyCov-D
- PLPro Proteins
- Volcanoes discovered on Venus
- Lyfas
- Latency of the SARS-CoV-2 Virus
- N-95 Valved Respirator/Masks
- ANASIS-II
- Human Growth Hormone (hGH).
- AJO-Neo
- Solar Orbiter Mission
- Dare to Dream 2.0
- Mausam" Mobile App
- 5G

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- Common Services Centre (CSC) WiFi Choupal
- Kakrapar-3
- International Thermonuclear Experimental Reactor (ITER)
- Phobos- The Biggest Moon Of Mars
- G4 Flu Virus
- Rosalind Franklin
- SFTS Virus
- SNS Starship prototype
- India's first Private Upper Stage Rocket Engine
- Tabletop Runways
- Miscellaneous News Related To Covid
- Nobel Prize 2020
- Global Bioassay Laboratory
- India's First Hydrogen Fuel Cell Car
- Expansion of STEM Career Opportunities
- Supercomputing Infrastructure
- High Flow Rate Fluoride & Iron Removal Technology
- New Shephard Rocket System
- COVIRAP
- IndiGen Programme
- Plasma Therapy Debate
- Asteroid Bennu
- Artemis programme
- SERB – POWER (Promoting Opportunities for Women in Exploratory Research)
- Aditi Urja Sanch
- Mass of Hydrogen In Distant Galaxies Measured
- Asteroid Mining Robot
- Mars Opposition phenomenon
- Raychaudhuri Equation
- Other Service Provider Guidelines (OSP)
- India Mobile Congress 2020
- Mass Spectrometer
- Bradykinin Storm
- National Immunogenicity & Biologics Evaluation Center (NIBEC)
- Entrepreneurship in Residence (EIR) Programme
- Flying V Aircraft
- Hypersonic Technology Demonstrator Vehicle
- Real Mango
- e-Gopala App
- Methanol Plant
- Chinese Apps Banned
- Intermediate Mass Black Hole
- Moon Rusting Along Poles
- Giant Radio Galaxies
- Life on Venus
- Tata CRISPR Test
- Congo Fever
- MedSpark- The First Medical Device Parks
- Cat Que virus
- Scrub Typhus
- Sandalwood Spike Disease
- Brucellosis
- Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) Programme
- VAJRA Scheme
- Science & Technology Indicators (STI) 2019-20
- Data Sonification
- RAISE 2020
- VAIBHAV Summit
- Indian Institutes of Information Technology (Amendment) Bill, 2020
- Tidal Disruption Events
- Solar Cycle 25
- GPay Allowed To Share Customer's UPI Data Under Law: Google

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- Graphene
- Anti Satellite Missile
- Jasmonate Hormone
- Ammonia
- Asteroid 16 Psyche
- Asteroid Apophis
- NASA's Crew 1 Mission
- Arecibo Telescope
- 2020 SO
- Intentional Genomic Alteration (IGA)
- SolarWinds Hack
- STS-107 Mission
- Father of Indian Radio Astronomy
- Fast Radio Burst (FRB)
- Thirty Meter Telescope (TMT) Project
- Chapare Virus
- Brain Fingerprinting
- Prime Minister Wi-Fi Access Network Interface (PM-WANI)
- Nuclear Magnetic Resonance (NMR) Test
- Great Conjunction
- Bitcoins
- Tokamak Reactor
- Hayabusa2 Spacecraft
- Leonid Meteor Shower
- National Mathematics Day
- Swarna Jayanti Fellowship
- Digital Quality of Life Index, 2020
- Facebook Antitrust Issue
- IPBES Report on Future Pandemics
- Bulk Drug Park
- Software Technology Parks of India (STPI)
- Gandhian Young Technological Innovation Awards
- Government To Regulate OTT Platforms
- World Science Day for Peace and Development
- Kerala Fibre Optic Network Project (K-FON) Project
- Deep Ocean Mission
- National Science Film Festival
- TiHAN-IIT Hyderabad
- Digital Ocean Platform
- Global Innovation & Technology Alliance
- Fire Detection and Suppression System
- Chang'e-5 Mission
- Superinfections
- The Cancer Genome Atlas 2020 Conference
- Quantum Key Distribution (QKD) Technology
- Satellite-Based Narrowband IoT (Internet of Things) Network
- Beresheet 2 Mission

- BBX11 Gene
- CMS-01
- EOS-01
- Sentinel-6 Satellite
- Supercomputers From India
- Indian Regional Navigation Satellite System (IRNSS)
- Ariel Space Mission
- Shukrayaan Mission
- Nature Index 2020

POLITY AND GOVERNANCE

PM-CARES

- Recently, the Prime Minister's Office (PMO) has said in a reply that PM CARES Fund is “**not a public authority**” under the ambit of Section 2(h) of the RTI Act, 2005.
- **Section 2(h) of the Act** defines a “**public authority**” as “any authority or body or institution of self-government established or constituted —
 - a. by or under the Constitution;
 - b. by any other law made by Parliament;
 - c. by any other law made by State Legislature;
 - d. by notification issued or order made by the appropriate Government — and includes any
 - i. body owned, controlled, or substantially financed;
 - ii. non-Government Organisation substantially financed, directly or indirectly by funds provided by the appropriate Government.

About PM-CARES

- PM Modi announced the constitution of the **PM's Citizen Assistance and Relief in Emergency Situations** (PM-CARES) fund.
- **Mandate:** This will be a dedicated national fund with the primary objective of dealing with any kind of emergency or distress situation, like posed by the COVID-19 pandemic.
- **Administration:** Prime Minister is the Chairman of this trust and its Members include Defence Minister, Home Minister and Finance Minister.
- Donations to this fund will be **exempted from income tax under section 80(G)**.
- Donations to PM CARES Fund will also **qualify to be counted as Corporate Social Responsibility (CSR)** expenditure under the Companies Act, 2013
- PM CARES Fund has also got **exemption under the FCRA** and a separate account for receiving foreign donations has been opened. This is consistent with respect to the Prime Minister's National Relief Fund (PMNRF). PMNRF has also received foreign contributions as a public trust since 2011.

Foreign Contribution Accepted

- Government has decided to accept **contributions from abroad, “irrespective of their nationalities”**, to the PM-CARES Fund. Thus, foreign governments, NGOs, and nationals can now contribute to the Fund.
- The foreign contribution is “only” applicable to the PM-CARES fund and not any other fund, like the Prime Minister's National Relief Fund.
- This is a major policy change since India has not accepted foreign aid in the past 16 years when the then UPA government decided to not accept aid.

Inner Line Permit System

- The **Adaptation of Laws (Amendment) Order, 2019** extended the **ILP regime to Manipur** – it is the fourth state after **Arunachal Pradesh, Nagaland, and Mizoram** where the ILP regime is applicable.
- **Connection with the Citizenship Amendment Act (CAA), 2019:** The CAA, which relaxes eligibility criteria for certain categories of migrants from three countries seeking Indian citizenship, **exempts** certain categories of areas, including **those protected by the Inner Line system.**

About ILP

- Inner Line Permit (ILP) is an official travel document issued by the Government of India to allow inward travel of an Indian citizen into a protected/restricted area for a limited period. The document is an effort by the Government to regulate movement to certain areas located near the international border of India.
- ILP system is currently in operation in Mizoram, AP and Nagaland. Manipur had the system of ILP but it was abolished in 1950.
- **Section 2 of Bengal Eastern Frontier Regulation, 1873** empowers a State government to prescribe 'Inner Line' to prohibit citizens of India or any class of such citizens going beyond the prescribed line without a pass.

First Bell

- Recently, a virtual class initiative '**First Bell**' has been started by the **Kerala government**.
- Under the project, classes will be streamed on a free, public-run television channel available on cable networks, direct-to-home services and over the internet. Classes will be aired through the **KITE VICTERS (Versatile ICT Enabled Resource for Students)** channel and online platforms.
- **KITE (Kerala Infrastructure and Technology for Education)** is a Govt of Kerala establishment set up **to foster, promote and implement modernisation of educational institutions** in the State of Kerala, owned by the State or run under the aid of Government.
- KITE aims to upgrade the Government sector educational institutions at par with international standards in terms of infrastructure, facilities, resources, curriculum, pedagogy, etc.

National Institute of Public Finance and Policy

- **Urjit Patel** was recently appointed chairman of the National Institute of Public Finance and Policy (NIPFP), India's premier economic think tank.
- NIPFP is an **autonomous body** set up jointly by the **Ministry of Finance**, the erstwhile **Planning Commission**, and several state governments.
- It maintains an independent non-government character and pursues research in public policy, advising the Central government as well as states.
- **NIPFP's Governing Council** includes the Revenue Secretary, Economic Affairs Secretary and the Chief Economic Advisor from the Union Finance Ministry, besides representatives from Niti Aayog, RBI and three representatives of sponsoring State governments, three distinguished economists, three heads of sister research institutions, and members of other sponsoring agencies and invitees.

- The anti-defection law, referred to as the **Tenth Schedule**, was added to the Constitution through the **52nd (Amendment) Act, 1985** to provide for the disqualification of the members of Parliament and the state legislatures on the **ground of defection from one political party to another**.
- Later, the **91st Amendment Act of 2003** omitted an exception provision of the Tenth Schedule i.e., **disqualification on ground of defection not to apply in case of split**.
- **Disqualification:** A member of a House belonging to any political party becomes disqualified for being a member of the House,
 - if he **voluntarily gives up his membership** of such political party; or
 - if he **votes or abstains from voting in such House contrary to any direction** issued by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.
- **Exceptions:** The above disqualification on the ground of defection does not apply in the following two cases:
 - If a member goes out of his party as a result of a **merger of the party** with another party. A merger takes place when two thirds of the members of the party have agreed to such merger.
 - If a member, after being **elected as the presiding officer of the House**, voluntarily gives up the membership of his party or rejoins it after he ceases to hold that office. This exemption has been provided in view of the dignity and impartiality of this office.
- An **independent member** of a House becomes disqualified to remain a member of the House **if he joins any political party after such election**.
- A **nominated member** of a House becomes disqualified for being a member of the **House if he joins any political party after the expiry of six months** from the date on which he takes his seat in the House.
- The **power for this disqualification is vested in the Speaker**, who is usually a nominee of the ruling party.
- Originally, the act provided that the **decision of the presiding officer is final** and cannot be questioned in any court. However, in the **Kihoto Hollohan case (1993)**, the Supreme Court declared this **provision as unconstitutional** on the ground that it seeks to take away the jurisdiction of the Supreme Court and the high courts. Hence, his decision like that of any other tribunal, is **subject to judicial review** on the grounds of mala fides, perversity, etc.
- Recently, the Supreme Court ruled that Speakers of assemblies and the Parliament must **decide disqualification pleas within a period of three months** except in extraordinary circumstances. This settled the law for situations where the timing of the disqualification is meddled to manipulate floor tests.
- The court also recommended that the Parliament consider taking a relook at the powers of the Speakers citing instances of partisanship. The court suggested **independent tribunals to decide on disqualification**.

OBC Sub-Categorisation Commission

- The commission was constituted on **2nd October 2017** under **article 340** of the Constitution to examine the issues of the **sub-categorization of Other Backward Classes** with the following terms of reference:

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- i. To examine the extent of inequitable distribution of benefits of reservation among the castes or communities included in the broad category of Other Backward Classes with reference to such classes included in the Central List;
 - ii. To work out the mechanism, criteria, norms, and parameters in a scientific approach for sub-categorisation within such Other Backward Classes; and
 - iii. To take up the exercise of identifying the respective castes or communities or sub-castes or synonyms in the Central List of Other Backward Classes and classifying them into their respective sub-categories.
- The **four-member Commission** is headed by Justice (Retd.) **G. Rohini**, Chief Justice (Retd.), Delhi High Court.
 - The commission was looking into the **issues of communities that were not getting the benefits of reservation**.
 - The Union Cabinet has recently **approved a six-month extension** to the commission till January 31, 2021 to submit its report as its work has been affected by the pandemic.

Postal Ballot System

- Through this facility, a voter **can cast her vote remotely by recording her preference** on the ballot paper and sending it back to the election officer before counting.
- Currently, only the following are allowed to vote through postal ballot system:
 - **Members of the armed forces** like the Army, Navy and Air Force, members of the armed police force of a state (serving outside the state),
 - **Government employees posted outside India** and their spouses
 - **Voters under preventive detention**
 - **Special voters** such as the President of India, Vice President, Governors, Union Cabinet ministers, Speaker of the House and **government officers on poll duty** have the option to vote by post. But they have to apply through a prescribed form to avail this facility.
- Recently, keeping in mind the safety of senior citizens amid rising cases of the coronavirus, the Law Ministry has **allowed those aged 65 years and above** to opt for postal ballot in Lok Sabha and assembly elections. It also allowed "**COVID 19 suspect or affected persons**" to use the postal ballot facility.
- Earlier, the Law Ministry also introduced a new category of '**absentee voters**', who can opt for postal voting. These are voters employed in essential services and unable to cast their vote due to their service conditions. Currently, officials of the Delhi Metro Rail Corporation, Northern Railway (Passenger and Freight) Services and media persons are notified as absentee voters.
- Also in October 2019, the Law Ministry amended the Conduct of Election Rules to **allow people with disabilities and those who are 80 years of age** or above to opt for postal ballot during Lok Sabha and assembly elections.

Compulsory Licensing

- Compulsory licensing is when a government **allows someone else to produce a patented product or process** without the consent of the patent owner or plans to use the patent-protected invention itself.

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- It is one of the flexibilities in the field of patent protection included in the WTO's agreement on intellectual property — the **TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement**. However, the TRIPS Agreement does list a number of conditions for issuing compulsory licences.
- Nationally, compulsory licensing is regulated by the **Indian Patents Act, 1970**.
- A grant of compulsory licence is made only if any of these **three conditions are satisfied**:
 - Reasonable requirement of the public with regard to the patented invention is not being satisfied.
 - That the patented invention is not available to the public at a reasonably affordable price.
 - That the patented invention is not worked in India.

Andhra Pradesh Panchayat Raj (Second Amendment) Ordinance, 2020

- The Ordinance was promulgated to amend the 1994 Act with respect to the appointment, qualifications, tenure and conditions of service of the **State Election Commissioner** in the State Election Commission.
- **Key Amendments:**
 - The Ordinance **changes the qualification** of the State Election Commissioner (SEC) from a person holding the office of at least Principal Secretary to the government, to that of a Judge of the High Court.
 - The Ordinance amends the **tenure** of office of the SEC from **five years to three years**.
- The AP High Court has struck down the Ordinance. The Supreme Court has refused to pass any interim orders to stay the AP High court order.

State Election Commission

- **Article 243-K** of the Constitution vests the power of conducting elections to Panchayats (**Municipalities under Article 243ZA**) in the state with a State Election Commission.
- It consists of a state election commissioner to be **appointed by the governor**.
- His conditions of **service and tenure of office** shall also be **determined by the governor**.
- Article 243 -K guarantees the **security of his office**. He shall not be removed from the office except in the manner and on the grounds prescribed for the removal of a judge of the state high court.

Digital Accountability and Transparency Act

- The **Comptroller and Auditor General (CAG)** has proposed a new law called **DATA (Digital Accountability and Transparency Act)** which is a three-phase transition to mandatory digital payments, accounting, and transactions for government.
- The starting point is **mandatory and common data standards** for all entities receiving government funds in all forms of funding. The endpoint is a **single searchable website to ascertain total government funding** by element and entity.
- Covering the distance between these **needs three elements**:
 - **100% end-to-end electronic data capture**: All receipts and expenditure transactions including demands, assessment, and invoices should be received, processed, and paid electronically.
 - **Data governance for standards across all government entities**: Data standards are rules for describing and recording data elements with precise meanings and semantics that enable

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integration, sharing, and interoperability. Prescribing data elements for all transactions will ensure standardisation.

- **Technology architecture:** All IT government systems should conform to a prescribed open architecture framework (for instance, IndEA) while ensuring robust security and maintaining privacy.

Election Commission's Power to Delay Polls

- The **Election Commission (EC)** is mandated under law to hold elections at any time within six months before the five-year term of the Lok Sabha or Legislative Assembly expires.
- An election once called usually proceeds as per schedule. However, in some exceptional cases, the process can be postponed or even scrapped after its announcement under extraordinary circumstances.
- Under **Section 153 of the Representation of the People Act**, the poll panel can “extend the time” for completing an election, but such extension should **not go beyond** the date of the normal **dissolution of the Lok Sabha or the Assembly**. In 1991, the Commission, under this provision read with **Article 324 of the Constitution**, postponed the ongoing parliamentary elections for three weeks after Rajiv Gandhi’s assassination during his campaign in Tamil Nadu.
- Article 324 gives power to the Election Commission to direct, control, and conduct elections to **all Parliament, to the Legislature of every state** and of elections to the offices of the **President** and **Vice President** held under the Constitution.
- Powers under Section 153 can be **exercised only after an election schedule has been notified**. If the EC wants to postpone Bihar elections, it will have to be done through its extraordinary powers under Article 324.
- The Commission will have to inform the government of its inability to hold polls on time. The government and the President will then decide the future course — to impose President’s Rule or allow the incumbent Chief Minister to continue for six months.

NATGRID and NCRB

- The **National Intelligence Grid (NATGRID)** has signed a memorandum of understanding with the **National Crime Records Bureau (NCRB)** to access the centralised online database on FIRs and stolen vehicles.
- The MoU will give NATGRID **access to the Crime and Criminal Tracking Network and Systems (CCTNS) database**, a platform that links around 14,000 police stations. All State police are mandated to file First Information Reports (FIR) in the CCTNS.

National Intelligence Grid (NATGRID)

- NATGRID, an attached office of the **Ministry of Home Affairs**, has been created as an IT platform to assist the intelligence and law enforcement agencies in **ensuring national and internal security**, with the ultimate aim to counter terror.
- It was first conceptualised in 2009 and seeks to become the one-stop destination for security and intelligence agencies to access databases related to immigration entry and exit, banking, and telephone details of a suspect on a “secured platform”. The project aims to go live by December 31.
- The data will be **available for nine central agencies** including the Intelligence Bureau, Research and Analysis Wing, the Enforcement Directorate and Department of Revenue Intelligence.

- The NCRB is an Indian government agency responsible for collecting and analysing crime data as defined by the Indian Penal Code (IPC) and Special and Local Laws (SLL).
- NCRB is **headquartered in New Delhi** and is part of the **Ministry of Home Affairs (MHA)**. It was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- Mission: To empower Indian police with information technology and criminal intelligence to enable them to uphold law and protect people; To provide leadership & excellence in crime analysis particularly for serious and organized crime.

Second Voluntary Review of SDG

- India's Second Voluntary National Review of **Sustainable Development Goals (SDGs)** report was presented to the **United Nations High-level Political Forum**.
- India has called upon **developed countries to provide financial assistance** to developing nations especially for global public goods such as climate change mitigation and control of pandemics, such as COVID-19, so that they can fully achieve the SDGs
- Deliberating on the "**SDG-17**" that is about "partnerships for the goals", the report highlighted the need for international cooperation for **curbing illicit financial flows**.
- The report also identified five sectors — **education, health, electricity, roads and water and sanitation** — that will require additional funding for "significant" progress.
- The report also mentioned the "**vulnerabilities faced by the migrants and the urban poor**" in the wake of the pandemic.
- The UN has set **17 Sustainable Development Goals to be achieved by 2030**. Member countries are required to apprise about the progress in the form of **Voluntary National Review** reports. They present these reports at the High-level Political Forum, mandated to review the progress on SDGs.

United Nations High-level Political Forum

- The establishment of the United Nations High-level Political Forum on Sustainable Development (HLPF) was mandated in **2012** by the outcome document of the **United Nations Conference on Sustainable Development (Rio+20)**.
- The HLPF is the **main United Nations platform on sustainable development** and it has a central role in the follow-up and review of the 2030 Agenda for Sustainable Development the Sustainable Development Goals (SDGs) at the global level.

e-SamikSha Platform

- The Prime Minister and the Cabinet Secretariat closely monitor the projects and their implementation through this platform, and follow-up actions are updated every month by the concerned ministries.
- It has been developed by **Cabinet secretariat** with technical help from National Informatics Centre.

National Human Rights Commission

- It is a **statutory (and not a constitutional) body**. It was **established in 1993** under a legislation enacted by the Parliament, namely, the **Protection of Human Rights Act, 1993**.

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- The commission is a **multi-member body** consisting of a chairperson and five members. The **chairperson should be a retired chief justice of India or a judge of the Supreme Court** and members should be a serving or retired judge of the Supreme Court, a serving or retired chief justice of a high court and three persons (out of which at least one should be a woman) having knowledge or practical experience with respect to human rights.
- In addition to these full-time members, the commission also has seven ex-officio members— the chairpersons of the National Commission for Minorities, the National Commission for SCs, the National Commission for STs, the National Commission for Women, the National Commission for BCs and the National Commission for Protection of Child Rights and the Chief Commissioner for Persons with Disabilities.
- The chairperson and members are **appointed by the President on the recommendations of a six-member committee** consisting of the Prime minister as its head; Speaker of the Lok Sabha; Deputy Chairman of the Rajya Sabha; Leaders of the Opposition in both the Houses of Parliament; and Union Home Minister
- The chairperson and members **hold office for a term of three years or until they attain the age of 70 years, whichever is earlier.**
- They are **eligible for reappointment**. After their tenure, the chairperson and members are not eligible for further employment under the Central or a state government.

Press Council of India

- The Press Council of India was first **set up in 1966 by the Parliament** on the recommendations of the First Press Commission. The present Council functions under the Press Council Act, 1978.
- The objective is to **preserve the freedom of the press** and of maintaining and improving the standards of press in India.
- It is a **statutory, quasi judicial authority** functioning as a watchdog of the press, for the press and by the press.
- It **adjudicates the complaints against and by the press for violation of ethics** and for violation of the freedom of the press respectively.
- The Press Council is headed by a **Chairman**, who has by convention, been a **retired judge of the Supreme Court of India**.
- **Composition:** The Council consists of 28 other members of whom:
 - 20 represent the press and are nominated by the press organisations/news agencies recognised and notified by the Council as all India
 - 5 members are nominated from the two Houses of Parliament
- 3 represent cultural, literary and legal fields as nominees of the Sahitya Academy, University Grants Commission and the Bar Council of India.
- The members serve on the Council for a **term of three years**.
- A retiring member shall be **eligible for renomination for not more than one term**.

National Legal Services Authority (NALSA)

- The National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987.

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- Aim: To provide **free Legal Services to the weaker sections** of the society and to **organize Lok Adalats** for amicable settlement of disputes.
- It will ensure that opportunities for securing justice are not denied to any citizen by reasons of economic or other disabilities.
- The **Chief Justice of India shall be the Patron-in-Chief** and the **second senior-most judge of the Supreme Court of India is the Executive-Chairman**.
- 'Nyaya Deep' is the official newsletter of NALSA.
- In every State, the State Legal Services Authority has been constituted to give effect to the policies and directions of the NALSA and to give free legal services to the people and conduct Lok Adalats in the State.
- The State Legal Services Authority is **headed by Hon'ble the Chief Justice of the respective High Court** who is the Patron-in-Chief of the State Legal Services Authority.
- In every District, the District Legal Services Authority has been constituted to implement Legal Services Programmes in the District.
- The District Legal Services Authority is situated in the District Courts Complex in every District and **chaired by the District Judge of the respective district..**

Ayushman Bharat Yojana

- Ayushman Bharat, a flagship scheme of Government of India, was launched as **recommended by the National Health Policy 2017**, to achieve the vision of **Universal Health Coverage (UHC)**.
- This initiative has been designed **to meet Sustainable Development Goals (SDGs)** and its underlying commitment to "leave no one behind."
- This scheme aims to undertake path breaking interventions to **holistically address the healthcare system** (covering prevention, promotion and ambulatory care) **at the primary, secondary and tertiary level**.
- Ayushman Bharat adopts a continuum of care approach, comprising of two interrelated components, which are -
 - a) **Health and Wellness Centres (HWCs)**
 - b) **Pradhan Mantri Jan Arogya Yojana (PM-JAY)**
- **Features:**
 - **Coverage of Rs.5 lakh per family per annum** for secondary and tertiary care across public and private hospitals.
 - Approximately 50 crore beneficiaries (over 10 crore poor and vulnerable entitled families) are eligible for the scheme.
 - **Cashless hospitalisation.**
 - Includes costs for diagnostic services, drugs, room charges, physician's fees, surgeon charges, supplies, ICU and OT charges.
 - **Public hospitals are reimbursed** for the healthcare services **at par with the private hospitals.**
 - No restriction on the family size, gender or age.

Atal Pension Yojana

- The Government of India launched the Atal Pension Yojana (APY) in May, 2015 with an objective of **delivering old age income security particularly to the workers in the unorganised sector.**
- APY can be subscribed by any Indian citizen in the **age group of 18-40 years** having a bank account. It is **open to all bank account holders who are not members of any statutory social security scheme.**
- It provides a **minimum guaranteed pension ranging from Rs 1000 to Rs 5000** on attaining 60 years of age.
- The **amount of pension is guaranteed for lifetime** to the spouse on death of the subscriber. In the event of death of both the subscriber and the spouse, the entire pension corpus is paid to the nominee.
- **Contributions to the APY are eligible for tax benefits** similar to the National Pension System (NPS).
- It is **administered by the Pension Fund Regulatory and Development Authority (PFRDA).**
- PFRDA is the **statutory Authority** established by an enactment of the Parliament, **to regulate, promote and ensure orderly growth of the National Pension System (NPS)** and pension schemes to which this Act applies.

Common Service Centres Scheme

- Common Service Centres (CSC) scheme, **approved in May 2006**, forms a strategic component of the National eGovernance Plan. It is one of the **mission mode projects under the Digital India Programme.**
- CSCs are the **access points for delivery of essential public utility services**, social welfare schemes, healthcare, financial, education and agriculture services, apart from host of B2C services to citizens in rural and remote areas of the country.
- Based on the assessment of the CSC scheme, the Government launched the **CSC 2.0 scheme in 2015 to expand the outreach of CSCs to all Gram Panchayats** across the country with following features:
 - a) A self-sustaining network of 2.5 lakh CSCs in Gram Panchayats
 - b) Large bouquet of e-services through a single delivery platform
 - c) Standardization of services and capacity building of stakeholders
 - d) Localised Help Desk support
 - e) Sustainability of Village Level Entrepreneurs (VLEs) through maximum commission sharing
 - f) Encouraging more women as VLEs

Star Rating of Garbage Free Cities

- The **Ministry of Housing and Urban Affairs (MOHUA)** has launched the Protocol for Star Rating of Garbage Free cities.
- The star rating conditions have been designed in a way as to **enable cities** to gradually evolve into a model (7-star) city, with **progressive improvements in their overall cleanliness.**
- The star rating conditions are **based on 25 key parameters across the solid waste management spectrum** and have been designed to both help cities assess their progress while **encouraging them** to move towards a better rating thereby improving their cities' overall cleanliness and aesthetics.

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- The Star Rating is **supported by a robust verification mechanism** to ensure transparency and standardisation. Cities are required to carry out self-assessment and self-verification for achieving a certain star rating. This self-declaration will be further **verified through an independent third-party agency appointed by MoHUA**.

Pradhan Mantri Vaya Vandana Yojana

- Pradhan Mantri Vaya Vandana Yojana (PMVYY) is a pension scheme **launched in 2017 by the Finance Ministry** exclusively for the senior citizens aged 60 years.
- This is a scheme **offered by the Life insurance Corporation (LIC) of India that gives** a guaranteed payout of pension at a specified rate for 10 years. It also offers a death benefit in the form of return of purchase price to the nominee.
- Senior citizens can draw a **minimum pension of ₹1,000 per month** depending on the amount invested in the scheme. The **maximum pension amount is limited at ₹10,000 per month**.
- One can invest a **maximum amount of ₹15 lakh** under PMVYY scheme.
- Loan upto 75% of Purchase Price shall be allowed after 3 policy years
- The **scheme is exempted from GST and aadhar has been made mandatory** to avail the benefit of the scheme.
- **Minimum age to apply for PMVYY is 60 age** and there is **no upper age limit on entry**.
- **New Rules:**
 - PMVYY pension scheme has **now been extended till March 31, 2023**. This scheme was open till March 31, 2020.
 - **Initially an assured rate of return of 7.40% per annum** for the year 2020-21 per annum has been allowed and thereafter it is to be reset every year.
 - **Annual reset of assured rate of interest with effect from April 1st of financial year** in line with revised rate of returns of Senior Citizens Saving Scheme (SCSS) upto a ceiling of 7.75% with fresh appraisal of the scheme on breach of this threshold at any point.
 - Delegating the authority to Finance Minister to approve annual reset rate of return at the beginning of every financial year

Grants-in-aid for Rural Local Bodies

- The **Ministry of Finance** has released an amount of **Rs.15187.50 crore as grants-in-aid**, in respect of 2.63 lakh **Rural Local Bodies (RLBs)** spread in 28 States of the country.
- This grants-in-aid forms **part of the Tied Grant** as recommended by **Fifteenth Finance Commission (XV-FC)** for the period **FY 2020-21**.
- The Fifteenth Finance Commission (XV FC) submitted its **interim report for the period FY 2020-21** and the Government of India accepted its recommendations in respect of the Local Bodies.
- The Commission has recommended the total size of the grant to be **Rs.60,750 crore** for the period **FY 2020-21 for the Rural Local Bodies (RLBs)**. This is the highest ever allocation made by the Finance Commission in any single year.
- The Commission has recommended Grants-in-aid to all tiers of the Panchayati Raj **including the Traditional Bodies of Fifth and Sixth Schedule areas**, in 28 States, in two parts (50% of the grant in each), namely, (i) a Basic Grant and (ii) a Tied Grant.

- i) The **Basic Grants** are untied and can be used by RLBs for location-specific felt needs, except for salary or other establishment expenditure.
- ii) The **Tied Grants** are to be used for the basic services of
 - sanitation and maintenance of open-defecation free (ODF) status and
 - supply of drinking water, rain water harvesting and water recycling
 - The RLBs shall, as far as possible, earmark one half of these Tied Grants each to these two critical services.
 - However, if any RLB has fully saturated the needs of one category it can utilize the funds for the other category.

Finance Commissions

- Article 280 of the Constitution of India provides for a Finance Commission as a **constitutional and a quasi-judicial body**. It is constituted by the **President of India** every fifth year or at such earlier time as he considers necessary.
- The Finance Commission consists of a **chairman and four other members** to be appointed by the President. They hold office for such a period as specified by the President in his order. They are **eligible for reappointment**.
- The chairman should be a **person having experience in public affairs** and the four other members should be selected from amongst the following:
 - i) A judge of high court or one qualified to be appointed as one.
 - ii) A person who has specialised knowledge of finance and accounts of the government.
 - iii) A person who has wide experience in financial matters and in administration.
 - iv) A person who has special knowledge of economics
- The commission **submits its report to the President who lays it before both the Houses of Parliament** along with an explanatory memorandum as to the action taken on its recommendations.
- **Recommendations** made by the Finance Commission are **only of advisory nature** and hence, not binding on the government.

Consumer Protection Act, 2019

- The Consumer Protection Act, 2019 came into force on **20th July 2020**.
- The Act includes establishment of the **Central Consumer Protection Authority (CCPA)** to promote, protect and enforce the rights of consumers.
- E-commerce platforms also have to acknowledge the receipt of any consumer complaint within 48 hours and redress the complaint within one month from the date of receipt under this Act.
- The **Consumer Protection (E-commerce) Rules, 2020 are mandatory and are not advisories.**
- It provides for **simplifying the consumer dispute adjudication process** in the consumer commissions. It includes empowerment of the State and District Commissions to review their own orders, enabling a consumer to file complaints electronically and file complaints in consumer Commissions that have jurisdiction over the place of his residence, videoconferencing for hearing and deemed admissibility of complaints if the question of admissibility is not decided within the specified period of 21 days.
- It also provides for **Alternate Dispute Resolution mechanism of Mediation** for simplifying the adjudication process. A complaint will be referred by a Consumer Commission for mediation,

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wherever scope for early settlement exists and parties agree for it. There will be **no appeal against settlement through mediation.**

- The new act also **introduces the concept of product liability** and brings within its scope, the product manufacturer, product service provider and product seller, for any claim for compensation.
- It provides for deterrent punishment to check **misleading advertisements and adulteration of products.**
- There are provision for rules for new age consumer issues related to **e-commerce & direct selling.** A manufacturer or product service provider or product seller will be responsible to compensate for injury or damage caused by defective product or deficiency in services.

National Financial Reporting Authority

- The National Financial Reporting Authority (NFRA) has constituted a **Technical Advisory Committee (TAC)** under the Chairmanship of **R Narayanaswamy.**
- It comprises **seven members, including the Chairman.**
- The TAC would aid and advise the Executive Body of the NFRA on issues related to the drafts of **accounting standards and auditing standards.** It will also provide inputs from the perspectives of users, preparers and auditors of financial statements.
- NFRA was constituted in **October, 2018** by the Government of India under section 132 of the **Companies Act, 2013.**
- **Functions and Duties:**
 - Recommend **accounting and auditing policies and standards** to be adopted by companies for approval by the Central Government;
 - **Monitor and enforce compliance** with accounting standards and auditing standards;
 - Oversee the quality of service of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service;
 - Perform such other functions and duties as may be necessary or incidental to the aforesaid functions and duties.
- The Companies Act requires the NFRA to have a **chairperson** who will be appointed by the Central Government and **a maximum of 15 members.**
- **Powers:**
 - It is empowered to oversee the quality of audit service and undertake investigation of companies **whose securities are listed on any stock exchange in India or abroad.**
 - It can probe unlisted public companies having **paid-up capital of no less than Rs 500 crore or annual turnover of no less than Rs 1,000 crore.**
 - It has also been given powers to **investigate professional misconduct committed by members of the Institute of Chartered Accountants of India (ICAI)** for prescribed classes of body corporate or persons.

Plea Bargaining

- Plea bargaining refers to a **person charged with a criminal offence negotiating with the prosecution for a lesser punishment** than what is provided in law by pleading guilty to a less serious offence.

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- It primarily involves **pretrial negotiations** between the accused and the prosecutor. It may involve bargaining on the charge or in the quantum of sentence.
- **Plea bargaining was introduced in 2006** as part of a set of amendments to the Code of Criminal Procedure (CrPC). There has always been a provision in the Code of Criminal Procedure for an accused to plead 'guilty' instead of claiming the right to a full trial, but it is not the same as plea bargaining.
- The Indian code makes plea bargaining a process that can be initiated only by the accused; further, the accused will have to apply to the court for invoking the benefit of bargaining.
- **Cases for which the practice is allowed are limited.**
 - Only someone who has been charged sheeted for an offence that does not attract the death sentence, life sentence or a prison term above seven years can make use of the scheme.
 - It is also applicable to private complaints of which a criminal court has taken cognisance. Other categories of cases that cannot be disposed of through plea bargaining are those that involve offences affecting the "socio-economic conditions" of the country, or committed against a woman or a child below the age of 14.

Contempt of Court

- According to the **Contempt of Courts Act, 1971**, contempt of court can either be civil contempt or criminal contempt.
- **Civil contempt** means wilful disobedience to any judgment, decree, direction, order, writ or other process of a court or wilful breach of an undertaking given to a court.
- **Criminal contempt** means the publication (whether by words, spoken or written, or by signs, or by visible representations, or otherwise) of any matter or the doing of any other act whatsoever which
 - i) scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court; or
 - ii) prejudices, or interferes or tends to interfere with, the due course of any judicial proceeding; or
 - iii) interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.
- A contempt of court may be punished with simple imprisonment for a term which may extend to six months, or with fine which may extend to two thousand rupees, or with both, provided that the accused may be discharged or the punishment awarded may be remitted on apology being made to the satisfaction of the court.

Constitutional Provisions related to contempt and freedom of speech and expression:

- **Article 19(1)(a)** of the Constitution gives the right to freedom of speech and expression to all citizens, while "contempt provisions" curb people's freedom to speak against the court's functioning.
- **Article 129 and 215** of the Constitution of India empowers the **Supreme Court** and **High Court** respectively to punish people for their respective contempt.
- **Article 142(2)** enables the Supreme Court to investigate and punish any person for its contempt.
- Power to punish for contempt of court under Articles 129 and 215 is not subject to Article 19(1)(a).

Merger Under 10th Schedule

- The Tenth Schedule of the Constitution **prohibits defection** to protect the stability of governments but **does not prohibit mergers**.

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- Paragraph 4(2) of the Tenth Schedule, dealing with mergers, says that **only when two-thirds of the members agree to “merge” the party would they be exempt from disqualification.**
- However, the Tenth Schedule **identifies the dichotomy between state units and national units.** As per Paragraph 4(2), “merger” of a party means merger of a legislative party of that House.
- “Legislature Party” for this purpose “means the group consisting of all the members of that House for the time being belonging to that political party in accordance with the said provisions.”
- Additionally, the whip has to necessarily be issued for voting on the floor of the House. Every legislative party identifies the party’s whip at the beginning of the Assembly’s term and conveys this to the Speaker. **A national leader’s direction cannot be considered a whip in the context of the anti-defection law.**

AuditOnline Application

- The **Ministry of Panchayati Raj** has decided to conduct an **online audit** of 20% (around 50,000 panchayats) of the estimated 2.5 lakh **gram panchayats (GPs)** across the country for the current financial year. Their books of accounts will be audited with a focus on how they used Finance Commission (FC) grants.
- This is the **first such exercise** and is to be conducted through the **AuditOnline application**, developed by the Ministry to ensure accountability in the utilisation of funds at the ground level.
- **AuditOnline** is an **open-source application** developed as part of **Panchayat Enterprise Suite (PES)** under **e-panchayat Mission Mode Project (MMP)** initiated by the Ministry of Panchayati Raj.
- The audit will be scaled up to cover all Panchayats across the country in the next financial year 2020-21.
- Online audit will **ease access to records, and can be monitored at district, state and Centre level.** Uploading photos of work done and geo-tagging projects will also allow for physical inspection.
- In the new process, the auditors will be able to see online all documents related to work approval and payments.

Committee on Content Regulation in Government Advertising (CCRGA)

- As per the directions of the **Supreme Court in 2015**, the Government of India had set up a committee on content regulation in government advertising (CCRGA) in **2016** to look into **content regulation of government funded advertisements** in all media platforms.
- It is a three-member Body empowered to address complaints from the general public on violation of the Supreme Court guidelines and make suitable recommendations.
- The Committee can also **take suo-moto cognizance** of any violation/ deviation of the Supreme Court guidelines and recommend corrective actions.

Supreme Court Guidelines

- The content of the government advertisements should be relevant to constitutional and legal obligations as well as the citizens’ rights and entitlements.
- The advertisement materials should be presented in an objective, fair and presentable manner and are designed to meet the objectives of campaign to ensure maximum reach in a cost-effective way.
- It should not promote the political interests of the ruling party, which may include avoiding glorification of political personalities and maintaining political neutrality, attacking opposition and displaying party political logos.

- Article 174 of the Constitution gives the **Governor the power to summon** from time to time “the House or each House of the Legislature of the State to meet at such time and place as **he thinks fit...**”
- However, the phrase “**as he thinks fit**” is read as per Article 163 of the Constitution which says that the Governor acts on the aid and advice of the cabinet.
- In the 2016 Uttarakhand case, the Supreme Court has clarified that when the majority of the ruling party is in question, **a floor test must be conducted at the earliest** available opportunity.
- In 2016, a Constitution Bench of the Supreme Court in **Nabam Rebia and Bamang Felix vs Deputy Speaker**, the Arunachal Pradesh Assembly case, expressly said that the **Governor can summon, prorogue and dissolve the House, only on the aid and advice of the Council of Ministers with the Chief Minister as the head and not on his own.**

Governor's Discretionary Powers

- Article 163(1) of the Constitution says that “there shall be a **council of Ministers with the Chief Minister at the head to aid and advise the Governor** in the exercise of his functions, except in so far as he is by or under this constitution required to exercise his functions or any of them in his discretion.”
- Article 163(1) essentially **limits any discretionary power of Governor** only to cases where the Constitution expressly specifies that the Governor must act on his own and apply an independent mind.
- When the **chief minister has lost the support of the House** and his strength is debatable, then the **Governor need not wait for the advice of the council of ministers** to hold a floor test.

AIM-iCREST

- Atal Innovation Mission (AIM) has launched AIM iCREST – an Incubator Capabilities enhancement program for a Robust Ecosystem focused on creating high performing Startups. This is a first of its kind initiative for advancing innovation at scale in India.
- It aims to **encourage and enable holistic progress in the incubator ecosystem** across the country.
- For this initiative, AIM has joined hands with **Bill & Melinda Gates Foundation** and **Wadhwani Foundation** - organizations that can lend credible support and expertise in the entrepreneurship and innovation space.
- AIM iCREST has been designed to **enable the incubation ecosystem** and **act as a growth hack for AIM's Atal and Established incubators** across the country.
- Under the initiative, the **AIM's incubators are set to be upscaled** and provided requisite support to foster the incubation enterprise economy, that will help them to significantly enhance their performance. This will be complemented by providing **training to entrepreneurs**, through technology driven processes and platforms.

Atal Innovation Mission

- The Atal Innovation Mission (AIM) is a **flagship initiative set up by the NITI Aayog** to promote innovation and entrepreneurship across the length and breadth of the country.
- **Goals of AIM:**
 - Establishment and promotion of **Small Business Innovation Research and Development at a national scale (AIM SBIR)** for the SME/MSME/startups.

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- Rejuvenating Science and Technology innovations in major research institutions of the country like CSIR, ICAR, ICMR aligned to national socio-economic needs.
- **Initiatives under AIM:**
 - **Atal Tinkering Labs-** Creating problem solving mindset across schools in India.
 - **Atal Incubation Centers-** Fostering world class startups and adding a new dimension to the incubator model.
 - **Atal New India Challenges-** Fostering product innovations and aligning them to the needs of various sectors/ministries.
 - **Mentor India Campaign-** A national Mentor network in collaboration with the public sector, corporates and institutions, to support all the initiatives of the mission.
 - **Atal Community Innovation Center-** To stimulate community centric innovation and ideas in the unserved /underserved regions of the country including Tier 2 and Tier 3 cities.
 - **Atal Research and Innovation for Small Enterprises (ARISE)-** To stimulate innovation and research in the MSME industry.

E-Commerce Sites Must State Country of Origin

- The Centre told the Delhi High Court that **all e-commerce entities**, including Amazon, Flipkart, and Snapdeal, **have to ensure the mandatory declaration of country of origin of imported products sold on their site**.
- The laws relating to the issue were enacted under the **Legal Metrology Act, 2009** and the **Legal Metrology (Packaged Commodities) Rules, 2011**.
- **Enforcement** of the provisions of the Act and Rules **rested with the States and UTs** governments.
- Whenever violations are observed, action is taken by the legal metrology officials of the States/ UTs governments in accordance with the law.
- The **Consumer Protection Act 2019** also **mandates** to display the '**country of origin**' by the **e-commerce entities**.

Habeas Corpus

- Jammu & Kashmir High Court was confronted with an unprecedented situation — a staggering 250-plus **habeas corpus petitions** challenging detentions under the **Public Safety Act** post abrogation of the special status of the erstwhile state on August 5, 2019.
- The writ of habeas corpus literally means 'to have the body of'. It is an **order issued by the court to a person who has detained another person**, to produce the body of the latter before it.
- The court then examines the cause and legality of detention. It would set the detained person free, if the detention is found to be illegal. Thus, this writ is a **bulwark of individual liberty against arbitrary detention**.
- The writ of habeas corpus can be issued against both public authorities as well as private individuals. The writ, on the other hand, is not issued where the
 - a. detention is lawful
 - b. proceeding is for contempt of a legislature or a court
 - c. detention is by a competent court
 - d. detention is outside the jurisdiction of the court.

- The law was **introduced by Sheikh Abdullah in 1978 to prevent timber smuggling**, and keep the smugglers in prison. This is a preventive detention law that allows the State government **to detain a person up to two years without a trial**.
- In police custody, a person has to be produced before a magistrate within 24 hours of detention. But the PSA allows the State to **hold a person without producing them in court**.
- Within four weeks of passing the detention order, the government has to refer the case to an Advisory Board. If the Board thinks that there is cause for preventive detention, the government can hold the person up to two years.
- According to **Section 13(2)**, the detaining authority **need not even inform the detained individual as to the reason for the action**, if it decides that it goes against public interest.
- The only way to challenge preventive detention order is through a habeas corpus petition filed by relatives of the detained person.
- Both the **High Court and the Supreme Court have jurisdiction** to hear such petitions and pass a final order seeking quashing of the PSA.

Negative Import List for Defence

- The **Ministry of Defence** has prepared a list of **101 items for which there would be an embargo on the import** beyond the timeline indicated against them. This is a big step towards self-reliance in defence.
- It essentially means that the Armed Forces—Army, Navy and Air Force—will only **procure all of these 101 items from domestic manufacturers**. The manufacturers could be private sector players or defence Public Sector Undertakings (DPSUs).
- Government has also decided that **in any government contract over ₹200 crore, no foreign company can participate** in the tendering process.
- The items mentioned in the negative imports list comprises not just simple parts but also some high technology weapon systems. It includes water jet fast attack craft to survey vessels, pollution control vessels, light transport aircraft, GSAT-6 terminals, radars, unmanned aerial vehicles, to certain rifles, artillery guns, bullet proof jackets, missile destroyers, etc.
- The embargo on imports is planned to be **progressively implemented between 2020 to 2024**.
- The Defence Ministry has also **bifurcated the capital procurement budget** for 2020-21 between domestic and foreign capital procurement routes.
- A **separate budget head** has been created with an **outlay of nearly ₹52,000 crore** for domestic capital procurement in the current financial year.
- The government intends to reach a **turnover of \$25 billion through indigenously manufactured defence products** and also expects to export products worth \$5 billion.
- The decision will offer a great opportunity to the Indian defence industry to manufacture the items in the negative list by using their own design and development capabilities or adopting the technologies designed and developed by the Defence Research Development Organisation (DRDO) to meet the requirements of the Armed Forces.
- **Other initiatives taken earlier for the defence sector:**
 - Raising the Foreign Direct Investment (FDI) in defence manufacturing from 49% to 74% under the automatic route

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- Improving the autonomy and accountability of the Ordnance Factory Board by their corporatisation
- Building a time-bound defence procurement process and faster decision-making, including setting realistic general qualitative requirements of the weapons and equipment.

Comptroller and Auditor General of India

- G.C. Murmu has been appointed as Comptroller and Auditor General of India (CAG).
- **Article 148** of the Constitution provides for an **independent office of the Comptroller and Auditor General of India (CAG)**.
- The CAG is **appointed by the President** of India by a warrant under his hand and seal.
- He holds **office for a period of six years or up to the age of 65 years**, whichever is earlier.
- He can be **removed by the President** on the basis of a **resolution passed** to that effect by both the Houses of Parliament **with special majority**, either on the ground of proved misbehaviour or incapacity (on the same grounds and in the same manner as a judge of the Supreme Court).
- **Article 149** authorises the Parliament to **prescribe the duties and powers of the CAG** in relation to the accounts of the Union and of the states and of any other authority or body.
- The CAG submits **three audit reports to the President**— audit report on **appropriation accounts**, audit report on **finance accounts**, and audit report on **public undertakings**. The President lays these reports before both the Houses of Parliament.

Clause 6 of the Assam Accord

- A high-level committee constituted by the **Ministry of Home Affairs** has submitted its recommendations on implementation of **Clause 6 of the Assam Accord**.
- The committee chaired by **Justice (retd) Biplab Kumar Sarma** was constituted to define '**Assamese People**' and institute safeguards for them.
- The report said that the **definition of 'Assamese People'** for the purpose of implementation of Clause 6 of the Assam Accord **should include Indigenous Tribals as well as other Indigenous Communities of Assam, all other citizens of India residing in the territory of Assam on or before 01.01.1951 and Indigenous Assamese — and their descendants**.
- The Assam Accord was a **Memorandum of Settlement (MoS)** signed between representatives of the **Government of India, State Government of Assam and the leaders of the Assam Movement in 1985**.
- It sets a cut-off of **midnight of March 24, 1971**, for the detection of "illegal foreigners" in Assam and the National Register of Citizens (NRC) preparation in Assam uses the same cut-off but the Accord did not define who were eligible for the safeguards.
- **The report recommended numerous reservations for "Assamese people":**
 - 80 to 100% of Assam's seats in Parliament; and the same proportion in Assembly and local bodies (inclusive of pre-existing reservations).
 - 80 to 100% of Group C and D level posts in all government and private sector jobs in Assam.
 - 80%-100% of jobs under Government of Assam and State Government undertakings
 - 70%-100% of vacancies in private partnerships including PPP model in Assam.

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- The recommendations also include the **implementation of an Inner Line Permit regime** in the state. The ILP is a system in which a special permit is required by people from other regions of India to visit the state.
- It also recommended **setting up of the Legislative Council of Assam** whose seats will be reserved for the 'Assamese people'.
- The report also stressed that **land rights be confined to the Assamese people** by putting restrictions on transferring the same by any means to other persons other than Assamese people.

Demand for 6th Schedule Status for Arunachal Pradesh

- Political parties and community-based groups have called for **bringing the entire Arunachal Pradesh under the ambit of the Sixth Schedule or Article 371 (A)** of the Constitution.
- The call comes after the recent revival of the **demand for two autonomous councils**.
- Currently, Arunachal Pradesh, **bordering Bhutan, China and Myanmar**, is under the **Fifth Schedule** that does not provide special rights for the indigenous communities unlike the Sixth Schedule.
- Fifth and Sixth Schedules were discussed and passed by the Constituent Assembly in 1949.
- The **Fifth Schedule of the Constitution** deals with the administration and control of scheduled areas and scheduled tribes in any state **except the four states of Assam, Meghalaya, Tripura and Mizoram**.
- The **Sixth Schedule of the Constitution** deals with the **administration of the tribal areas** and currently **includes 10 autonomous district councils** in four northeastern States — **Assam, Meghalaya, Mizoram and Tripura**. This special provision is provided under **Article 244(2)** and **Article 275(1)** of the Constitution.
- **Case of Nagaland:**
 - Nagaland is governed by **Article 371 (A)**, which says that no Act of Parliament shall apply in the State in several areas unless the Nagaland Assembly so decides by a resolution.
 - These include administration of civil and criminal justice involving decisions according to Naga customary law and ownership and transfer of land and its resources.

Whip

- The office of 'whip' is **mentioned neither in the Constitution of India nor in the Rules of the House nor in a Parliamentary Statute**.
- It is based on the conventions of the parliamentary government. A whip is an **official of a political party** who acts as the **party's 'enforcer'** inside the legislative assembly or house of parliament.
- He is charged with the **responsibility of ensuring the attendance of his party members** in large numbers and **securing their support in favour of or against a particular issue**. He is responsible for the party's discipline and behaviour on the floor of the House.
- India inherited the concept of the whip from the **British parliamentary system**.
- A legislator **may face disqualification proceedings if she/he disobeys the whip** of the party unless the number of lawmakers defying the whip is 2/3rds of the party's strength in the house.
- **Limitations of whip:** There are some cases such as **Presidential elections** where whips cannot direct a Member of Parliament or Member of Legislative Assembly to vote in a particular fashion.

- **Types of whips:**
 - **One-line whip** is issued to inform members of a party about a vote. It allows a member to abstain in case they decide not to follow the party line.
 - **Two-line whip** is issued to direct the members to be present in the House at the time of voting.
 - **Three-line whip** is issued to members directing them to vote as per the party line.

Union Public Service Commission (UPSC)

- Educationist Professor Pradeep Kumar Joshi was appointed as the chairman of the **Union Public Service Commission (UPSC)**. His tenure as the chairman of the UPSC will be till May 12, 2021.
- UPSC is an independent constitutional body created directly by the Constitution under **Articles 315 to 323**.
- The UPSC consists of a chairman and other members appointed by the President of India. The Constitution, without specifying the strength of the Commission has left the matter to the discretion of the President, who determines its composition.
- Further, **no qualifications are prescribed for the Commission's membership** except that one-half of the members of the Commission should be such persons who have held office for at least ten years either under the Government of India or under the government of a state.
- The chairman and members of the Commission **hold office for a term of six years or until they attain the age of 65 years**, whichever is earlier.
- The President can remove the chairman or any other member of UPSC from the office under the following circumstances:
 - i) If he is adjudged an insolvent
 - ii) If he engages, during his term of office, in any paid employment outside the duties of his office; or
 - iii) If he is, in the opinion of the president, unfit to continue in office by reason of infirmity of mind or body.
 - iv) In addition to these, the president can also remove the chairman or any other member of UPSC for misbehaviour.

Global Rights Index

- The **International Trade Union Confederation (ITUC)** released its seventh edition of the **Global Rights Index** that ranks 144 countries on the degree of respect for **workers' rights**.
- The ranking of the countries has been made based on **97 metrics** that includes a wide range of abuses including: workers' rights, right to strike, freedom from violent conditions, violations of collective bargaining, excluding workers from joining unions, government surveillance on unions & their members, violence and killings and the limiting of freedom of speech etc.

Key Finding

- **India is among the 10 worst** countries for working people and ten worst countries for workers in 2020 are: Bangladesh, Brazil, Colombia, Egypt, Honduras, India, Kazakhstan, the Philippines, Turkey and Zimbabwe.
- Three new countries - **India, Egypt and Honduras** - have entered the list of ten worst countries for workers.

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- Around 85% of the countries violated the right to strike and 80% violated the right to collectively bargain.
- Number of countries that denied freedom of speech has increased from 54 in 2019 to 56 in 2020
- The workers that were exposed to violence had restricted access to justice in 72% of the countries

International Trade Union Confederation

- It is the **world's largest** trade union federation, formed on 1 November 2006, out of the merger of the International Confederation of Free Trade Unions (ICFTU) and the World Confederation of Labour (WCL).
- It is based in Brussels, Belgium.

Affordable Rental Housing Complexes

- The Union Cabinet has given its approval for developing of **Affordable Rental Housing Complexes (ARHCs)** for urban migrants/poor as a sub-scheme under **Pradhan Mantri Awas Yojana – Urban (PMAY – U)**.
- The **Ministry of Housing & Urban Affairs (MoHUA)** had initiated ARHCs to fulfill the vision of '**AtmaNirbhar Bharat**'. **The ARHC scheme will be implemented through two models:**
 - Existing vacant government funded housing complexes will be converted in ARHCs through Concession Agreements for 25 years. States/UTs will select concessionaires through transparent bidding.
 - Special incentives like use permission, concessional loan at priority sector lending rate, tax reliefs at par with affordable housing etc. will be offered to private/ public entities to develop ARHCs on their own available vacant land for 25 years.
- **Beneficiaries** for ARHCs are **urban migrants/ poor** from EWS/LIG categories comprising of street vendors, rickshaw pullers and other service providers, industrial workers along with migrants working with market/ trade associations, educational/ health institutions, hospitality sector, long term tourists/ visitors, students or any other category.
- An expenditure of **Rs 600 Crore** is estimated in the form of **Technology Innovation Grant** which will be released for projects using identified innovative technologies for construction.
- The scheme would create a conducive environment for Entities to develop AHRCs on their own vacant land which would enable new investment opportunities and promote entrepreneurship in the rental housing sector.

Pradhan Mantri Awas Yojana – Urban (PMAY – U)

- Pradhan Mantri Awas Yojana (Urban) (PMAY-U), a flagship Mission implemented by the **Ministry of Housing and Urban Affairs (MoHUA)**, was launched in **June 2015**.
- The Mission **addresses urban housing shortage among the EWS/LIG and MIG categories** including the slum dwellers by ensuring a pucca house to all eligible urban households by the year 2022. PMAY(U) adopts a demand driven approach wherein the Housing shortage is decided based on demand assessment by States/UTs.
- The Mission **covers the entire urban area** consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning & regulations.

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- The Mission promotes women empowerment by providing the ownership of houses in the name of female members or in joint name. Preference is also given to differently abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & venerable sections of the society.
- The scheme has been **divided into four verticals:**
 - 'In-situ' Slum Redevelopment (ISSR)
 - Credit Linked Subsidy Scheme (CLSS)
 - Affordable Housing in Partnership (AHP)
 - Beneficiary-led Construction/ Enhancement (BLC/ BLE)

Saansad Adarsh Gram Yojana

- Sansad Adarsh Gram Yojana (SAGY) is a **village development project** launched by the Government of India in **October 2014**.
- Under the Yojana, Members of Parliament (MPs) will be responsible for developing the socio-economic and physical infrastructure of **three villages each by 2019**, and a total of **eight villages each by 2024**.
- The first Adarsh Gram must be developed by 2016, and two more by 2019. From 2019 to 2024, five more Adarsh Grams must be developed by each MP, one each year.
- **Objectives:**
 - The development of model villages, called **Adarsh Grams**, through the implementation of existing schemes, and certain new initiatives to be designed for the local context, which may vary from village to village.
 - Creating **models of local development** which can be replicated in other villages.
- Lok Sabha MPs can choose a village from their constituency, and Rajya Sabha MPs from the state from which they are elected. Nominated members can choose a village from any district of the country. MPs which represent urban constituencies can identify a village from a neighbouring rural constituency.
- **Funding: No new funds** have been allocated for the Yojana. Resources may be raised through:
 - Funds from existing schemes, such as the Indira Awas Yojana, Pradhan Mantri Gram Sadak Yojana, MGNREGS, and Backward Regions Grant Fund, etc.,
 - The Member of Parliament Local Area Development Scheme (MPLADS),
 - The gram panchayat's own revenue,
 - Central and State Finance Commission Grants, and
 - Corporate Social Responsibility funds.
- A **web-based monitoring system** will be established to enable the MP and other stakeholders to monitor the scheme.

BharatNet Project

- BharatNet is implemented by **Bharat Broadband Network Ltd. (BBNL)** which is a Special Purpose Vehicle set up under Companies Act by Government of India with an authorized capital of Rs. 1000 Cr. It has been mandated to create the **National Optical Fiber Network (NOFN)** in India.

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- The National Optical Fiber Network (NOFN) programme was **launched in 2011** and was renamed as BharatNet programme in 2015.
- NOFN aims to **connect all the 2,50,000 Gram panchayats** in the country and provide 100 Mbps connectivity to all gram panchayats (GPs) through optical fibre. The objective is to **facilitate the delivery of e-governance, e-health, e-education, e-banking, Internet, and other services to rural India.**
- The project is a **Centre-State collaborative project**, with the States contributing **free Rights of Way** for establishing the Optical Fibre Network.
- The entire project is being funded by **Universal service Obligation Fund (USOF)**, which was set up for improving telecom services in rural and remote areas of the country.
- The project is now an **integral part of the Digital India initiative**- the flagship programme to empower citizens digitally and to bridge the digital gap between rural and urban India.

Pradhan Mantri Aawas Yojana- Gramin

- Pradhan Mantri Awas Yojana – Gramin (PMAYG), earlier known as **Indira Awaas Yojana (IAY)**, is a scheme for rural housing by the Indian Government.
- PMAY-G was launched on **20th November, 2016** with the **objective of the “Housing for All”**. It has the **target of construction of 2.95 crore houses with all basic amenities by the year 2022**.
- The construction cost of the houses will be shared in a **60:40 ratio between the Central and State governments in plain areas and 90:10 for North Eastern and Himalayan States**. **100% financing** will be offered by the Central government for the construction of houses in **Union Territories**.
- Under the scheme, **rural masons will be trained** with the objective of improving workmanship and quality of construction of houses while at the same time, increasing availability of skilled masons and enhancing employability of such masons.

Rashtriya Swachhata Kendra (RSK)

- Rashtriya Swachhata Kendra (RSK), an interactive **experience centre on the Swachh Bharat Mission**, was inaugurated by the Prime Minister of India.
- A tribute to Mahatma Gandhi, RSK was first announced by the Prime Minister on 10th April 2017, on the occasion of the centenary celebrations of **Gandhi's Champaran Satyagraha**.
- The installations at RSK will **introduce future generations** to the successful journey of the world's largest behaviour change campaign, the **Swachh Bharat Mission**.
- A **balanced mix of digital and outdoor installations** in the RSK will impart information, awareness and education on Swachhata and related aspects.

New Rules for Postal Ballot

- The **Election Commission (EC)** has issued a **new set of instructions for Postal Ballot**. This has been done to make the procedure more convenient, while opting for postal ballot, for **those above 80 years of age and people with disabilities**.
- The **returning officer would deploy polling teams**, who would deliver and collect the postal ballot on pre-informed dates and thereafter deposit it with the RO.

Postal Ballot System

- Through this facility, a voter can cast her vote remotely by **recording her preference on the ballot paper** and sending it back to the election officer before counting.
- **Eligibility:**
 - a) Following are entitled to vote only by post, they can't vote in person
 - ✓ Members of the **armed forces** like the Army, Navy and Air Force
 - ✓ Members of the armed police force of a state (serving outside the state),
 - ✓ **Government employees posted outside India** and their spouses
 - ✓ Voters under **preventive detention** can also vote only by post
 - b) **Special voters** such as the President of India, Vice President, Governors, Union Cabinet Ministers, Speaker of the House, and Government officers on poll duty have the option to vote by post. But they **have to apply through a prescribed form to avail this facility**.
 - c) **Absentee Voters:** The Law Ministry, at the Election Commission's behest, introduced a new category of 'absentee voters', who can now also opt for postal voting.
 - ✓ These are voters **employed in essential services** and unable to cast their vote due to their service conditions.
 - ✓ Officials of the **Delhi Metro Rail Corporation, Northern Railway** (Passenger and Freight) Services and **media persons** are notified as absentee voters.

Bodoland Poll

- The **Assam Cabinet** has decided to make **Bodo the associate official language** for the State and create a **Bodo Kachari Autonomous Welfare Council** outside the sixth schedule area for the Bodo community.
- As per the **Sixth Schedule**, the four states viz. **Assam, Meghalaya, Tripura and Mizoram** under **Article 244** contain the Tribal Areas which are technically different from the Scheduled Areas.
- Each district is an autonomous district and the Governor can modify / divide the boundaries of the said Tribal areas by notification.
- Provisions have been laid down for the **creation of the District Councils and regional councils** for the exercise of the certain legislative and judicial powers. These areas fall **within the executive authority of the state**.
- **District Councils and Regional Councils:**
 - There shall be a District Council for each autonomous district **consisting of not more than thirty members**, of whom **not more than four persons shall be nominated by the Governor** and the rest shall be elected on the basis of adult suffrage.
 - There shall be a separate Regional Council for each area constituted as an autonomous region.

Star Campaigner

- The Election Commission has revised norms for the number of **star campaigners for polls during the pandemic**.
- The **number of star campaigners will be 30** instead of the 40 earlier **for recognised national and State political parties**.

- Unrecognised, registered political parties can use **15 star campaigners** instead of the earlier 20.
- They now require permission from the district election official 48 hours prior to campaigning.
- A star campaigner is a **celebrity vote seeker in an election for a party**. This person can be a politician or even a film star.
- They are **nominated by the concerned political parties** specifying their constituencies and duration of the status.
- There is **no law governing** who can or cannot be made a star campaigner. It is a status that political parties contesting an election give to certain big names who the parties feel have more vote-fetching ability in the polls than others.
- **Other guidelines of the Election Commission regarding Star Campaigners:**
 - The Model Code of Conduct (MCC) guidelines say that **when a Prime Minister or a former prime minister is a star campaigner**, the **expenditure** incurred on security including on the bullet-proof vehicles **will be borne by the Government** and will not be added to the election expenses of the party or the individual candidate.
 - However, if another campaigner travels with the Prime Minister or a former minister, the individual candidate will have to bear 50% of the expenditure incurred on the security arrangements.

River Management Boards

- The Centre, at the apex council meeting involving the **Centre, Andhra Pradesh and Telangana**, announced that it will determine the jurisdictions of the **Krishna and Godavari River Management Boards (KRMB and GRMB)**.
- The Apex Council was constituted by the Central Government under the provisions of **Andhra Pradesh Reorganisation Act (APRA), 2014**.
- It supervises the functioning of the **Godavari River Management Board** and **Krishna River Management Board**.
- It comprises the Union Minister of Jal Shakti and the Chief Ministers of Telangana and Andhra Pradesh.
- Under **Article 262**, Parliament may by law provide for the **adjudication** of any dispute or complaint with respect to the **use, distribution and control of waters of any inter-state river and river valley**.
- Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.
- Under Art 262, the Parliament has enacted two laws:
 - i) **The River Boards Act (1956)**
 - ✓ It provides for the establishment of river boards for the regulation and development of inter-state river and river valleys.
 - ✓ A river board is **established by the Central government** on the request of the state governments concerned to advise them
 - ii) **The Inter-State Water Disputes Act (1956):**

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- ✓ It empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- ✓ The **decision of the tribunal would be final and binding** on the parties to the dispute.
- ✓ Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

Right to Information Act, 2005

- October 12, 2020 marks **15 years** since the Right to Information (RTI) Act came into force.
- The RTI Act replaced the **Freedom of Information Act 2002**.
- The RTI Act mandates that **any Indian citizen** is free to seek any information from **any public or government authority** and the authority is under liability to respond to such a request **within a period of 30 days** from the date of receiving such an application.
- However, the information sought must **not be related to defense, national security, or personal details**.
- The RTI act has also made it **mandatory for computerizing the records for the purpose of wide spread relay** so that any information sought by the public can be processed quickly aided by the information categorization.
- **Important Provisions of the RTI Act**
 - **Section 4** requires **Suo motu disclosure of information** by each public authority.
 - **Section 8 (1) mentions exemptions** against furnishing information under RTI Act.
 - **Section 8 (2)** provides for disclosure of information **exempted under Official Secrets Act, 1923** if larger public interest is served.

RTI Amendment Act, 2019

RTI Amendment Bill was introduced in the Lok Sabha by the Minister of State for Personnel Public Grievances and Pensions on July 19, 2019 and passed on July 22, 2019. It was passed by the Rajya Sabha on July 25, 2019. Let's see the changes that it brought to RTI Act 2005.

Term	Quantum of salary	Deductions in salary
■ CHIEF information commissioner (CIC) and information commissioners will have a tenure of five years	■ CIC pay equivalent to CECs, Central ICs and state CIC to election commissioners and state ICs to chief secretary	■ IF such officials are receiving pension or other retirement benefits, their salaries will be reduced by an amount equal to the pension
■ CENTRE will notify the tenure of all information commissioners (ICs) at state and central level	■ SALARIES and allowances of these officers will be determined by the Central government	■ THESE provisions have been removed

SVAMITA Scheme

- The Prime Minister launched the physical distribution of property cards under **SVAMITVA (Survey of Villages And Mapping with Improvised Technology in Village Areas) scheme**. The scheme is for surveying the land parcels in rural inhabited areas using **drone technology**.
- SVAMITVA scheme is an initiative of the **Ministry of Panchayati Raj** to provide rural people with the **right to document their residential properties** so that they can use their property for economic purposes.

- **Objectives:**
 - To bring **financial stability to the citizens in rural India** by enabling them to use their property as a financial asset for taking loans and other financial benefits
 - Creation of **accurate land records** for rural planning
 - **Determination of property tax**, which would accrue to the Gram Panchayats directly in States where it is devolved or else, add to the State exchequer
 - To **reduce property related disputes** and legal cases
- The survey shall be done across the country in a phase wise manner over the period of **four years (2020 -2024)**.

Goa Declared First Har Ghar Jal State

- **Goa became the first 'Har Ghar Jal' State** in country as it successfully provides **100% Functional Household Tap Connections (FHTCs)** in the rural areas covering 2.30 lakh rural households.
- The State is in process of getting 14 water quality testing laboratories accredited by **National Accreditation Board for Testing and Calibration Laboratories (NABL)** to strengthen the water testing facilities.
- **Jal Jeevan Mission** mandates training **5 persons in every village, especially women**, in using Field Test Kits, so that water can be tested in the villages.

Jal Jeevan Mission

- Implementing Ministry: Department of Drinking Water & Sanitation under Ministry of Jal Shakti.
- Jal Jeevan Mission is envisioned to provide safe and adequate drinking water to every rural household through Functional Household Tap Connections (FHTC) by 2024.
- It focuses on **integrated demand and supply-side management** of water at the local level.
- The programme will also implement **source sustainability measures** as mandatory elements, such as recharge and reuse through grey water management, water conservation, rain water harvesting.
- The mission is based on a **community approach to water** and will include Extensive Information, Education and Communication (IEC) as a key component of the mission.
- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

Tech for Tribals

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) under Ministry of Tribal Affairs, in association with Chhattisgarh MFP Federation and IIT Kanpur, has launched 'Tech For Tribals' a **training programme for tribal MSMEs** using Self Help Groups and Van Dhan Vikas Kendras (VDVKs).
- Aimed at the holistic development of tribal with a focus on entrepreneurship development, soft skills, IT, and business development the TRIFED is offering the training in collaboration with **Ministry of Small and Medium Enterprises (MSME)** under the **Entrepreneurship Skill Development Programme**.
- The training module has been developed by IIT, Kanpur and will be disseminated among beneficiaries in a phased manner through various modes.

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- The programme aims to **tap the traditional knowledge and skills of tribals** and add branding, packaging and marketing skills to optimize their income through a market led enterprise model by setting up Van Dhan Kendras (VDVKs).
 - These kendras promote **Minor Forest Produce (MFP) centric livelihood** development of tribal gatherers and artisans.
 - It mainstreams the tribal community by promoting primary level value addition to MFP at grassroots level.

Entrepreneurship and Skill Development Programme (ESDP)

- The objective of the programme is to **motivate youth** representing different sections of the society including SC/ST/Women, differently-abled, Ex-servicemen and BPL persons to **consider self employment or entrepreneurship** as one of the career options.
- The ultimate objective is to **promote new enterprises, capacity building of existing MSMEs and inculcating entrepreneurial culture** in the country.
- As per scheme guidelines, in EAP and E-SDP there should be **overall 40% women participation**.
- **Components:**
 - ✓ Industrial Motivation Campaigns (IMCs)
 - ✓ Entrepreneurship Awareness Programmes (EAPs)
 - ✓ Entrepreneurship-cum-Skill Development Programme (E-SDP)
 - ✓ Management Development Programmes (MDPs)

Saral Jeevan Bima

- The **Insurance Regulatory and Development Authority of India (IRDAI)** has introduced a standard, individual **term life insurance product** called Saral Jeevan Bima.
- This will be **mandatorily offered by all life insurance companies** from January 1, 2021, onwards.
- It will be a **non-linked, non-participating individual pure risk premium life insurance plan** providing for payment of the sum assured in lump sum to the nominee in case of the insured's death during the policy term.
- The plan will be for those in the **18-65 years age group**. The **policy term will be 5-40 years**, while the sum assured will be a **minimum of ₹5 lakh and a maximum of ₹25 lakh**.
 - However, the insurers will have the option of offering a sum assured beyond ₹25 lakh with all other terms and conditions remaining the same.
- The product shall be offered to individuals **without restrictions on gender, place of residence, travel, occupation or educational qualifications**.
- There will be **no maturity benefit**. There will neither be any surrender value nor can any loan be taken against the product. There shall be **no exclusions, except suicide**.
- It is expected to help customers make an informed choice and reduce mis-selling.
- Prior to this, the regulator had brought in a standard health product called **Arogya Sanjeevani** and standard Covid products — **Corona Kavach and Corona Rakshak**.

District Development Councils

- The central government has amended the **Jammu and Kashmir Panchayati Raj Act, 1989**, and **J&K Panchayati Raj Rules, 1996** to facilitate the setting up of **District Development Councils (DDC)** and a **District Planning Committee (DPC)**.
- This system effectively **replaces the District Planning and Development Boards** in all districts.
- The DDCs **will have 14 elected representatives** from each district. Every district is divided into 14 territorial constituencies that elect the members for the DDCs. The elected members will subsequently elect a chairperson and a vice-chairperson of the DDC from among themselves.
- The Members of Legislative Assemblies and chairpersons of Block Development Councils are also members of the DDCs.
- The **term** of the DDC will be **five years**, and the electoral process will allow for **reservations for Scheduled Castes, Scheduled Tribes and women**.
- The **Additional District Development Commissioner** (or the Additional DC) of the district shall be the **Chief Executive Officer** of the District Development Council.
- The council will **hold at least four general meetings** in a year, one in each quarter.
- **District Planning Committee (DPC):**
 - For every district there will be District Planning Committee comprising:
 - ✓ Members of Parliament representing the area (Chairperson)
 - ✓ Members of the State Legislature representing the areas within the District
 - ✓ Chairperson of the District Development Council of the District
 - ✓ Chairpersons of the town area committees/municipal committees of the district
 - ✓ President of the municipal council/municipal corporation, if any
 - ✓ District Development Commissioner
 - ✓ Additional district development commissioner, among others
 - The committee will guide the **formulation of development programmes for the district**, and indicate priorities for various schemes for the speedy development and economic uplift of the district.
 - It will also formulate and **finalise the plan and non-plan budget for the district**.

Maharashtra Withdraws ‘General Consent’ to CBI

- The Maharashtra government has withdrawn “general consent” given to the Central Bureau of Investigation (CBI) to probe cases in the state. Under **Section 6 of the Delhi Special Police Establishment Act, 1946**, the state governments can withdraw the general consent accorded.
- The decision means the central agency **will have to get consent from the state government for every case it registers in Maharashtra**.
- The CBI is divided into three categories when it comes to investigation – **Anti-corruption Division, Economic Offences Division, And Special Crimes Division**.
- **Exceptions:**
 - The CBI would still have the power to investigate old cases registered when general consent existed.

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- Cases registered anywhere else in the country, but involving people stationed in states which have withdrawn consent, **would allow CBI's jurisdiction to extend** to these states.
- This withdrawal of general consent will only impact the CBI. It will have no effect on either the National Investigation Agency (NIA) or Enforcement Directorate (ED).
 - NIA has jurisdiction across the country and **does not need special permission from state governments.**
 - ED conducts its probe under the **Prevention of Money Laundering Act (PMLA) and Foreign Exchange Regulation Act (FERA)**, and has nothing to do with the DPSE Act which gives power to the CBI.

Integrity Pact in Government Organisations

- The **Central Vigilance Commission** has amended the **Standard Operating Procedure (SOP)** on adoption of "**Integrity Pact**" in **government organisations** for procurement activities. The latest order revises the SOP issued in January 2017.
- "Integrity Pact" is a **vigilance tool** that envisages **an agreement between the prospective vendors/bidders and the buyer**, committing both the parties not to exercise any corrupt influence on any aspect of the contract.
- The pact is to **ensure transparency, equity and competitiveness** in public procurement.
- The **Integrity External Monitors (IEMs)** independently and objectively review the documents to determine if the parties have complied with their obligations under the pact.
- They may **submit a report to the chief executive of the organisation** concerned or directly to the CVO and the CVC, if they find serious irregularities attracting the Prevention of Corruption Act provisions.
- **Amended Provisions:**
 - It has restricted the **maximum tenure of IEMs to three years** in an organisation.
 - The choice of IEM should be **restricted to officials from the government and Public Sector Undertakings (PSUs)** who have retired from positions of the **level of Secretary** to the Central government or of equivalent pay scale.
 - Such officials who retired as Chairman and Managing Directors (CMDs) of PSUs should be at least of the **level of Additional Secretary or its equivalent**.
 - Officers of the Armed Forces who have retired from the rank **equivalent of General** may also be considered for appointment.
 - Preference would be given to persons who have worked in any other sector, other than their own, or have worked as Chief Vigilance Officer (CVO) in any organisation.

Central Vigilance Commission (CVC)

- It was **established in 1964** by an executive resolution of the Central government but was later conferred statutory status in 2003. Its establishment was recommended by the **Santhanam Committee on Prevention of Corruption (1962–64)**.
- It is a multi-member body consisting of a **Central Vigilance Commissioner (chairperson)** and **not more than two vigilance commissioners**.

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- They are appointed by the President by warrant on the recommendation of a three-member committee consisting of the Prime Minister as its head, the Union minister of home affairs and the Leader of the Opposition in the Lok Sabha.
- They hold office for a term of four years or until they attain the age of sixty five years, whichever is earlier. They are not eligible for further employment under the Central or a state government.
- The CVC is an independent body, not controlled by any Ministry/Department, which is only responsible to the Parliament. It submits its report to the President of India.

National Anti-Doping Agency

- The National Anti Doping Agency (NADA) was set up as a registered society under the Societies Registration Act of 1860 in 2005.
- It acts as the independent Anti-Doping Organization for India having a vision of dope free sports.
- The primary objectives are to implement anti-doping rules as per WADA code, regulate dope control programmes, to promote education and research and create awareness about doping and its ill effects.

Need To Amend The Official Languages Act

- The Chief Justice of India has advised the government to consider amending the Official Languages Act of 1963 to include more vernacular languages in governance, and not just confine it to Hindi and English.
- According to Article 348, language to be used in the Supreme Court and in high courts and for bills, acts etc will be in English language until Parliament by law provides otherwise. In lieu of this power, the Parliament enacted Officials Secret Act 1963, which lays down that:
 - a) English should be used for purposes of communication between the Union and the non-Hindi states (that is, the states that have not adopted Hindi as their official language). Further, where Hindi is used for communication between a Hindi and a non-Hindi state, such communication in Hindi should be accompanied by an English translation.
 - b) Hindi and the English shall be used for resolutions, general orders, rules, notifications, administrative or other reports made by the Central government or any of its ministries or departments.
- Scheduled languages are those languages which are listed in the 8th schedule of the Constitution and are given official recognition and encouragement by the Central government. The Eighth Schedule to the Constitution consists of the following 22 languages:
 - (1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri.

Swasthya Portal

- The Ministry of Tribal Affairs has launched the Tribal Health and Nutrition Portal ‘Swasthya’.
- ‘Swasthya’ is the first of its kind comprehensive platform for health and nutrition related information of the tribal population of India.

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- The dashboard presents **data curated from multiple sources** for 177 identified high priority tribal districts. In addition, the Portal will also **curate innovative practices, research briefs, case studies, and best practices** collected from different parts of India to facilitate the exchange of evidence, expertise and experiences.
- This Portal will **bridge the existing knowledge, drive evidence-based policy making** and catalyze a series of actions which will ultimately lead to overall improvements in the health and nutrition status of the tribal population in India.
- The Ministry of Tribal Affairs has recognized **Piramal Swasthya as the Centre of Excellence for Knowledge Management (CoE for KM)** for Health and Nutrition. This CoE works towards consolidating data for tribal health & nutrition, facilitating evidence-based policy making, documenting successful models, best practices and innovative solutions, disseminating and facilitating exchange of knowledge.

Other Initiatives By Ministry Of Tribal Affairs

- **ALEKH Portal**- It is a quarterly e-newsletter on health and nutrition.
- **National Overseas and National Fellowship portal**- It is an excellent database in respect of all scholarship schemes for STs through DBT and bringing transparency and efficiency through performance dashboard.
- **Going Online as Leaders (GOAL) Programme**- Through this program Tribal Ministry aims to mentor 5000 Tribal Youth across India and enable them to become village-level digital young leaders for their communities.

Curative Petition

- A curative petition may be **filed after a review plea against the final conviction is dismissed**. It is meant to **ensure there is no miscarriage of justice**, and to prevent abuse of process.
- A curative petition is usually decided by judges in chamber, unless a specific request for an open-court hearing is allowed.
- The concept **originated from the case of Rupa Ashok Hurra Vs Ashok Hurra & another, 2002**. The court ruled that a **curative petition can be entertained** if the petitioner establishes there was a **violation of the principles of natural justice**, and that he was **not heard by the court before passing an order**. It will also be admitted where a **Judge failed to disclose facts** that raise the apprehension of bias.
- The concept of the curative petition is **supported by Article 137** of the Indian Constitution. It provides that in the **matter of laws and rules made under Article 145, the Supreme Court has the power to review** any judgement pronounced (or order made) by it.
- A curative petition **must be accompanied by certification by a senior advocate**, pointing out substantial grounds for entertaining it.
- It must be **first circulated to a bench of the three senior-most judges**, and the judges who passed the concerned judgment, if available. **Only when a majority of the judges conclude that the matter needs hearing** should it be listed — as far as possible, before the same Bench.
- The Bench at any stage of consideration of the curative petition **can ask a senior counsel to assist it as amicus curiae (Friend of the court)**.
- In the event of the Bench holding at any stage that the petition is without any merit, it may impose a **penalty** on the petitioner.

Domicile-based Job Quota

- In August, 2020, the Madhya Pradesh government took a decision to reserve all government jobs for “children of the state”. This raises questions relating to the fundamental right to equality.
- **Constitutional Provisions:**
 - Article 16(2) states that “no citizen shall, on grounds only of religion, race, caste, sex, descent, place of birth, residence or any of them, be ineligible for, or discriminated against in respect of, any employment or office under the State”.
 - However, Article 16(3) of the Constitution provides an exception. The Parliament may make a law “prescribing” a requirement of residence for jobs in a particular state. This power vests solely in the Parliament, **not state legislatures**.
 - As India has common citizenship, which gives citizens the liberty to move around freely in any part of the country, the requirement of a place of birth or residence cannot be qualifications for granting public employment in any state.
- **Supreme Court Observations:** The Supreme Court has ruled against reservation based on place of birth or residence.
 - In **Sunanda Reddy v State of Andhra Pradesh (1995)**, the Supreme Court struck down a state government policy that gave **5% extra weightage to candidates who had studied with Telugu** as the medium of instruction.
 - In 2002, the Supreme Court invalidated **appointment of government teachers in Rajasthan** in which the state selection board gave preference to “applicants belonging to the district or the rural areas of the district concerned”.
 - In 2019, the Allahabad High Court struck down a recruitment notification by the **UP Subordinate Service Selection Commission** which prescribed preference for women who are “original residents” of the UP alone.
- **Exceptions:**
 - Exercising its power under Article 16(3), Parliament enacted the **Public Employment (Requirement as to Residence) Act**, aimed at abolishing all existing residence requirements in the states and enacting exceptions only in the case of the special instances of **Andhra Pradesh, Manipur, Tripura and Himachal Pradesh**.
 - Constitutionally, **some states also have special protections under Article 371**. **Andhra Pradesh** under Section 371(d) has powers to have “direct recruitment of local cadre” in specified areas.
 - In **Uttarakhand, class III and class IV jobs are reserved for locals**.
 - Some states have gone **around the mandate of Article 16(2) by using language**. States that conduct official business in their regional languages prescribe knowledge of the language as a criterion. For example, states including **Maharashtra, West Bengal and Tamil Nadu require a language test**.

Vaccine Nationalism

- When a country **manages to secure doses of vaccines for its own citizens** or residents and **prioritises its own domestic markets** before they are made available in other countries it is known as ‘vaccine nationalism’.

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- This is done through **pre-purchase agreements** between a government and a vaccine manufacturer. For example, the United States, the United Kingdom, Japan, and the European Union have spent tens of billions of dollars on deals with vaccine front runners even before their effectiveness is proven.
- There are fears that such advance agreements will make the initial few vaccines **unaffordable and inaccessible to everyone apart from the rich countries** in a world of roughly 8 billion people.
- Vaccine nationalism is **not new** as a similar situation was **observed in 2009 during the H1N1 flu pandemic**.
- Even though vaccine nationalism runs against global public health principles, there are **no provisions in international laws that prevent pre-purchase agreements**. The only alternative to combat vaccine nationalism is **global collaboration**.

Swachh Survekshan Report 2020

- The **Swachh Survekshan 2020 Report**, fifth edition of the annual cleanliness urban survey, was released by the **Ministry of Housing and Urban Affairs (MoHUA)**.
- This year the Ministry has released rankings **based on the categorisation of cities on population**, instead of releasing overall rankings.
- **Highlights**
 - **Indore** was ranked the **cleanest city**, for the fourth year in a row, in the overall category this year followed by **Surat and Navi Mumbai**.
 - **Chhattisgarh** is the **cleanest state** in the category of states with more than 100 urban local bodies (ULBs).
 - **Ahmedabad** is the **cleanest Mega city**.
 - **New Delhi** is the **cleanest capital city**.
 - In the **category of “Ganga towns”**, **Varanasi** was ranked the cleanest.
 - **Rajkot (Gujarat)** was the cleanest in terms of **self-sustainable city** (more than 10 lakh population).
 - **Mysuru (Karnataka)** is ranked cleanest among the **medium-sized cities** with a population ranging between 3 lakh and 10 lakh.
- **About Swachh Survekshan**
 - Swachh Survekshan is a **ranking exercise** taken up by the Government of India to **monitor the performance of Swachh Bharat Abhiyan**, which was launched on October 2, 2014, the **150th birth anniversary of Mahatma Gandhi**.
 - **It assesses rural and urban areas for their levels of cleanliness** and active implementation of Swachhata mission initiatives in a timely and innovative manner.
 - The objective of the survey is **to encourage large scale citizen participation** and create awareness amongst all sections of society about the importance of working together towards making towns and cities a better place to live in.
 - Additionally, the survey also intends to foster a spirit of **healthy competition among towns and cities** to improve their service delivery to citizens, towards creating cleaner cities and towns.
 - The **Quality Council of India (QCI)** has been commissioned the responsibility of carrying out the assessment.

Swachh Survekshan 2021

- The Ministry of Housing & Urban Affairs (MoHUA) has launched the toolkit for Swachh Survekshan 2021, the sixth edition of the annual cleanliness survey of urban India conducted by MoHUA.
- A new category of awards titled '**Prerak Dauur Samman**' was added as part of Swachh Survekshan (SS) 2021. The Prerak Dauur Samman has a total of **five additional sub-categories** - **Divya (Platinum), Anupam (Gold), Ujjwal (Silver), Udit (Bronze), Aarohi (Aspiring)** - with top three cities being recognized in each.
- To ensure sustainability of the sanitation value chain, the new category will categorize cities on the basis of **six select indicator wise performance criteria** which are as follows:
 - i) Segregation of waste into Wet, Dry and Hazard categories
 - ii) Processing capacity against wet waste generated
 - iii) Processing and recycling of wet and dry waste
 - iv) Construction & Demolition (C&D) waste processing
 - v) Percentage of waste going to landfills
 - vi) Sanitation status of cities
- **Integrated SBM-Urban MIS portal** was also launched by the Ministry to bring the numerous **digital initiatives on a single platform** thus ensuring a unified and hassle-free experience for States and cities and leading the way towards the creation of not just a Swachh but a truly digital India.
- Since its **launch in 2014**, Swachh Bharat Mission-Urban (SBM-U) has made significant progress in the area of both sanitation and solid waste management. 4324 Urban ULBs have been declared ODF (4204 certified ODF), 1306 cities certified ODF+ and 489 cities certified ODF++.

Appointment of Election Commissioners

- In pursuance of **clause (2) of article 324 of the Constitution**, the President appointed Shri Rajiv Kumar, (IAS retired) as the Election Commissioner.
- **Article 324** of the Constitution provides for the Election Commission. It is an **autonomous constitutional body** which is responsible for administering **Union and state elections** in India.
- The Election Commission shall consist of the **Chief Election Commissioner** and such number of **other election commissioners**, if any, **as the President may from time-to-time fix**. Currently, EC consists of Chief Election Commissioner and two Election Commissioners.
- The Chief Election Commissioner and other Election Commissioners are **appointed by the President**.
- Subject to the provisions of any law made by Parliament, the conditions of service and tenure of office of the Election Commissioners and the Regional Commissioners shall be such as the President may by rule determine. So,
 - The Constitution has **not specified the term** of the members of the Election Commission. The Parliament has, by law, specified the tenure of six years, or up to the age of 65 years, whichever is earlier.
 - The Constitution has **not prescribed the qualifications** (legal, educational, administrative or judicial) of the members of the Election Commission.
 - It has also **not debarred** the retiring election commissioners from any further appointment by the government.

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- They have **equal powers and receive equal salary**, allowances and other perquisites, which are similar to those of a **Judge of the Supreme Court**.
- In case of difference of opinion amongst the Chief Election Commissioner and/or two other election commissioners, the **matter is decided by the Commission by majority**.
- The Chief Election Commissioner can be **removed by the President** on the basis of a resolution passed to that effect by both the Houses of Parliament with special majority, either on the ground of proved misbehaviour or incapacity (same as supreme court judge).

Atal Bimit Vyakti Kalyan Yojana

- Atal Bimit Vyakti Kalyan Yojana is a **welfare measure** being implemented by the **Employees' State Insurance (ESI) Corporation**. It **offers cash compensation to insured persons** when they are rendered unemployed.
- Recently, the ESIC has relaxed the eligibility criteria and enhanced the payment of unemployment benefits under this scheme to provide relief to workers who suffered during the COVID-19 pandemic.
- The ESI Corporation has decided to **extend the scheme for one more year upto 30th June 2021**.
- The **eligibility criteria for availing the relief** have also been relaxed, as under:
 - The **payment of relief has been enhanced to 50% of average wages** from earlier 25% of average wages payable upto maximum 90 days of unemployment.
 - The relief becomes **due for payment after 30 days**.
 - The Insured Person can **submit the claim directly to the ESIC Branch Office**.
 - The Insured Person should have been insurable employment for a minimum period of 2 years before his/her unemployment and should have contributed for not less than 78 days in the contribution period immediately preceding to unemployment and minimum 78 days in one of the remaining 3 contribution periods in 02 years prior to unemployment.

Lokayukta

- The Supreme Court had issued notice on a plea filed by the State of Nagaland for a **direction to its Lokayukta to cease exercising his powers and functions** and transfer all his work to the Upa-Lokayukta.
- The petition by the State asked the court to use its extraordinary powers under **Article 142 of the Constitution to preserve the institutional integrity of the Lokayukta**.

About Lokayukta

- The Lokayukta is an **anti-corruption authority constituted at the state level**. It investigates allegations of corruption and mal-administration against public servants and is tasked with speedy redressal of public grievances.
- The **Lokpal and Lokayukta Act, 2013**, commonly known The Lokpal Act, provides for the appointment of a **Lokayukta in the states and Lokpal at the Centre**.
- Even much before the enactment of this Act, many states had already set up the institution of Lokayuktas. The **first lokayukta was established in Maharashtra in 1971**.
- The **lokayukta and upalokayukta are appointed by Governor** of the state. While appointing, the Governor in most of the states consults --
 - a) the chief justice of the state high court

- b) the leader of Opposition in the state legislative assembly
- The Lokayukta is **usually a former High Court Chief Justice or former Supreme Court judge and has a fixed tenure.**
- Once appointed, **Lokayukta cannot be dismissed nor transferred by the government**, and can only be removed by passing an impeachment motion by the state assembly.
- Members of the public can **directly approach the Lokayukta** with complaints of corruption, nepotism or any other form of mal-administration against any government official.

No Confidence Motion

- The **no-confidence motion** against the Pinarayi Vijayan government was defeated 87-40 in the Kerala Assembly.
- **Article 75** of the Constitution says that the **Council of Ministers** shall be **collectively responsible to Lok Sabha**. It means that the Minister stays in office so long as it enjoys confidence of the majority of the members of the Lok Sabha. The Lok Sabha can remove the Minister from office by passing a no confidence motion.
- A no-confidence motion **can be moved by any member of the House**. It can be moved only in the Lok Sabha and **not Rajya Sabha**. Rule 198 of the **Rules of Procedure** and conduct of Lok Sabha specifies the procedure for moving a no-confidence motion.
- The member has to **give a written notice of the motion before 10 am** which will be read out by the Speaker in the House.
- A **minimum of 50 members have to accept the motion** and accordingly, the Speaker will announce the date for discussion for the motion.
- The allotted date has to be within 10 days from the day the motion is accepted. Otherwise, the motion fails and the member who moved the motion will be informed about it.
- If the government is not able to prove its majority in the House, then the government of the day has to resign.

Attorney General

- The Attorney General (AG) had advised that the Central Government must **compensate States fully for the loss of Goods and Services Tax (GST) revenue** during the coronavirus lockdown.
- **Article 76** of the Constitution provides for the office of the Attorney General for India. He is the highest law officer in the country. He is the Union Government's **chief legal advisor, and its primary lawyer** in dealing with the Supreme Court of India.
- He is **appointed by the President**. He must be a **citizen of India** and he must have been a **judge of some high court for five years** or an **advocate of some high court for ten years or an eminent jurist**, in the opinion of the President (Same as Supreme Court judge).
- The **term of office of the AG is not fixed** by the Constitution. Further, it does not contain the **procedure and grounds for his removal**.
- He holds office during the pleasure of the President. This means that he may be **removed by the President at any time**.
- He has the **right to participate in the proceedings of Parliament, but cannot vote**.

Armed Forces Tribunal

- The Delhi-based principal bench of the **Armed Forces Tribunal (AFT)** has initiated hearing of matters pertaining to regional benches through video conferencing.
- AFT is the military tribunal in India **established in 2009** under the **Armed Forces Tribunal Act 2007**.
- It has power for the adjudication or trial by Armed Forces Tribunal of disputes and complaints with respect to commission, appointments, enrolments and conditions of service in respect of persons subject to the **Army Act, 1950, Navy Act, 1957 and the Air Force Act, 1950**.
- It can further provide for **appeals arising out of orders, findings or sentences of courts- martial** held under the said Acts and for matters connected therewith or incidental thereto.
- **Composition:**
 - The person holding the office of chairperson of AFT must have been either a **retired judge of the Supreme Court or a Retired chief justice of high court**.
 - The Judicial Members are **retired High Court Judges**.
 - The Administrative Members are **retired Members of the Armed Forces** who have held the rank of Major General/ equivalent or above for a period of three years or more, **Judge Advocate General (JAG)**, who have held the appointment for at least one year are also entitled to be appointed as the Administrative Member.
- All proceedings in the Tribunal are in **English** and it normally follows the procedure as is practiced in the High Courts of India.
- Appeals against the decision of the AFT **can be taken only in Supreme Court**.
- **Exceptions: Paramilitary forces including the Assam Rifles and Coast Guard** are outside the tribunal's purview.

UDAN Scheme

- The **Ministry of Civil Aviation** has approved 78 new routes under the 4th round of **Regional Connectivity Scheme (RCS)- Ude Desh Ka Aam Nagrik (UDAN)** to further enhance the connectivity to remote and regional areas of the country.
- In the approval process, **North-eastern states, Hilly States and Islands have been given priority**. Overall, 766 routes have been sanctioned so far under the UDAN scheme.
- Under the Udan scheme, **financial incentives from the Centre, state governments and airport operators** are extended to selected airlines to encourage operations from **unserved and underserved airports**, and keep airfares affordable.
- UDAN is the Government's initiative to **make air travel to India's tier II and tier III cities affordable to the aam aadmi**. The scheme would be in **operation for a period of 10 years**.
- At **least half of the seats** in Udan flights are offered at **subsidised fares**, and the participating carriers are provided a **certain amount of viability gap funding (VGF)** - an amount shared between the Centre and the state concerned. A **Regional Connectivity Fund** would be created to meet the viability gap funding requirements under the scheme.
- It is a **market-based mechanism** in which airlines bid for seat subsidies. The selection of airports where UDAN operations would start would be done in consultation with the State Government and after confirmation of their concessions.

VAJIRAM & RAVI **Supreme Court Judgement on sub-classification of SCs/STs**

- A five-judge Bench of the Supreme Court held that **States can sub-classify Scheduled Castes and Scheduled Tribes in the Central List** to provide preferential treatment to the “weakest out of the weak”.
- The judgment is based on a reference to the Constitution Bench on the question of law involving **Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006**. The legal provision allows 50% of the reserved Scheduled Castes seats in the State to be allotted to Balmikis and Mazhabi Sikhs.
- The Bench took a contrary view to a **2004 judgment** delivered by another Coordinate Bench of five judges in the **E.V. Chinnaiah case** which held that allowing States to unilaterally “**make a class within a class of members of the Scheduled Castes**” would amount to tinkering with the Presidential list.
- The Central List of Scheduled Castes and Tribes is **notified by the President** under **Articles 341 and 342** of the Constitution. The **consent of the Parliament is required** to exclude or include castes in the List. The States cannot unilaterally add or pull-out castes from the List.
- The Supreme Court has cleared that sub-classifications within the Presidential/Central List does not amount to “tinkering” with it. No caste is excluded from the list. The Court observed that **reservation has created inequalities within the reserved castes itself**, and sub-quota will allow the States to only give preference to the weakest of lot in a pragmatic manner based on statistical data.

New Rules for Administration in Jammu & Kashmir

- The Ministry of Home Affairs (MHA) had notified new rules for **administration in the Union Territory of Jammu and Kashmir** that specify the functions of the Lieutenant Governor (LG) and the Council of Ministers.
- The rules provide the details of the functions and work allocation of **Lieutenant Governor (LG)** and **the Council of Ministers**.
- **Role of LG**
 - **Police, public order, All India Services and anti-corruption**, will fall under the **executive functions of the LG**. This means that the Chief Minister or the Council of Ministers will have no say in their functioning.
 - Proposals or matters which affect or are likely to affect the **peace and tranquility of the UT** or the interest of **any minority community, the Scheduled Castes, the Scheduled Tribes** and the **Backward Classes** shall essentially be submitted to the LG through the Chief Secretary, under intimation to the Chief Minister, before issuing any orders.
 - **Any matter**, which is likely to **bring the government of UT into a controversy with the Centre or a State government**, shall, as soon as possible, be **brought to the notice of the LG and the Chief Minister** through the Chief Secretary.
- **Role of Chief Minister**

The Council of Ministers, led by the Chief Minister will decide service matters of **non-All India Services officers, proposal to impose new tax, land revenue**, sale grant or lease of government property, reconstituting departments or offices and draft legislations.
- **Other Provisions:**

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- In case of **difference of opinion between the Lt Governor and a Minister** when no agreement could be reached even after a month, the decision of the **Lt Governor** "shall be deemed to have been accepted by the Council of Ministers".
- All **important communications received from the Centre** shall, as soon as possible, be submitted to the Chief Secretary, the Minister in charge, the Chief Minister and the LG for information.
- **Background:**
 - In August 2019, **Parliament read down Article 370 of the Constitution**, thus revoking the special status of J&K and bifurcated the state into two Union Territories of J&K and Ladakh, with a legislative assembly and without, respectively.
 - The erstwhile state has been under Central rule since June 2018 and the Assembly was dissolved in November that year. It has been without a Chief Minister since June 2018.
 - According to the **J&K Reorganisation Act, 2019, fresh elections will be held after the delimitation exercise is completed next year.**

Particularly Vulnerable Tribal Groups

- Over 10 individuals belonging to the **Great Andamanese tribe** with a population of just 56 individuals tested positive for COVID.
- The Great Andamanese tribe is a **notified Particularly Vulnerable Tribal Group (PVTG)**. This tribe as part of the **Negrito tribes** inhabit isolated parts of **Southeast Asia and the Andaman Islands**.
- There are six notified scheduled tribes in the Union Territory of Andaman and Nicobar Islands - **Nicobarese, Great Andamanese, Jarawa, Onge, Shompen and Sentinelese**. Except Nicobarese, the rest are recognised as PVTGs.
- The population of these aboriginal tribes has been particularly on decline after **it suffered a measles outbreak** in the past due to contact with the outside world.
- **Factors such as tobacco and alcohol addiction** too have been a contributing factor to the decline in the population of these particularly vulnerable tribes.
- **Particularly Vulnerable Tribal Groups (PVTGs):**
 - In India, tribal population makes up for 8.6% of the total population.
 - In 1973, the **Dhebar Commission created Primitive Tribal Groups (PTGs)** as a separate category, who are less developed among the tribal groups. In 2006, the Government of India renamed the PTGs as PVTGs.
 - PVTGs have some basic characteristics - they are mostly **homogenous**, with a **small population, relatively physically isolated**, social institutes cast in a simple mould, **absence of written language, relatively simple technology** and **a slower rate of change** etc.
 - The Government of India follows the following criteria for identification of PVTGs:
 - i. Pre-agricultural level of technology
 - ii. Low level of literacy
 - iii. Economic backwardness
 - iv. A declining or stagnant population
 - Among the 75 listed PVTG's the **highest number are found in Odisha**.

- The **19 lakh applicants who were left out** of the final list of the **National Register of Citizens (NRC)** have not been able to file appeals as they are yet to get rejection slips needed to do so. The final list of Assam's updated NRC was published on August 31, 2019.
- A **rejected person would have 120 days** from the date of receiving the rejection slip **to approach a Foreigners' Tribunal (FT)** for judging their citizenship status.
- The NRC is an **official record of those who are legal Indian citizens**. It includes demographic information about all those individuals who qualify as citizens of India **as per the Citizenship Act, 1955**.
- The **first National Register of Citizens was compiled in 1951**, after the Census was completed that year.
- In 2014, the SC ordered the updation of the NRC, in accordance with **Citizenship Act, 1955 and Citizenship Rules, 2003** in all parts of Assam.
- The National Register of Citizens now takes its **definition of illegal immigrants** from the Assam Accord – anyone who cannot prove that **they or their ancestors** entered the country before the midnight of **March 24, 1971**, would be declared a foreigner and face deportation.
- The reason behind the NRC was **to identify Indian citizens in Assam** amid "unabated" migration from East Pakistan (now Bangladesh).

Foreigners' Tribunal

- Foreigners' Tribunals are **quasi-judicial bodies** established as per the Foreigners' Tribunal Order, 1964 and the Foreigners' Act, 1946.
- It is for those who have been **left out in the final NRC list or have been marked as 'D' meaning 'doubtful'**. The ones falling under this category have the right to appeal to the Foreigners Tribunal.
- Under the provisions of Foreigners' Act, 1946 and Foreigners Tribunal Order, 1964, **only Foreigner Tribunals have the right to declare a person as a foreigner**.
- Thus, non-inclusion of a person's name in the NRC does not by itself amount to him/her being declared a foreigner.
- The Tribunal **shall have the powers of a civil court** while trying a suit under the Code of Civil Procedure, 1908.
- The Tribunal can summon and **ask for the attendance of any person** and examine him/her on oath.
- The Tribunal can ask anyone to **produce the required documents** and commission examining any witness, as and when required.

National Population Register (NPR)

- The **first phase of the Census** and the exercise to update the **National Population Register (NPR)**, scheduled for 2020 may be delayed by a year because of the coronavirus pandemic.
- **National Population Register (NPR):**
 - NPR is a register of the **usual residents** of the country. It is prepared at **the local** (village and sub-town), **subdistrict, district, state and national levels** under provisions of the Citizenship Act, 1955 and the Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.

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- The objective is to **create a comprehensive identity database** of every usual resident in the country. The database would **contain demographic as well as biometric particulars**.
- The data for NPR was last collected in 2010 along with the house listing phase of the Census 2011.
- For the NPR, a usual resident is defined as a **person who has resided in a local area for the past six months or more** or a person who intends to reside in that area for the next six months.
- The law **compulsorily seeks to register every citizen of India** and issue a national identity card.
- **Census:**
 - The Census is the enumeration of the population of the country. It is being **conducted at an interval of 10 years**.
 - The Census 2021 will be the 16th census in the country since the first census happened in 1872. However, it will be the **8th census after Independence**.
 - For the first time, the Census 2021 will use the **Mobile App for data collection**. It will also provide a facility to the public for self-enumeration.
 - The census is the largest single source of a variety of statistical information on people of India which helps the State to chalk out various policies.
- The NPR is different from the **National Register of Citizens which excludes the foreign citizens**.

Review Petition

- Advocate Prashant Bhushan filed a review petition in the Supreme Court against its order to either pay a nominal fine of Re 1 or spend three years in jail after he was held guilty of criminal contempt.
- According to the Constitution, a **judgment of the Supreme Court becomes the law of the land**. It is final because it provides certainty for deciding future cases.
- However, under **Article 137**, the Supreme Court has the power to review any of its judgments or orders to correct a “**patent error**” and not “**minor mistakes of inconsequential import**”.
- In a 2013 ruling, the Supreme Court itself laid down **three grounds for seeking a review of a verdict it has delivered** —
 - the **discovery of new and important matter or evidence** which, after the exercise of due diligence, was not within the knowledge of the petitioner or could not be produced by him;
 - mistake or **error apparent on the face of the record**; or
 - any other sufficient reason- a reason that is analogous to the other two grounds
- In **Union of India v. Sandur Manganese & Iron Ores Ltd (2013)**, the court laid down nine principles on when a review is maintainable.
- Features of Review Petition:
 - It is not necessary that only parties to a case can seek a review of the judgment on it. **Any person aggrieved by a ruling can seek a review**.
 - A Review petition **must be filed within 30 days** of the date of judgment or order.
 - Review petitions would ordinarily be entertained **without oral arguments by lawyers**. It is heard “through circulation” by the judges in their chambers.

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- They are also heard, as far as practicable, by the **same combination of judges** who delivered the order or judgment that is sought to be reviewed. If a judge has retired or is unavailable, a replacement is made keeping in mind the seniority of judges.
- In exceptional cases, the court allows an oral hearing. In a 2014 case, the Supreme Court held that **review petitions in all death penalty cases will be heard in open court by a Bench of three judges.**

International Covenant on Civil and Political Rights

- The **International Commission of Jurists (ICJ)** has voiced that lawyer Prashant Bhushan's conviction for criminal contempt of court by the Supreme Court seemed to be inconsistent with the freedom of expression law guaranteed by the **International Covenant on Civil and Political Rights**.
- **International Commission of Jurists (ICJ)**
 - ICJ is an international human rights non-governmental organization.
 - It is a standing group of 60 eminent jurists—including senior judges, attorneys and academics.
 - They work to develop national and international **human rights standards through the law**.
 - Secretariat: Geneva, Switzerland
- **International Covenant on Civil and Political Rights (ICCPR)**
 - The ICCPR is a key international human rights treaty, adopted by **United Nations General Assembly (UNGA)** in 1966 and came into force in 1976.
 - It is monitored by the **United Nations Human Rights Committee** and **India** is a party to this treaty.
 - The ICCPR, together with the **Universal Declaration of Human Rights** and the **International Covenant on Economic Social and Cultural Rights**, are considered the **International Bill of Human Rights**.
 - The ICCPR obligates countries that have ratified the treaty to protect and preserve basic human rights and compels governments to take administrative, judicial, and legislative measures.

Question Hour

- In the wake of the ongoing Covid-19 pandemic, there was **no question hour and private members' business during the monsoon session**. The Zero Hour was also restricted in both Houses.
- The **first hour of every parliamentary sitting** is slotted for the **Question Hour**. In this, questions are asked by the members of Parliament to seek information on various activities of the government.
- The questions can **also be asked to the private members** (MPs who are not ministers).
- The question should be related to an **area of responsibility of the Government**. It should **not seek information** about matters that are **secret or are under adjudication before courts**.
- The **parliamentary rules** comprehensively deal with every aspect of Question Hour. The **Presiding officers of the two houses are the final authority** with respect to the conduct of Question Hour.
- There is **no Question Hour** on the day the **President addresses MPs from both Houses**. It is **not scheduled** either on the day the **Finance Minister presents the Budget**.
- **Types of Questions:**

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- **Starred question (distinguished by an asterisk):** This requires an **oral answer** and hence supplementary questions can follow.
- **Unstarred question:** This requires a **written answer** and hence, supplementary questions cannot follow.
- **Short notice question:** It is one that is asked by giving a notice of less than ten days. It is **answered orally**.
- **Zero Hour:**
 - Zero Hour is an Indian parliamentary innovation which has been in **existence since 1962**. Unlike the question hour, the zero hour is **not mentioned in the Rules of Procedure**.
 - It is an informal device available to the members of the Parliament to **raise matters without any prior notice**.
 - The zero hour starts **immediately after the question hour and lasts until the agenda for the day** (ie, regular business of the House) is taken up.

Mission Karmayogi

- The Union Cabinet has approved the new **National Architecture for Civil Services Capacity Building Programme called “Mission Karmayogi”**.
- Mission Karmayogi is aimed at **upgrading the post-recruitment training mechanism** of the officers and employees at all levels.
- The objective is to prepare Indian civil servants for the future by making them more creative, constructive, imaginative, innovative, proactive, professional, progressive, energetic, enabling, transparent and technology-enabled,
- The fundamental focus of the reform is the **creation of a ‘citizen centric civil service’** and shifts the focus from **“Rule based training to Role based training”**.
- The Programme will be delivered by setting up an **Integrated Government Online Training- iGOT Karmayogi Platform**. The platform will act as a launchpad for the **National Programme for Civil Services Capacity Building (NPCSCB)**, which will enable a comprehensive reform of the capacity building apparatus at the individual, institutional and process levels.
- **Mission Karmayogi will have the following six pillars:**
 - i. Policy Framework
 - ii. Institutional Framework
 - iii. Competency Framework
 - iv. Digital Learning Framework
 - v. Electronic Human Resource Management System (e-HRMS)
 - vi. Monitoring and Evaluation Framework
- **Institutional Framework of the Mission:**
 - **Public Human Resources Council:** It is under the **chairmanship of Prime Minister**, with Union Ministers, Chief Ministers, eminent HR practitioners, national and international experts would **oversee the entire capacity building exercise**.
 - **Cabinet Secretariat Coordination Unit:** It will **monitor the implementation of NPCSCB**, align stakeholders and provide mechanisms for overseeing capacity building plans.

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- **Capacity Building Commission:** It is an expert body that will be set up to **harmonize training standards**, create shared faculty and resources, and have supervisory role over all Central Training Institutions.
- **Special Purpose Vehicle:** SPV will be set up as Section 8 – **Not for Profit Company** which will own and manage the iGOT-Karmayogi platform. It will **own all Intellectual Property Rights** on behalf of the Government of India.
- **Programme Management Unit (PMU):** It will provide Program Management and Support services to the Department.
- **Funding:** A sum of Rs 510.86 crore will be spent over a period of 5 years from 2020-21 to 2024-25. The expenditure is **partly funded by multilateral assistance to the tune of \$50 million.**

Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)

- The Union Minister of Chemicals & Fertilizers has launched 8 immunity boosting products under **PMBJP** for sale through Janaushadhi Kendras across the country.
- PMBJP is a campaign launched by the **Department of Pharmaceuticals**. It was **first launched in November 2008** under the name Jan Aushadhi Campaign.
- **Bureau of Pharma PSUs of India (BPPI)** under Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers is the implementation agency.
- PMBJK can be located **within government hospital premises as well as private hospital premises** or anywhere outside.
- Credit facility will be given to all Jan Aushadhi Kendras for 30 days against post dated cheques. **Tendering of medicines shall be only through e-tendering.**
- Under the Jan Aushadhi Scheme, **State Governments** are required to **provide space in Government Hospital premises** or any other suitable locations for running of Jan Aushadhi Kendra.

Special Marriage Act, 1954

- A plea has been filed in Supreme Court against certain provisions of the **Special Marriage Act** on the grounds that **certain provisions of the law violate the right to privacy**.
- The **Special Marriage Act is a civil law enacted in 1954** that allows the solemnisation of **marriages between any two individuals** without religious customs, rituals, or ceremonial requirements.
- The Act is intended to help consenting adults, especially those who belong to different religions or castes, to marry. But **Section 6 of the act requires the intimate details of the couple to be published for 30 days at the Marriage Registrar's office.**
 - The details include their names, date of birth, age, occupation, parents' names and details, address, pin code, identity information, phone number, etc.
 - Publication of confidential details through a public notice had a chilling effect on the right to marry, particularly in the **backdrop of honour killings and violence committed** against those who entered inter-caste and inter-religious marriages.
 - This provision **violates the right to privacy** of the parties under **Article 21 of the Constitution.**
- Marriage under the **Special Marriage Act also requires an extra witness** – three, instead of two in the case of marriage registration under personal laws.

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- Witnesses can be called to testify in case any objections are raised during the 30-day notice period.
- This extra responsibility might make one think twice before agreeing to be a witness, adding an extra layer of complexity in the overall process.

Committee on Content Regulation in Government Advertising

- The 19th meeting of the Supreme Court -mandated **Committee on Content Regulation in Government Advertising (CCRGA)** was held virtually in September, 2020.
- As per the directions of Supreme Court in 2015, the **Government of India had set up a three-member body in 2016** to look into content regulation of government funded advertisements of all media platforms.
- Under the Supreme Court's guidelines, the content of Government Advertisement should be relevant to **the government's constitutional and legal obligations** as well as the **citizen's right and entitlements**.
- The Supreme Court has observed that advertisement materials should be presented in an **objective, fair and accessible manner, not directed at promoting political interests** of the ruling party, and undertaken in an **efficient and cost-effective manner**.
- The states are also mandated to set up their respective three member committees on Content Regulation of Government Advertisements. **Karnataka, Goa, Mizoram and Nagaland States** have already constituted state-level Three Member Committees.

Mid-Day Meal Scheme

- The Vice President suggested that milk could be given either as part of breakfast or the mid-day meal in order to improve the nutritional levels of children.
- The scheme was launched in **1995** as the **National Programme of Nutritional Support to Primary Education (NP – NSPE)**, a centrally sponsored scheme. In 2004, the scheme was relaunched as the Mid-Day Meal Scheme.
- It guarantees one meal to all children in **government and aided schools and madrasas** supported under **Samagra Shiksha**. Students up to Class VIII are guaranteed one nutritional meal at least 200 days in a year.
- The key objectives of MDMS are to **address the issues of hunger and education in schools** by serving hot cooked meals; improve the nutritional status of children and improve enrollment, attendance and retention rates in schools and other education centres.
- The cost of MDMS is shared between the central and state governments. The **central government provides free food grains** to the states. The cost of cooking, infrastructure development, transportation of food grains and payment of honorarium to cooks and helpers is shared by the centre with the state governments.

ODF+ and ODF++

- The Ministry of Housing and Urban Affairs (MoHUA) has stated that:
 - all the Urban Local Bodies (ULBs) in Haryana have been certified Open Defecation Free (ODF), 21 ULBs ODF+ and 13 ODF++

- all cities in Punjab have been certified ODF, 33 are ODF+ and 17 are ODF++
- Chandigarh is certified ODF++ and 3 Star Garbage Free Cities (GFC).
- **ODF** primarily means the **eradication of open defecation in the entire community**. Every household, as well as public/community institutions, should be using safe technology options for disposal of faeces.
- **ODF+ Protocol** focuses on **sustaining community/public toilet usage** by ensuring their functionality, cleanliness and maintenance.
- **ODF++ Protocol** focuses on achieving sanitation sustainability by addressing **complete sanitation value chain**, including safe containment, processing and disposal of faecal sludge and septage.

Office of Profit

- A Rajya Sabha MP of the YSR Congress Party from Andhra Pradesh has been cleared of the charge of holding an office of profit for being appointed the A.P. government's special representative at Andhra Bhavan in Delhi.
- An office of profit is a position in the government which cannot be held by an MLA or an MP. The **post can yield salaries, perquisites and other benefits**.
- The origin of this term can be found in the **English Act of Settlement, 1701**. This was instituted so that there wouldn't be any undue influence from the royal household in administrative affairs.
- According to **Articles 102(1)(a) and 191(1)(a)** of the Constitution, an **MP or MLA is barred from holding an office of profit** as it can put them in a position to gain a financial benefit.
- Under the **Representation of People Act**, holding an office of profit is a ground for disqualification.
- The expression "office of profit" has **not been defined in the Constitution or in the Representation of the People Act, 1951**.
- However, the Supreme Court in **Pradyut Bordoloi vs Swapan Roy (2001)** outlined the four broad principles for determining whether an office attracts constitutional disqualification:
 - i) Whether the government exercises control over appointment, removal and performance of the functions of the office
 - ii) Whether the office has any remuneration attached to it
 - iii) Whether the body in which the office is held has government powers (releasing money, allotment of land, granting licenses etc.)
 - iv) Whether the office enables the holder to influence by way of patronage.
- The Supreme Court, while **upholding the disqualification of Jaya Bachchan from Rajya Sabha in 2006**, had said that for deciding the question as to whether one is holding an office of profit or not, **what is relevant is whether the office is capable of yielding a profit or pecuniary gain** and not whether the person actually obtained a monetary gain.

Criminalisation of Politics

- A report submitted in the Supreme Court has said there are a total 4,442 cases pending against legislators across the country.
- Currently, under the Representation of Peoples (RP) Act, lawmakers cannot contest elections only after their conviction in a criminal case.

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- **Section 8 of the Representation of the People (RP) Act, 1951** disqualifies a person convicted with a **sentence of two years or more from contesting elections**. But those under trial continued to be eligible to contest elections.
 - **Section 8 (3) of the Act:** It states that if an MP or MLA is convicted for any other crime and is sent to jail for 2 years or more, he/ she will be disqualified for 6 years from the time of release.
 - Even if a person is on bail after the conviction and his appeal is pending for disposal, he is disqualified from contesting an election.
 - **Section 8(4) of the RP Act:** It allowed convicted MPs, MLAs and MLCs to continue in their posts, provided they appealed against their conviction/sentence in higher courts within three months of the date of judgment by the trial court.
 - This provision was struck down by the Supreme Court in July 2013. It was declared ultra vires and held that the disqualification takes place from the date of conviction.

Village Poverty Reduction Plan (VPRP)

- With the current Covid-19 situation, **Deen Dayal Antyodaya Yojana – National Rural Livelihoods Mission (NRLM)** designed an **online training program** to train all State Missions across the country on **Village Poverty Reduction Plan (VPRP)**.
- This was done in partnership with **Kudumbashree** (National Resource Organisation), National Institute of Rural Development & Panchayati Raj (**NIRDPR**), Hyderabad and **Ministry of Panchayati Raj**.
- VPRP is a **comprehensive demand plan** prepared by the **Self-Help Group (SHG) network** and their federations for projecting their demands and local area development which needs to be integrated with the **Gram Panchayat Development Plan (GPDP)**.
- The VPRP is presented in the Gram Sabha meetings from **Oct' to Dec' every year**.
- The process allows poor families, who are members of SHGs formed under DAY-NRLM, to raise their demands in a participatory method and **submit the final plan to the Gram Panchayats for consideration**.
- **Components of VPRP:**
 - **Social inclusion** - plan for inclusion of vulnerable people/household into SHGs under NRLM
 - **Entitlement** - demand for various schemes such as MGNREGS, SBM, NSAP, PMAY, Ujjwala, Ration card etc.
 - **Livelihoods** - specific demand for enhancing livelihood through developing agriculture, animal husbandry, production and service enterprises and skilled training for placement etc.
 - **Public Goods and Services** - demand for necessary basic infrastructure, for renovation of the existing infrastructure and for better service delivery.
 - **Resource Development** - demand for protection and development of natural resources like land, water, forest and other locally available resources.
 - **Social Development** - plans prepared for addressing specific social development issues of a village under the low cost no cost component of GPDP

Gram Panchayat Development Plans (GPDP)

- GPDP brings together **both the citizens and their elected representatives** in the decentralized planning processes.

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- GPDP is conducted from **2nd October to 31st December**, every year across the country, under the **People's Plan Campaign (PPC)**.

DAY-NRLM

- Deen Dayal Antyodaya Yojana - National Livelihoods Mission (NRLM) was launched by the **Ministry of Rural Development (MoRD) in June 2011** as a restructured version of Swarna Jayanti Gram Swarozgar Yojna (SGSY). It is aided by the **World Bank**.
- In 2015, the program was renamed **Deendayal Antyodaya Yojana (DAY-NRLM)**.
- It is a **centrally sponsored programme** that aims at **eliminating rural poverty through promotion of multiple livelihoods** for the rural poor households across the country.
- The Mission involves working with the community institutions through community professionals in the spirit of self-help.
- It is **implemented in a Mission mode by special purpose vehicles (autonomous state societies)** with dedicated implementation support units at the national, state, district and block levels.

Breach of Legislature's Privilege

- A motion for breach of privilege was moved in the Maharashtra Assembly against Republic TV's Managing Director and Editor-in-Chief Arnab Goswami. A similar motion was moved in the Maharashtra Legislative Council against actor Kangana Ranaut.
- **Constitutional Provisions:**
 - Article 105 lays down the **powers, privileges and immunities** of either House of the **Parliament** and of its Members and committees.
 - Article 194 deals with the **powers, privileges and immunities of the State Legislatures**, their Members and their committees.
- Parliamentary privilege **refers to the right and immunity enjoyed by legislatures**, in which legislators are **granted protection against civil or criminal liability** for actions done or statements made in the course of their legislative duties.
- The Constitution prescribes **no clear, notified rules to decide what constitutes a breach of privilege**, and the punishment it attracts
 - Any act that obstructs or impedes either House of the state legislature in performing its functions, or which obstructs or impedes any Member or officer of such House in the discharge of his duty, or has a tendency, directly or indirectly, to produce such results is treated as breach of privilege.
 - It is a breach of privilege and contempt of the House to make speeches or to print or publish libel reflecting on the character or proceedings of the House, or its Committees, or on any member of the House for or relating to his character or conduct as a legislator.
- **Procedure to be followed:**
 - The Legislative Assembly Speaker or Legislative Council Chairman constitutes a **Privileges Committee** consisting of **15 members in the Assembly and 11 members in the Council**.
 - The members to the committee are **nominated based on the party strength** in the Houses.
 - If the Committee finds the offender guilty of breach of privilege and contempt, it can recommend the punishment.

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- The punishment can include communicating the displeasure of the state legislature to the offender, summoning the offender before the House and giving a warning, and even sending the offender to jail.
- In the case of the media, **press facilities of the state legislature may be withdrawn**, and a public apology may be sought.

Five Star Village Scheme

- The **Department of Posts** has launched a scheme called **Five Star Villages**, to ensure universal coverage of flagship postal schemes in rural areas of the country.
- The scheme seeks to **bridge the gaps in public awareness and reach of postal products and services**, especially in interior villages.
- All postal products and services will be made available and marketed and publicized at village level, under the Five Star Villages scheme. Branch offices will function as one-stop shops to cater all post offices - related needs of villagers.
- **The schemes covered under the Five Star scheme include:**
 - Savings Bank accounts, Recurring Deposit Accounts, NSC / KVP certificates
 - Sukanya Samridhi Accounts/ PPF Accounts
 - Funded Post Office Savings Account linked India Post Payments Bank Accounts,
 - Postal Life Insurance Policy/Rural Postal Life Insurance Policy
 - Pradhan Mantri Suraksha Bima Yojana Account / Pradhan Mantri Jeevan Jyoti Bima Yojana Account
- If a village attains universal coverage for four schemes from the above list, then that village gets four-star status; if a village completes three schemes, then that village gets three-star status and so on.
- The scheme is being **launched on pilot basis in Maharashtra**; based on the experience here, it will be implemented nation-wide.
- The scheme will be implemented by a **team of 5 Gramin Dak Sevaks** who will be assigned a village for marketing of all products, savings and insurance schemes of the Department of Posts. This team will be headed by the **Branch Post Master** of the concerned Branch Office.

EC Revises Timeline for Political Parties & Candidates

- The Election Commission revised the timeline for publicity of criminal antecedents by candidates concerned and by the political parties that nominate them for elections.
- In February 2020, the **Supreme Court had ordered all political parties to publish on the website the criminal history of their candidates** for Assembly and Lok Sabha elections. The political parties also have to mention reasons for such selection, as also as to why other individuals without criminal antecedents could not be selected as candidates.
- As per the revised guidelines, the candidates as well as the political parties will publish the details of criminal antecedents, if any, in **newspapers and television three times**.
 - **First publicity:** Within the first 4 days of the last date of withdrawal.
 - **Second publicity:** Within the 5th to 8th day of the last date of withdrawal.
 - **Third publicity:** From 9th day till the last day of campaign, i.e. two days prior to date of poll

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- The revised guidelines will also be applicable on candidates who win uncontested and their political parties would also have to publicise the criminal antecedents.
- This timeline will help the voters in exercising their choices in a more informed manner.

Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS)

- Jammu and Kashmir Lieutenant-Governor (L-G) launched the **Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS)**, in a bid to create an interface with the public and focus on governance issues in the Union Territory.
- The system is being launched on a pilot basis in three districts — **Jammu, Srinagar, and Reasi** — and will gradually be rolled out in the remaining districts by October 2.
- **District Collectors and Deputy Commissioners** will be the primary nodes for receiving, disposing and monitoring grievances.
- The **Department of Public Grievances in Government of India** had collaborated with the Union Territory government of Jammu & Kashmir to implement the pilot phase in the districts and integrate them with the Central Government Portal of CPGRAMS. This makes it the **first Union Territory of India** to have its district level grievance offices integrated with the Central Government Portal of **CPGRAMS (Centralised Public Grievance Redress and Monitoring System)**.
- Call centres will be set up in Jammu and Srinagar to ease the redressal process, which will be monitored by the Chief Secretary and LG.
- **Centralised Public Grievance Redress and Monitoring System (CPGRAMS)**
 - It is an **online web-enabled system** developed by **National Informatics Centre (Ministry of Electronics & IT)**, in association with **Directorate of Public Grievances (DPG)** and **Department of Administrative Reforms and Public Grievances (DARPG)**.
 - CPGRAMS aims to **enable submission of grievances by the aggrieved citizens from anywhere and anytime (24x7) basis** to Ministries/Departments/Organisations who scrutinize and take action for speedy and favorable redress of these grievances.
 - Tracking grievances is also facilitated on this portal through the system generated **unique registration number**.

IRAD App

- The government launched a **central accident database management system**, called Integrated Road Accident Database (IRAD), that will help in analysing causes of road crashes and in devising safety interventions to reduce such accidents in the country.
- It has been developed by the **Indian Institute of Technology-Madras (IIT-M)** and will be implemented by the **National Informatics Centre**.
- The project costs ₹258 crore and is being **supported by the World Bank**.
- The system will be first piloted in the six States with highest fatalities from road crashes — **Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh** and later will be rolled out across the country.
- This mobile application will **enable police personnel to enter details about a road accident**, along with photos and videos, **following which a unique ID will be created for the incident**.

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- Subsequently, an engineer from the Public Works Department or the local body will receive an alert on his mobile device. He or she will then visit the accident site, examine it, and feed the required details, such as the road design.
- This data can then be **utilized** for various purposes like **finding the causes of the accidents and remedial measures** to improve the road infrastructure, to record the accidents data for the use of police, health services and other concerned departments.

Mekedatu Project

- The Karnataka government is likely to take a delegation to bring pressure on the Centre to **approve the construction of Mekedatu balancing reservoir**. The project was first approved by the Karnataka state government in 2017.
- It is a **Rs. 9,000 crore project** which aims to **store and supply water for drinking purposes for the Bengaluru city**. Around 400 megawatts (MW) of power is also proposed to be generated through the project.
- It received approval from the erstwhile Ministry of Water Resources for the detailed project report and is **awaiting approval from the Ministry of Environment, Forest and Climate Change (MoEFCC)**. The approval from MoEFCC is crucial because *63% of the forest area of the Cauvery Wildlife Sanctuary* will be submerged.
- Mekedatu is a deep gorge situated at the confluence of the **river Cauvery and its tributary Arkavathi**.
- The proposed reservoir site, **Ontigondlu**, is situated at Ramanagara district in Karnataka about 100 km away from Bengaluru. It is the midst of the Cauvery Wildlife Sanctuary.
- Tamil Nadu has approached the Supreme Court (SC) against the project even if Karnataka has held that it would not affect the flow of water to Tamil Nadu.
- **Cauvery River**
 - It **rises on Brahmagiri Hill of the Western Ghats** in southwestern Karnataka state, flows in a southeasterly direction for 475 miles (765 km) through the states of Karnataka and Tamil Nadu, and **descends the Eastern Ghats in a series of great falls**.
 - Before emptying into the Bay of Bengal south of Cuddalore, Tamil Nadu, the river breaks into a large number of distributaries forming a wide delta called the “**garden of southern India**.”
 - **Important tributaries:** Arkavathi, Hemavath, Lakshmana Theertha, Shimsa, Kabini, Harangi.

Supplementary Grants

- The Centre has sought Parliament approval for a gross **additional expenditure of ₹2.35 lakh crore**, including ₹20,000 crore for recapitalisation of public sector banks, for 2020-21. These are **Supplementary Demands for Grants**.
- When grants, authorised by the Parliament, **fall short of the required expenditure**, an estimate is presented before the Parliament for Supplementary or Additional grants. These grants are **presented and passed by the Parliament** before the end of the financial year.
- **Article 115 provides for the supplementary, additional or excess grants.**

Other Types of Grants:

- **Excess Grants:**

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- When actual expenditure incurred exceeds the approved grants of the Parliament, the **Ministry of Finance and Ministry of Railways** presents a Demand for Excess Grant.
- The Comptroller and Auditor General of India bring such excesses to the notice of the Parliament.
- The **Public Accounts Committee examines these excesses** and gives recommendations to the Parliament.
- **Exceptional Grants:** It is granted for an exceptional purpose and forms no part of the current service of any financial year.
- **Token Grant:** It is granted when funds to meet proposed expenditure on a new service can be made available by re-appropriation. A demand for the grant of a token sum (of Re 1) is submitted to the vote of the Lok Sabha and if assented, funds are made available.

National Capital Territory of Delhi (Amendment Bill) 2020

- The Ministry of Home Affairs (MHA) is likely to introduce **National Capital Territory of Delhi (Amendment) Bill, 2020** to amend a 1991 Act pertaining to the powers and function of the Delhi government and the Lieutenant Governor.
- The Bill proposes to clearly **spell out the functions of the Council of Ministers and the Lieutenant-Governor (L-G)** by giving more discretionary powers to the L-G.
- The **L-G could act in his discretion** in any matter that is beyond the purview of the powers of the Legislative Assembly of Delhi in matters **related to the All India (Civil) Services and the Anti-Corruption Branch**. The validity of any decision taken as per such discretion shall not be questioned.
- The Union Territory of Delhi with a Legislative Assembly came into being in 1991 under **Article 239AA of the Constitution inserted by the 69th Constitution Amendment Act, 1991**.
 - It said that the UT of Delhi shall be called the **National Capital Territory of Delhi**, and the administrator thereof appointed under Article 239 shall be designated as the Lieutenant-Governor.
 - According to the existing Act, the **Legislative Assembly of Delhi has the power to make laws** in all matters **except public order, police, and land**.
- Due to the co-existence of Article 239 and 239AA, there is a jurisdictional conflict between the government of NCT and the Union Government and its representative, the Lieutenant Governor.
 - According to the Union government, New Delhi being a Union Territory under Article 239 empowers the Lieutenant Governor to act independently of his Council of Ministers.
 - However, the state government of Delhi held that the Article 239AA of the Constitution bestows special status to Delhi of having its own legislatively elected government.
- In 2018, a five-judge Bench of the Supreme Court had unanimously held that the L-G was bound by the “aid and advice” of the Delhi government and both had to work harmoniously with each other.

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

- The Union Cabinet approved establishment of a new **All India Institute of Medical Sciences (AIIMS) at Darbhanga, Bihar**.
- The new AIIMS will be established under **PMSSY**, at a total cost of ₹1264 crore.

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- Construction, operations, and maintenance of new AIIMS is **fully funded by the Central Government**. The recurring cost on these institutions shall be met through **Grant-in-Aid to them from the Plan Budget Head of PMSSY** of the Ministry of Health.
- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)
 - It was announced in 2003 with the objectives of **correcting regional imbalances in the availability of affordable/ reliable tertiary healthcare services** and also to augment facilities for quality medical education in the country.
 - **PMSSY has two components:**
 - Setting up of AIIMS like Institutions
 - Upgradation of Government Medical College (GMC)/ Institutions.

Samarth Scheme

- The **Ministry of Textiles** is implementing the **Samarth-Scheme** for Capacity Building in the textiles sector.
- It is a **placement-oriented programme** targeting skill development of **10 lakh youth** in the entire value chain of textiles, excluding Spinning & Weaving in the organized Sector.
- It aims to **provide demand driven, placement oriented National Skills Qualifications Framework (NSQF) compliant skilling programmes** to create jobs in the organized textile and related sectors.
- 18 State Governments have been allocated a training target of 3.6 lakh beneficiaries for conducting training programmes in traditional and organized sectors.
- Some of the advanced features of SAMARTH scheme include **Training of Trainers (ToT), Aadhar Enabled Biometric Attendance System (AEBAS)**, mobile app based Management Information System (MIS) and on-line monitoring of the training process.
- It will promote skill upgradation in the traditional sectors of handlooms, handicrafts, sericulture and jute
- Industry/industry associations are being empanelled for undertaking industry oriented entry level skilling programmes in the organized sectors.

Suspension of MPs from the House

- Eight Rajya Sabha MPs were suspended during monsoon session of Parliament for unruly behaviour in the House. The motion was passed by a voice vote.
- The general principle is that it is the role and **duty of the Presiding Officer** — Speaker of Lok Sabha and Chairman of Rajya Sabha — **to maintain order so that the House can function smoothly**.
- In order to ensure that proceedings are conducted in the proper manner, the Speaker/Chairman is empowered to force a Member to withdraw from the House.
- The Chairman of Rajya Sabha is empowered under **Rule Number 255** of its Rule Book to direct any member whose conduct is in his opinion grossly disorderly to withdraw immediately from the House. The Speaker of Lok Sabha enjoys similar power under **Rule Number 373** of the Rules of Procedure and Conduct of Business.
- Unlike the Speaker, however, the **Rajya Sabha Chairman does not have the power to suspend a Member**. The House may, by another motion, terminate the suspension.

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- The Chairman may name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing business.
- In such a situation, the **House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session.**

Select Committees

- The government pushed through two crucial agriculture Bills in Rajya Sabha, rejecting Opposition demands that they be referred to a Select Committee of Rajya Sabha.
- Parliament **scrutinises legislative proposals (Bills) in two ways.**
 - The first is by **discussing it on the floor of the two Houses.** This is a legislative requirement; all Bills have to be taken up for debate. The time spent debating the bills can vary.
 - The second mechanism is by **referring a Bill to a parliamentary committee.** It takes care of the legislative infirmity of debate on the floor of the House. But **referring Bills to parliamentary committees is not mandatory.**
- **Select Committees:**
 - This is formed for examining a particular Bill and its **membership is limited to MPs from one House.**
 - The bill so referred can only progress in Parliament after the committee has submitted its report.
 - The report of the committee is of a **recommendatory nature.** The government can choose to accept or reject its recommendations.
 - **Select Committees and JPCs have an added advantage.** In their report, they can also **include their version of the Bill.** If they do so, the minister in charge of that particular Bill can move for the committee's version of the Bill to be discussed and passed in the House.
- **Departmentally Related Standing Committees:**
 - These committees **examine bills, budgets and policies of ministries.** There are 24 such committees and between them, they focus on the working of different ministries. **Each committee has 31 MPs, 21 from Lok Sabha and 10 from Rajya Sabha.**
 - They have a **tenure of one year**, then they are reconstituted and their work continues throughout the term of a Lok Sabha.
 - **Ministers are not members;** key committees like those related to Finance, Defence, Home etc are usually chaired by Opposition MPs.
- **Joint Parliamentary Committee:** These committees are constituted for a specific purpose, with MPs from both Houses. The specific purpose could be **detailed scrutiny of a subject matter or a Bill.**

Official Secrets Acts

- A Delhi journalist was **arrested under the Official Secrets Act** on the grounds of passing on information such as the deployment of Indian troops on the border to Chinese intelligence officers.
- The Official Secrets Act (OSA) has its roots in the British colonial era. The original version was "**The Indian Official Secrets Act (Act XIV), 1889**".
- This was brought in with the **main objective of muzzling the voice of a large number of newspapers** that had come up in several languages, and were opposing the Raj's policies, building political consciousness and facing police crackdowns and prison terms.

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- It was amended and **made more stringent** in the form of **The Indian Official Secrets Act, 1904**, during Lord Curzon's tenure as Viceroy of India.
- Later the **Indian Official Secrets Act, 1923** was **extended to all matters of secrecy and confidentiality in governance** in the country.
- It broadly deals with two aspects — **spying or espionage, covered under Section 3, and disclosure of other secret information of the government, under Section 5.**
- Secret information can be any official code, password, sketch, plan, model, article, note, document, or information. **OSA itself does not say what a “secret” document is.** It is the **government’s discretion** to decide what falls under the ambit of a “secret” document to be charged under OSA.
- It has often been argued that the law is in **direct conflict with the Right to Information (RTI) Act, 2005.**
- In 2006, the **Second Administrative Reforms Commission (ARC)** recommended that **OSA be repealed**, and replaced with a chapter in the National Security Act containing provisions relating to official secrets.
- In 2015, the government had set up a committee to look into provisions of the OSA in light of the RTI Act. It submitted its report to the Cabinet Secretariat in 2017, recommending that OSA be made more transparent and in line with the RTI Act.

Lok Adalat

- A daily wager in Odisha's Kandhamal district has moved the **Lok Adalat** against Prime Minister Narendra Modi after he allegedly failed to get an Aadhaar card registered in his name despite 21 attempts.
- Lok Adalat is one of the **alternative dispute redressal mechanisms**. It is a forum where **disputes/cases pending in the court of law or at the pre-litigation stage** are settled/ compromised amicably.
- They have been given **statutory status under the Legal Services Authorities Act, 1987**. Under the said Act, the **award (decision) made** by the Lok Adalats is deemed to be a **decree of a civil court** and is **final and binding on all parties** and no appeal against such an award lies before any court of law.
- If the parties are not satisfied with the award of the Lok Adalat, though there is no provision for an appeal against such an award, they are **free to initiate litigation by approaching the court of appropriate jurisdiction** by filing a case by following the required procedure, in exercise of their right to litigate.
- There is **no court fee payable** when a matter is filed in a Lok Adalat.

National Medical Commission

- The Union government has established the National Medical Commission (NMC), along with four other autonomous boards, as the country's apex regulator of **medical education and profession** replacing the **Medical Council of India (MCI)**.
- The **Board of Governors** appointed in supersession of the MCI has also been dissolved with effect.
- The **four autonomous boards** under the National Medical Commission Act, 2019:
 - Under-Graduate Medical Education Board (UGMEB)

- Post-Graduate Medical Education Board (PGMEB)
- Medical Assessment and Rating Board
- Ethics and Medical Registration Board
- The NMC comprises a **chairman, 10 ex-officio members and 22 part-time members.**
- The Chairperson of the National Medical Commission is **appointed for a period of three years.**
- **Functions:**
 - Lay down policies for regulating medical institutions and medical professionals
 - Assess the requirements of human resources and infrastructure in healthcare
 - Ensure compliance by the State Medical Councils with the regulations made under the Bill
 - Frame guidelines for determination of fee for up to 50% of the seats in the private medical institutions

HC Questions The Set Up of Special Courts for MPs and MLAs

- A three-judge committee of the Madras High Court has questioned the constitutional validity of setting up Special Courts to exclusively try MPs and MLAs for various crimes.
- It said the **Special Courts should be “offence-centric” and not “offender-centric.”**
- Special courts **can only be constituted by a statute** and not by executive or judicial fiat.
- The HC committee report is in contradiction with the **2017 Supreme Court order** which authorised the Centre to set up 12 special courts to exclusively try criminal politicians across the country.

States Refusal to Implement Central Laws

- The **Rajasthan Assembly passed three Bills to stop the applicability of the Centre’s new agriculture sector laws** in the State through the amendments that make the Central Acts ineffective in certain respects.
 - Earlier, Kerala has filed a suit in the Supreme Court of India seeking to declare the CAA as unconstitutional.
 - Meanwhile, Chhattisgarh has also filed a similar suit, challenging the constitutional validity of the National Investigation Agency Act.
- **Option Available With The States**
 - **Article 131** confers **exclusive jurisdiction on the Supreme Court** in disputes **involving States, or the Centre on the one hand and one or more States on the other.** This means no other court can entertain such a dispute.
 - Both High Courts and the Supreme Court have the power to **adjudicate cases against the State and Central governments.** In particular, the validity of any executive or legislative action is normally challenged by way of writ petitions — under Article 226 of the Constitution in respect of High Courts, and, in respect to fundamental rights violations, under Article 32 in the Supreme Court.
 - Under **Article 254 (2) of the Constitution**, state governments can pass legislations which negate the Central acts in the matters enumerated under the Concurrent List. However, such legislation **requires the assent of the President of India.**

Pardoning Powers of the Governor

- The Supreme Court has said the **Multi-Disciplinary Monitoring Agency (MDMA)** investigation into the “larger conspiracy” behind Rajiv Gandhi assassination in 1991 **need not deter the Tamil Nadu Governor from deciding the plea for pardon** of convicts like A.G. Perarivalan, who have been serving their sentence in jail for over two decades.
- The court said that it was reluctant to exercise its jurisdiction when the **Governor was** already seized of Perarivalan’s plea for pardon under **Article 161 of the Constitution**.
- **Under Article 161**, the **Governor** can grant pardons, reprieves, respites and remissions of punishment or suspend, remit and commute the sentence of any person convicted of any offence against a state law.
- **Under Article 72**, the **President** shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence-
 - in all cases where the **punishment or sentence is by a Court-martial**;
 - in all cases where the **punishment or sentence for an offence against any law** relating to a matter to which the executive power of the Union extends;
 - in all cases where the sentence is a **sentence of death**.
- **Difference between the pardoning power of Governor and President:**
 - The President can pardon sentences inflicted by court martial (military courts) while the Governor cannot.
 - The President can pardon death sentences while the Governor cannot. Even if a state law prescribes the death sentence, the power to grant pardon lies with the President and not the governor.

Panel to Review TRP Norms

- The Information and Broadcasting Ministry has constituted a **four-member committee**, headed by **Shashi Shekhar Vempati**, CEO of Prasar Bharati, to **review the guidelines on television rating agencies**.
- This comes after the Mumbai police investigations that revealed that a few news channels had tampered with the ratings.
- **Target Rating Points:**
 - The TRP or Target Rating Point is the **metric used by the marketing and advertising agencies to evaluate this viewership**.
 - It helps to calculate which channel and the programme are viewed most or it indicates the popularity of a TV channel or a programme.
 - TRP is calculated by the Broadcast Audience Research Council (BARC) using “**BAR-O-meters**.” BARC has installed “BAR-O-meters” in **over 45,000 impanelled households**. These gadgets record data about the channel or programme watched by the family members or selected people.
 - The BARC releases **weekly TRP results every Thursday** ranking all TV channels and TV programmes.
- **Broadcast Audience Research Council (BARC)**

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- Formed in 2014, it is the world's largest television audience measurement service.
- BARC India is a **Joint Industry Company** founded by stakeholder bodies that represent **Broadcasters, Advertisers, and Advertising and Media Agencies**.
- It is committed towards establishing a **robust, transparent and accountable governance framework** for providing data points that are required to plan media spends more effectively.

Haryana Passed A Bill to Recall Panchayat Member

- The **Haryana Assembly** passed a Bill which provides the **right to recall members of Panchayati Raj institutions** to those who elected them and **gives women 50% reservation in these rural bodies**.
- The Bill also **proposed 8% reservation to the “more disadvantaged” among the Backward Classes**.
- With the enactment of the Bill, people in rural areas will get the right to remove a sarpanch or members of the two bodies even before their tenure is over.
- **Procedure for Recall**
 - To recall a sarpanch and members of the two bodies, **50% members of a ward or gram sabha have to give in writing** that they want to initiate proceedings.
 - This will be **followed by a secret ballot**, in which their recall will **require two-third members voting against them**.

Competition Commission of India

- The Competition Commission of India (CCI) ordered a detailed **probe against Google for ‘abuse of its dominant position**, primarily with regard to its digital payments application GPay.
- **Section 4** of the Competition Act pertains to **abuse of dominant market position**.
- Competition Commission of India is a **statutory body** of the Government of India **responsible for enforcing the Competition Act, 2002**. It has been established by the Central Government with effect from 14th October 2003.
- It is a **quasi-judicial body** which gives opinions to statutory authorities and also deals with other cases.
- The Commission consists of **one Chairperson and six Members** who shall be **appointed by the Central Government**.
- It is the duty of the Commission to **eliminate practices having adverse effect on competition**, promote and sustain competition, protect the interests of consumers and **ensure freedom of trade in the markets of India**.

Attorney General's Consent to Contempt of Courts

- The **Attorney General (AG)** gave his consent for the initiation of criminal contempt proceedings against stand-up comedian Kunal Kamra for his tweets following the Supreme Court's decision to grant interim bail to television anchor Arnab Goswami.
- The **AG's consent is mandatory when a private citizen wants to initiate a case of contempt of court against a person**. Before such a plea can be filed, the Attorney General must sign off on the complaint, determining if it requires the attention of the court at all.

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- However, **when the court itself initiates a contempt** of court case, the **AG's consent is not required**. This is because the court is exercising its inherent powers under the Constitution to punish for contempt and such Constitutional powers cannot be restricted because the AG declined to grant consent.
- **Article 129** of the Constitution **gives the Supreme Court the power to initiate contempt cases on its own**, independent of the motion brought before it by the AG or with the consent of the AG.
- If the **AG denies consent, the matter all but ends**. However, the complainant can separately bring the issue to the notice of the court and urge the court to take suo motu (on its own motion) cognizance.
- Once the consent of the Attorney General is given in writing, **a notice under The Contempt of Courts Act is served personally on the person** against whom the proceedings are sought to be initiated by the court.
- If the court is satisfied that the alleged contemnor is likely to abscond or evade judicial proceedings, it can **order attachment of property of a value** that it deems reasonable.
- Once the notice is served, the case is **required under the Act to be heard by a Bench of at least two judges**.

Accused Can Get Bail If Probe Not Completed Within Prescribed Time

- The Supreme Court has held in a judgement that **an accused**, irrespective of the merits of the case against him, **should be granted "default" or "compulsive" bail** if the investigating agency does **not complete the probe within a prescribed time limit**.
- The court held that an accused has an "**indefeasible right**" to **default bail** under **Section 167(2) of the Code of Criminal Procedure**.
- Under Section 167, an accused can be detained in custody for a **maximum of 90 days** for a crime punishable with death, life imprisonment or a sentence of over 10 years.
- It is **60 days of detention if the investigation relates to any other offence**. In some special statutes such as the **Narcotic Drugs and Psychotropic Substances (NDPS) Act**, the period of detention **can extend to 180 days**.
- The court highlighted that **magistrates have to mandatorily inform the accused persons**, especially those from the poor sections of the society, of their statutory right to apply for default bail.

Jammu & Kashmir Roshni Act

- The Jammu & Kashmir administration had released a series of **lists of alleged beneficiaries of the Roshni Act of 2001**, now scrapped, which gave ownership rights to the unauthorised occupants of state land against payment of a premium.
- Following a recent order by the Jammu & Kashmir High Court, the administration has **annulled the Act** and decided to **retrieve land transferred under the Roshni scheme**.
- Roshni Act, formally the **Jammu and Kashmir State Land (Vesting of Ownership to the Occupants) Act, 2001**, was passed by the then government **to give ownership to people in possession of state land, with a cut-off of 1990**, and against a payment as determined by the government.
- Since the aim **was to generate resources for hydroelectric power projects**, it was called Roshni (Light) Act.

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- After subsequent amendments, the government **set the premium at 25% of the market rate** and the **cut-off date at 2007**. The government gave free ownership rights on agricultural land to farmers occupying it, who only needed to pay Rs 100 per kanal of land as documentation fee.
- In its 2014 report, the CAG termed the scheme a Rs-25,000-crore scam. It flagged irregularities in this scheme and so, in October 2018, then **Governor repealed the Roshni Act prospectively** and in 2019 ordered a probe by the state Anti-Corruption Bureau into all dealings under the Roshni Scheme.
- On October 9, 2020, the **High Court declared the Roshni Act “illegal, unconstitutional and unsustainable”** and held allotments under the Act as void ab initio.

Uttar Pradesh Prohibition of Unlawful Conversion of Religion Ordinance, 2020

- The Uttar Pradesh Prohibition of Unlawful Conversion of Religion Ordinance, 2020, was cleared by the State Cabinet and promulgated on November 27.
- The ordinance **makes religious conversion a cognisable and non-bailable offence, inviting penalties of up to 10 years** in prison if found to be affected for marriage or through misrepresentation, force, undue influence, coercion, allurement or other allegedly fraudulent means.
- Violation of the provisions of the law would invite a jail term of not less than one year, extendable to five years, with a fine of ₹15,000. However, if a minor, a woman or person belonging to the Scheduled Caste or Scheduled Tribes communities was converted through the said unlawful means, the jail term would be a minimum of three years and could be extended to 10 years with a fine of ₹25,000.
- The ordinance, passed by the State Cabinet, also lays down **strict action against mass conversions**, which would invite a jail term of not less than three years and up to 10 years and a fine of ₹50,000.
- **One who desires to convert his or her religion shall give a declaration** in a prescribed form **at least 60 days in advance to the District Magistrate (DM)** or Additional District Magistrate (ADM).
- **Any religious converter who performs a ceremony** for converting any person of one religion to another religion **shall give one month's advance notice** in a prescribed form to the DM or ADM.
- The **burden to prove that a conversion** was not done through misrepresentation, force, undue influence, coercion, allurement, fraudulent means or for marriage would be **on the person who caused the conversion or the person who facilitated it**.
- **Constitutional Provisions:**
 - **Article 21** of the constitution guarantees individuals the right to marry a person of one's choice.
 - **Article 25** guarantees the freedom of conscience, the practice and conversion of religion of one's choice including not following any religion.

Similar to UP ordinance, the **Madhya Pradesh** has also brought in **Freedom of Religion Bill, 2020**, which provides for a prison term of up to 10 years and a fine of ₹1 lakh for conversion through “**marriage or by any other fraudulent means**”.

Members of Parliament Local Area Development Scheme (MPLADS)

- The **Bombay High Court** has held that the central government was well within its powers to have suspended the **Members of Parliament Local Area Development Scheme (MPLADS)** and divert the money to the fight against the Covid-19 pandemic.

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- In April 2020, the central government decided to suspend all MPLADS funds for two financial years starting April 1.
- The money from the MPLADS funds, nearly Rs 8,000 crore, will go to the Consolidated Fund of India that would be used in the anti- Covid-19 effort.
- Under the scheme, each MP has the choice to suggest to the **District Collector for works to the tune of Rs.5 Crores per annum** to be taken up in his/her constituency.
- MPs **do not receive any money** under these schemes, they can **only recommend** works in their constituencies based on a set of guidelines. The government **transfers it directly to the respective local authorities**.
- **Recommendation of Work:**
 - **Lok Sabha Members** can recommend works **within their Constituencies**
 - **Elected Members of Rajya Sabha** can recommend works **within the State of Election**.
 - **Nominated Members of both the Rajya Sabha and Lok Sabha** can recommend choice of their work **anywhere in the country**.
- The scheme is administered by the **Ministry of Statistics and Implementation** and the **Members of Parliament Local Area Development Division** is entrusted with the responsibility of its implementation.
- It is budgeted through the government's finances and the **funds released** under the **scheme are non-lapsable**.
- Preference under the scheme is given to areas of national priorities, like roads, school buildings etc.

Convicted Legislators Cannot be Barred for Life from Contesting Polls

- The Central government has told the Supreme Court that it **rejected the idea of barring convicted legislators for life from contesting elections**, forming or becoming an office-bearer of a political party.
- The Union Ministry of Law and Justice said an **elected representative of the people cannot be equated with public servants** who are banned for a lifetime on conviction.
- The government said disqualification under the **Representation of the People Act of 1951** for the period of the **prison sentence and six years thereafter** was enough for legislators.
- The Centre's stand was different from that taken by the **Election Commission**, which **endorsed a life ban as necessary** to champion the cause of decriminalisation of politics.

Voting By Post for NRIs

- The Election Commission (EC) approached the Law Ministry **to permit NRIs to cast their votes from overseas through postal ballots**.
- The Commission informed the government that it is technically and administratively ready to extend the **Electronically Transmitted Postal Ballot System (ETPBS) to voters abroad** for upcoming elections in Assam, West Bengal, Kerala, Tamil Nadu and Puducherry.
- **Current Process:**
 - An **NRI can vote in the constituency** in which her place of residence, as **mentioned in the passport**, is located. She can **only vote in person** and will have to produce her passport in original at the polling station for establishing identity.

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- Voting rights for NRIs were introduced only in 2011, through an amendment to the Representation of the People Act 1950.
- **EC Proposal:**
 - Any NRI interested in voting through the postal ballot in an election will have to **inform the Returning Officer (RO) not later than five days** after the notification of the election. On receiving such information, the RO will dispatch the ballot paper electronically.
 - The NRI voters will download the ballot paper, **mark their preference on the printout and send it back along with a declaration** attested by an officer appointed by the diplomatic or consular representative of India in the country where the NRI is resident.
- The **Union Cabinet passed the proposal on proxy voting rights for NRIs in 2017**. The government then brought a Bill amending the Representation of the People Act 1950. The Bill was passed by Lok Sabha and was **awaiting Rajya Sabha's approval when it lapsed** with the dissolution of the 16th Lok Sabha. This proposal hasn't been revived yet.
- To extend the postal voting facility to overseas voters, the government only needs to **amend the Conduct of Election Rules 1961**. It doesn't require Parliament's nod.

Model Code of Conduct

- The **State Election Commission (SEC)** has sought an explanation from Kerala Chief Minister on the complaint that he had violated the model code of conduct with his announcement that COVID-19 vaccination will be provided free of cost to everyone in the State on the eve of the third phase of polling in the elections to local bodies in the State.
- **Model Code of Conduct (MCC)** is a set of guidelines issued by the Election Commission to regulate political parties and candidates prior to elections.
- The guidelines are chiefly regarding the speeches, polling booths, polling day conduct, election manifestos, meetings, processions and conduct in general.
- The code **comes into force on the announcement of the poll schedule** and remains operational till the election process is concluded.
- MCC is **not statutory** but Political Parties, Candidates and Polling Agents themselves, are agreed to keep their conduct during elections in check, and to work within the Code. It is **not a legally enforceable document**.
- These guidelines are **in line with Article 324** of the Constitution which mandates EC to conduct free and fair elections to Parliament and State Legislatures.
- Certain provisions of MCC may be enforced through the **Indian Penal Code, 1860, Code of Criminal Procedure, 1973, and Representation of the People Act, 1951**.

Overseas Citizen of India

- The Karnataka High court has declared that students under the **Overseas Citizens of India (OCI) category are to be considered as "citizens of India" for admission to professional courses**.
- It has directed the State government to admit them to undergraduate professional courses, including engineering, medical, and dental, even under the government and institutional quotas, and not to restrict their admission only under the NRI quota.

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- The Ministry of Home Affairs defines an OCI as a person **who was a citizen of India on or after 26th January 1950**; or was eligible to **become a citizen of India on 26th January 1950**; or is a **child or grandchild of such a person**, among other eligibility criteria.
- The category was **introduced by the government in 2005**.
- An applicant is not eligible for the OCI card if he, his parents or grandparents have ever been a citizen of **Pakistan or Bangladesh**.
- The Government of India via **Citizenship (Amendment) Act, 2015** merged the **Person of Indian Origin (PIO) category with OCI category in 2015**.
- **Features**
 - The OCI card is effectively a long-term visa, with **restrictions on voting rights and government jobs**.
 - Entitled to benefits such as a **multiple-entry, multi-purpose life-long visa** to visit India.
 - Granted all rights in parity with NRIs **except the right to acquisition of agricultural or plantation properties**.
 - They **cannot hold** offices of – Prime Minister, President, Vice -President, Judge of Supreme Court and High Court, member of Parliament or Member of state legislative assembly or council.

Delimitation Commission

- A paper released by the Pranab Mukherjee Foundation (PMF) has suggested that the next delimitation exercise should be a two-step process:
 - A Delimitation Commission should be set up to redraw boundaries of constituencies on the basis of the 2031 Census
 - Then a State Reorganisation Act be passed to split States into smaller ones
- The **84th Amendment to the Constitution in 2002** had put a freeze on the delimitation of Lok Sabha and State Assembly constituencies till the first Census after 2026. While the current boundaries were drawn on the basis of the 2001 Census, the **number of Lok Sabha seats and State Assembly seats remained frozen on the basis of the 1971 Census**.
- The **Delimitation commission or Boundary commission** is a commission established by the Government of India to **redraw the boundaries of the various assembly and Lok Sabha constituencies** based on a recent census.
- It is a **high power body** whose orders have the force of law and **cannot be called in question before any court**.
- Article 82 provides the **Parliament enacts a Delimitation Act** after every Census.
- Article 170 provides division of State into territorial constituencies as per Delimitation Act after every Census.
- Delimitation commissions have been set up four times in the past — 1952, 1963, 1973 and 2002 — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002.
- The Delimitation Act, 2002, was enacted to set up a Delimitation Commission for the purpose of effecting delimitation on the basis of the 2001 census so as to correct the distortion in the sizes of electoral constituencies.

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- According to the Delimitation Commission Act, 2002, the Delimitation Commission appointed by the Centre has to have three members: a **serving or retired judge of the Supreme Court as the chairperson**, and the **Chief Election Commissioner or Election Commissioner** nominated by the CEC and the **State Election Commissioner as ex-officio members**.
- The first delimitation exercise was carried out by the President (with the help of the Election Commission) in 1950-51.

Good Governance Day

- Good Governance Day is observed on the **birth anniversary of former Prime Minister Shri Atal Bihari Vajpayee (25th December)**. It was observed for the first time in **2014**.
- It aims to **foster awareness** among the Indian people of **accountability in government**.

Good Governance Index

- It was launched on 25th December 2019 by the **Ministry of Personnel, Public Grievances & Pensions** to determine the **status of governance** in the country.
- It is a **tool to assess** the impact of various interventions taken up by the State Government and UTs.

Move To Seek Ban On Vehicular Movement Inside Cubbon Park

- The **Karnataka High Court** has ordered issue of notice to the State government on a PIL petition, seeking a ban on movement of all types of vehicles within and through Cubbon Park in Bengaluru.
- Petitioner argued that the actions of the authorities impinge on the **rights to enjoy pollution free air and water** and endangers and **impairs his quality of life** and is a clear derogation of his constitutional rights.

Constitution Day

- Constitution Day (or Samvidhan Divas)**, also known as **National Law Day**, is celebrated in India on **26 November** every year to commemorate the adoption of the Constitution of India.
- On 26 November 1949, the Constituent Assembly of **India adopted the Constitution** of India, and it **came into effect on 26 January 1950**.
- The Government of India declared 26 November as Constitution Day **on 19 Nov' 2015** by a gazette notification. Before this, the day was observed as National Law Day.
- 2015 was the **125th birth anniversary year of B. R. Ambedkar** (14 April 1891 – 6 December 1956), who is known as the **father of the Indian constitution**, the government decided in May 2015 to celebrate this year "in a big way".

World Habitat Day

- World Habitat Day is marked on the **first Monday of October** each year and is recognized by the **United Nations** to reflect on the state of towns and cities, and on the basic right of all to adequate shelter.
- The day is also intended to remind the world that **everyone** has the power and the **responsibility** to shape the future of towns and cities.
- World Habitat Day was **first celebrated in 1986 in Nairobi**, Kenya, and the theme chosen for that year was "Shelter is My Right".

- **2020 Theme: Housing For All — A Better Urban Future**

ARIIA 2020 Rankings

- The ranking, which aims **to promote innovation** among Indian educational institutions, **assess colleges** and varsities on different parameters.
- **Facts:**
 - A total of **674 institutions** took part in the rankings.
 - **IIT Madras** bagged top position in the category of Institutes of National Importance, Centrally Funded Technical Institutes and Central Universities lists
 - Among higher educational institutions exclusively **for women**, the top rank went to **Avinashilingam Institute for Home Sciences** and Higher Education in Coimbatore, Tamil Nadu
 - In the **Private or self-financed Colleges** category, the top rank went to **S R Engineering College** in Warangal, Telangana
 - In the **private or self-financed universities** category, the winner was **Kalinga Institute of Industrial Technology (KIIT)** in Odisha
 - In the **government and government-aided universities** category, the top rank was bagged by **Mumbai's Institute of Chemical and Technology**
 - **Pune's College of Engineering** stood at top in the government or **government-aided colleges** category

About ARIIA (Atal Ranking of Institutions on Innovation Achievements):

- **First of its kind** attempt to rank Indian education institutions on Innovation achievements launched **in 2018 by Ministry of Education** (erstwhile HRD Ministry)
- All recognised Indian education institutions are eligible to participate in the ARIIA ranking
- The methodology to calculate ARIIA metrics considers all major parameters/indicators used globally to rank educational institutions for innovation output
- The overall score can take a **maximum value of 100 divided in 7 parameters-**
 - **Budget**, Expenses to Support & Revenue Generated
 - Infrastructures & Facilities to Support Innovations and **Start-ups**
 - Awareness Activities for Promoting **Idea Generation** and Innovation
 - Promotion and Supporting **Entrepreneurship** Development
 - **Intellectual Property (IP)** Generation, Technology Transfer and Commercialization
 - Innovative **Learning Methods & Courses**
 - Innovations in Governance of the Institution

Digital Quality of Life Index 2020

- It has been released by **SurfShark**, an online privacy solutions provider.
- **Facts:**
 - Seven of the 10 countries with the **highest digital quality of life** are in Europe, with **Denmark** leading among 85 countries.
 - **India occupies 79th place**, ranking below countries including Guatemala and Sri Lanka

- India makes it into the top 10 in terms of **Internet affordability**.

- **In e-government**, India occupies the **15th place** globally, just below countries like New Zealand and Italy.
- **India's Internet quality** is one of the **lowest across 85 countries** analysed in the research.

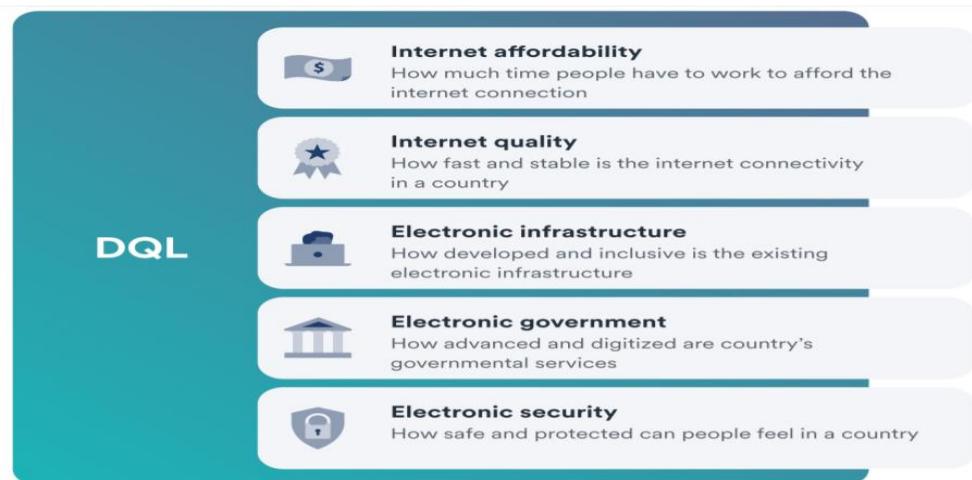


Fig. Parameters that define the digital quality of life

National Council for Transgender Persons

- The Centre has **constituted** the *National Council For Transgender Persons*, headed by the **Union Minister of Social Justice**.
- The council was formed **under Transgender Persons (Protection of Rights) Act, 2019** through a gazette notification
- **Representatives** from **five states or Union Territories**, on a **rotational basis**, will also be members of the commission.
- The **tenure** of the community members and experts shall be **three years**.
- According to the legislation, the council has **five main functions** --
 - **Advising** the central government on the formulation of **policies, programmes, legislation** and projects with respect to transgender persons;
 - Reviewing and **coordinating** the activities of **all the departments**;
 - **Monitoring and evaluating** the impact of policies and programmes designed for achieving equality and full participation of transgender persons;
 - Redressing **grievances** of transgender persons; and
 - Performing such other functions as prescribed by the Centre.

Kerala To Set Up India's First International Women's Trade Centre

- This initiative aims to **accelerate women entrepreneurship** and secure gender parity while providing women with a safe place away from home to start new businesses, set up or expand, and get their products marketed globally
- **Women Entrepreneurship Platform:** WEP is an initiative of NITI Aayog that aims to provide an ecosystem for budding and existing women entrepreneurs across the country.

HISTORY AND CULTURE

Six Nation Peace Initiative

- The **Six Nation Peace Initiative** was a joint initiative in **1984** by **six heads of government** to help **end the Cold War and the nuclear arms** race between the **United States** and the **Soviet Union**.
- It **continued until 1989** and was also sometimes referred to as the **Five Continent Peace Initiative**.
- The original **six leaders were**: President Raúl Alfonsín of **Argentina**, Prime Minister Indira Gandhi of **India**, President Miguel de la Madrid of **Mexico**, President Julius Nyerere of **Tanzania**, Prime Minister Olof Palme of **Sweden**, and Prime Minister Andreas Papandreou of **Greece**.
- During the following five years, Indira Gandhi was replaced upon her death by Prime Minister **Rajiv Gandhi** of India, and Olof Palme by Prime Minister **Ingvar Carlsson** of Sweden.
- The Six Nation Peace Initiative was convened by the **New York-based parliamentary network Parliamentarians for Global Action (PGA)**.
- It held **summit meetings** in New Delhi, India (1985), Athens, Greece (1985), Ixtapa, Mexico (1986), and Stockholm, Sweden (1987).

Gaan-Ngai Festival

- It is a **post-harvest** festival celebrated by **Zeliangrong people** who are spread across **Assam, Manipur, and Nagaland**.
- It is a **festival (Nagi)** of **Gaan (Dry or winter season)** and is also known as the **Chakan Gaan-Nagi**, the **festival of the winter season**.

Kotla Narsimhlupalle Village

- A **statue of Lord Mahaveera** was unearthed in Kotla Narsimhlupalle village (Karimnagar district, **Telangana**) in June 2020.
- An idol belonging to the **23rd Jain Theerthankara called Parshvanatha** was found in the same fields on June 13, 2007.
- This spot is just **15 km away from Bommalammagutta**, which was the **first capital of Rashtrakuta dynasty**, which ruled the **Telangana** region and adopted Jainism.
- The village is known for historical reasons because of the location of the **hillock ‘Devuni Gutta’** which houses the ancient **Sri Laxmi Narasimha Swamy and Sri Annapoorna Vishwanatha temples** dating back to 7th and 8th century of Imperial **Rashtrakutas**.
- The **unique and rare sculptures (Bas-Relief) of Shodasha Babu Pancha Mukha Ugra (Bhargava) Narasimha** seen here belong to the 4th and 5th century of **Rashtrakutas**.
- On top of the hillock, one could find the remains of an **ancient fort**. It is said that after the fall of **Nanda dynasty** and installation of Mourya dynasty, one of the Nandas fled from Pataliputra and had taken **shelter** on this **hillock**. The village is surrounded by a **mud fort (kota)** and hence the village is called **Kotla Narsimhlupalle**.

Abdul Hamid Lahori

- **Abdul Hamid Lahori** was a **traveller** and **historian** during the period of Mughal Emperor **Shah Jahan** who later became a court historian of Shah Jahan (**Shah Jahan's official chronicler**).
- He wrote the **book Padshahnama**, about the reign of Shah Jahan. He has described **Shah Jahan's life and activities**.
- He also writes that the construction of **Taj Mahal** began six months after Empress Mumtaz Mahal's death which was on 17 June 1631.

Bon Bibi

- Shrines to Bon Bibi and her twin brother Shah Jongoli are found in the **landscape of the Sundarbans**.
- Bon Bibi is a **deity of the forest** and the central character of **Bon Bibir Palagaan**, a **musical drama unique to the Sundarbans**.
- The followers of Bon Bibi are fishermen, crab-collectors and honey-gatherers — a large chunk of the population of the islands, many of them impoverished — who go into the wild mangroves, teeming with wild animals such as tigers and crocodiles, to earn a livelihood.
- They believe that only Bon Bibi protects them when they enter the forest.

Sankalp Parva

- The Ministry of **Culture** celebrated '**Sankalp Parva**' to plant trees from **28th June to 12th July 2020**.
- It has been called for planting at **least five trees** either in Officecampus or wherever it is possible, to ensure a clean and healthy environment of the country.
- The Ministry of Culture recommended planting **five trees** which represent the herbal heritage of our country. These trees are (i) "**Bargad**" (ii) "**Awla**" (iii) "**Pepal**" (iv) "**Ashok**" (v) "**Bel**".

Rabari, Bharvad and Charan Tribes of Gujarat

- The Gujarat government will constitute a **five-member commission** to identify the members of Rabari, Bharvad and Charan communities of Gir, Barda and Alech areas of the state, who are eligible to get the benefits of Schedule Tribe (ST) status.
- The commission, which will be headed by a **retired judge of the high court**, comprises two district judges, one retired forest officer and one retired revenue officer.

Rabari Tribe

- The Rabari, also called the Rewari or Desai, are an indigenous tribal caste of **nomadic cattle and camel herders** and shepherds that live throughout northwest India, primarily in the states of **Gujarat, Punjab and Rajasthan**.
- They speak '**Bhopa**' which is a mixture of Gujarati, Kachchi, Marwari words and **Pharasi (Persian)** and use **Gujarati script**.
- The Rabari are known for their distinctive art, particularly the mirrored and whitewashed **mud sculpture-work** that adorns their homes and villages.
- Rabari women are responsible for this artwork and also traditionally spin the wool from their sheep and goats and give it to local weavers to make their woollen skirts, veils, blankets and turbans.

Bharvad Tribe

- The Bharwad are tribals primarily engaged in **herding livestock**.
- The Bharwads have numerous subgroups known as ataks or guls (clans) whose main purpose is to determine eligibility for marriage.
- Constrained exogamy is practised between clans.

Charan Tribe

- The Charan, also called **Gadhvi**, is a small tribe in Gujarat and the name Charan is derived from the word 'Char' which means grazing.
- Members of the caste are considered to be divine by a large section of society.
- Women of the caste are **adored as mother goddesses** by other major communities of this region.

Padmanabhaswamy Temple

- Reversing the 2011 Kerala High Court decision, the Supreme Court upheld the right of the **Travancore royal family to manage** the property of deity at **Sree Padmanabha Swamy Temple** in Thiruvananthapuram.
- The court said that, as per customary law, the **shebait rights** (right to manage the financial affairs of the deity) survive with the members of the family even after the death of the last ruler.
- Historians say the Padamanabhaswamy temple dates back to the **8th century** but the present structure was built in the **18th century** by the then Travancore Maharaja **Marthanda Varma**.
- The temple is built in the unique **Chera style of architecture**, and its main deity is **Lord Vishnu** who is found in **Anantha Shayana posture** (reclined posture of eternal yoga) on Adishesha or king of all serpents.
- It is known to be one of the 108 holy temples associated with Vaishnavism in India.

Antifa

- Antifa is a useful umbrella term that denotes a broad spectrum of groups and individuals of far left or anarchist tendencies. The term itself means simply **anti-fascist**.
- The antifa movement traces **its heritage to radical left groups** that resisted dictators such as Mussolini and Hitler in **Europe in the 1930s**. In Germany, the communist-aligned Antifaschistische Aktion fought street battles with Hitler's followers until it was forcibly disbanded in 1933.
- This tradition was **revived in Europe during the 1980s and 1990s**, with the rise of Nazi skinheads and other far right groups. It arrived in the US in the late 1980s, with the creation of **Anti-Racist Action (ARA) in Minneapolis**.
- ARA no longer exists and the oldest identifiable group in the US is probably **Portland's Rose City Antifa**, which dates from **2007**.
- Contemporary antifa groups have a distinctive repertoire of tactics ranging from publicly identifying members of far-right groups, to physically resisting them in the streets. Often, in street protests, activists dress in "**black bloc**" attire including balaclavas or masks to conceal their identity.

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SPIC MACAY (Society for the Promotion of Indian Classical Music And Culture Amongst Youth)

- It is a non-political, nationwide, voluntary movement **founded in 1977** by **Dr. Kiran Seth**, Professor Emeritus at IIT-Delhi who was awarded the '**Padma Shri**' for his contribution to the arts in **2009**.
- SPICMACAY's intention is to enrich the quality of formal education by increasing awareness about **different aspects of Indian heritage** and inspiring the young mind to imbibe the values embedded in it.
- In **2011**, SPIC MACAY was awarded the **Rajiv Gandhi Sadbhavana award** in recognition of its contribution to youth development.
- It has a **central executive body** in New Delhi and organises its cultural programmes through a worldwide network of schools, colleges and educational institutions. SPIC MACAY garners national support by the **Ministry of Culture, Ministry of Youth Affairs and Sports, and the HRD Ministry**.

Kolkata Port Trust Renamed as Syama Prasad Mookerjee

- The Union Cabinet has given its approval to rename Kolkata Port as **Syama Prasad Mookerjee Port**.
- The Kolkata Port is the **first Major Port as well as the only riverine port** of the country. It came to be **governed by a Trust in 1870** on appointment of the Commissioners for Improvement of the Port of Calcutta as per Act V of 1870.
- It features at Serial Number 1 in **The First Schedule, Part I—Major Ports of the Indian Ports Act, 1908** and is governed by the Major Port Trusts Act, 1963.
- Kolkata Port has traversed 150 years and in this journey, it has been India's gateway to trade, commerce and economic development. It has also been a witness to India's struggle for independence, World Wars I & II and socio-cultural changes taking place in the country, especially in Eastern India.

Naming Of Major Ports In India

- Generally, the Major Ports in India are named after the city or the town in which they are situated. Some ports, however, in special cases or in due consideration of **contributions made by eminent leaders** have been re-named after great national leaders in the past.
- Nhava Sheva Port Trust was renamed as **Jawaharlal Nehru Port Trust** by the Government in the year **1989**.
- The Tuticorin Port Trust was renamed as V.O. Chidambaranar Port Trust in the year 2011 and the Ennore Port Limited has been re-named as Kamarajar Port Limited in the honour of Shri K Kamarajar, eminent freedom fighter and former Chief Minister of Tamil Nadu. Recently, **in 2017 Kandla Port was re-named as Deendayal Port**.

Talamaddale

- Talamaddale is an **ancient and traditional art form** of India and a variation of the **Yakshagana theater**.
- It is an ancient form of dance practiced in Southern India in the coastal Malnad regions of **Karnataka and Kerala**.
- Unlike the Yakshagana performance, in the conventional talamaddale, the artists sit across in a place without any costumes and engage in testing their oratory skills based on the episode chosen.

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- While the music is common for both Yakshagana performance and talamaddale, the latter has only spoken words without any dance or costumes. Hence it is an **art form minus dance, costumes and stage conventions**.

Pashupatinath Temple

- A Memorandum of Understanding was signed between the Indian Embassy, Nepal's Ministry of Federal Affairs and General Administration and the Kathmandu Metropolitan City for the construction of the sanitation facility at the **Pashupatinath Temple**.
- Under the initiative, India has pledged to extend financial assistance amounting to NRs 37.23 million (₹2.33 crore) for the sanitation facility that would be implemented by the Kathmandu Metropolitan City in accordance with the norms laid out by Government of Nepal in 15 months.
- Pashupatinath Temple is the largest temple complex in **Nepal** and stretches on **both sides of the Bagmati River** and sees thousands of worshippers from Nepal and India every day.
- The temple is dedicated to **Lord Shiva** and is one of the most important religious sites in Asia for devotees of Shiva.
- Only Hindus are allowed** through the gates of the main temple.
- It was conferred the status of a **World Heritage Site in 1979** by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Axone

- Axone, also spelled **akhuni**, is a fermented soya bean of **Nagaland**, known for its distinctive flavour and smell. As much an ingredient as it is a condiment, axone used to make pickles and chutneys, or curries of pork, fish, chicken, beef etc.
- While it is called 'axone' in parts of Nagaland, fermented soya bean is cooked with, eaten and known by different names in different parts of Northeast India, including Meghalaya and Mizoram, Sikkim, Manipur as well in other South, Southeast and East Asian countries of Nepal, Bhutan, Japan, Korea, China, Myanmar, Vietnam and Indonesia. It is the one food that **connects the Eastern Himalayas**.
- Axone is prepared and eaten across Nagaland but is particularly popular among the **Sumi (also Sema) tribe**.

Chaolung Sukapha

- Chaolung Sukapha was a **13th century ruler** who founded the **Ahom kingdom** that ruled Assam for six centuries. Contemporary scholars trace his roots to **Burma**.
- He reached Brahmaputra valley in Assam from upper Burma in the **13th century** with around 9,000 followers.
- It was in **Charaideo** that Sukapha established his first small principality, sowing the seeds of further expansion of the Ahom kingdom.
- The founders of the Ahom kingdom had their own language and followed their own religion. Over the centuries, the Ahoms accepted the Hindu religion and the Assamese language, however, they did not impose theirs on those living here.
- Sukapha developed very amiable relationships with the tribal communities living here — especially the **Sutias, the Morans and the Kacharis**. Intermarriage also increased assimilation processes.

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- Sukapha's significance lies in his successful efforts towards **assimilation of different communities and tribes**. He is widely referred to as the architect of "**Bor Asom**" or "greater Assam".
- To commemorate Sukapha and his rule, Assam celebrates "**Asom Divas**" on **December 2** every year.

International Day of Yoga

- Coinciding with the summer solstice, **June 21** is observed as International Yoga Day, recognising the many benefits of the ancient Indian practice of yoga. The year 2020 marks the 6th International Yoga Day.
- The United Nations **theme** for this year is "**Yoga for Health – Yoga at Home**".
- The UN proclaimed June 21 as International Day of Yoga by passing a resolution on December 11, **2014, during the 69th session** of the General Assembly.
- The word 'yoga' is derived from Sanskrit and means to join or to unite, symbolising the union of a person's body and consciousness.
- Yoga is an ancient physical, mental, and spiritual practice that originated in India. The word 'yoga' is derived from Sanskrit and means to join or to unite, symbolizing the union of body and consciousness.
- As part of the 6th International Yoga Day commemorations, the **world's first yoga university outside India has been launched in Los Angeles**, offering programmes that combine scientific principles and modern research approaches to the ancient Indian practice of yoga. It has been named after Swami Vivekananda - Vivekananda Yoga University.

Variyamkunnath Kunjahammed Haji

- Kunjahammed Haji is an important figure in the echelons of Kerala's colonial history as a rebel leader who took on the mighty British Raj.
- He was born into an affluent Muslim family sometime in the 1870s and grew up hearing stories of the injustice meted out by the British to the locals and to his own family. His father, **Moideenkutty Haji**, was deported and jailed in the Andaman Islands for his participation in a rebellion against the British.
- Haji's was fascinated with traditional music-based art forms like **Daffumutt** and poems like '**Malappuram Padappattu**' and '**Badr Padappattu**' and he used art as an instrument to rally the locals against the British.
- By invoking such poems, that spoke of the exploitation of the peasants by feudal lords under the British and which were later banned by them, Kunjahammed Haji was simultaneously challenging the British and igniting sentiments against them among the local population. These acts were a continuation of a stream of anger that had begun to strengthen against the colonialists, and which is believed to have resulted in the **Malabar uprising in 1921**.
- Kunhahammed Haji was respected for his scholarship and knowledge in **Urdu, Arabic and English**.

Mar Thoma Church

- The **Malankara Mar Thoma Syrian Church**, also known as the Mar Thoma Church, is one of the oldest denominations of Christianity in **Kerala**.
- It is believed that the church was founded by **Saint Thomas in 52 AD**.

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- The Mar Thoma Church is closely linked with the noble ideals of **Saint Thomas, the Apostle of Lord Christ.**
- The Mar Thoma Church played a role in India's freedom struggle. The Church was at the fore-front of working towards national integration.

Indira Gandhi National Centre for the Arts

- The Indira Gandhi National Centre for the Arts (IGNCA) was **established in 1987 as an autonomous institution** under the **Ministry of Culture**, as a centre for research, academic pursuit, and dissemination in the field of the arts.
- The Arts' encompass a wide range of subjects – from archaeology and anthropology to the visual and performing arts, enveloping them in a complementary and non-demarcated vision.
- The centre is visualised as a centre encompassing the study and experience of all the arts—each form with its own integrity, yet within a **dimension of mutual interdependence**, interrelated with nature, social structure, and cosmology.
- The IGNCA has a **trust (Board of Trustees)**, which meets regularly to give general direction about the Centre's work. The Executive Committee, drawn from among the Trustees, functions under a Chairman.
- IGNCA is the **research unit of the Project Mausam**, which is a Ministry of Culture project with **Archaeological Society of India (ASI)**, New Delhi as the nodal agency.

Tangam Community and Their Language

- Arunachal Pradesh Chief Minister released a book titled "**Tangams: An Ethnolinguistic Study Of The Critically Endangered Group of Arunachal Pradesh.**"
- Only 253 speakers are left, and they are concentrated in one small hamlet of **Arunachal Pradesh**, as per the survey of Centre for Endangered Languages (CFEL) of Rajiv Gandhi University (RGU),
- The Tangams are a little-known community within the larger **Adi tribe of Arunachal Pradesh and reside in the hamlet of Kugging in Upper Siang district's Paindem circle.**
- For long, the only account of the Tangams could be found in **bureaucrat Tarun Kumar Bhattacharjee's book, Tangams (1975)** where the community's population was pegged at 2,000 spread across 25 villages.
- As per the **UNESCO World Atlas of Endangered Languages (2009)**, Tangam — an **oral language that belongs to the Tani group**, under the greater **Tibeto-Burman language family** — is marked '**critically endangered**'.

Red Book of Endangered Languages

- The Red Book of Endangered Languages was published by **UNESCO** and collected a comprehensive list of the world's endangered languages. It has been replaced by the **UNESCO Atlas of the World's Languages in Danger.**
- In February 2009, UNESCO launched an online edition of the Atlas of Endangered Languages which covers the whole world, contains much

Degree of endangerment	Intergenerational Language Transmission
safe	language is spoken by all generations; intergenerational transmission is uninterrupted >> not included in the Atlas
vulnerable	most children speak the language, but it may be restricted to certain domains (e.g., home)
definitely endangered	children no longer learn the language as mother tongue in the home
severely endangered	language is spoken by grandparents and older generations; while the parent generation may understand it, they do not speak it to children or among themselves
critically endangered	the youngest speakers are grandparents and older, and they speak the language partially and infrequently
extinct	there are no speakers left >> included in the Atlas if presumably extinct since the 1950s

more information than previous printed editions and offers the possibility to users to provide online feedback, in view of its constant updating.

Mongolian Kanjur

- The **Ministry of Culture** has taken up the project of reprinting 108 volumes of Mongolian Kanjur under the **National Mission for Manuscripts (NMM)**. It is expected that all the volumes will be published by March 2022.
- **Mongolian Kanjur** is the **Buddhist canonical text** in 108 volumes which is considered to be the most important religious text in Mongolia.
- In the Mongolian language 'Kanjur' means 'Concise Orders'- the words of Lord Buddha in particular. It is held in high esteem by the Mongolian Buddhists and they worship the Kanjur at temples and recite the lines of Kanjur in daily life as a sacred ritual.
- The Kanjur are kept in almost every monastery in Mongolia. Mongolian Kanjur has been **translated from Tibetan**. The **language** of the Kanjur is **Classical Mongolian**. The Mongolian Kanjur is a source of providing a cultural identity to Mongolia.

National Mission for Manuscripts (NMM)

- The National Mission for Manuscripts was launched in **February 2003** by the Government of India, under the Ministry of Tourism and Culture. The mission is presently under the **Ministry of Culture**.
- National Mission for Manuscripts is a national level comprehensive initiative which caters to the need of conserving manuscripts and disseminating knowledge contained therein. NMM is working towards fulfilling its motto, '**conserving the past for the future**'.
- One of the objectives of the mission is to **publish rare and unpublished manuscripts** so that the knowledge enshrined in them is spread to researchers, scholars, and the general public at large.

Dharma Chakra Day

- The **International Buddhist Confederation (IBC)** in partnership with the **Ministry of Culture**, Government of India, celebrated the **Asadha Poornima** on July 4, 2020 as **Dharma Chakra Day**. It was the annual flagship event of IBC.
- The auspicious day of Asadha Poornima falls on the **first full moon day of the month of Asadha** as per Indian sun calendar.
- It is also known as **Esala Poya in Sri Lanka** and **Asanha Bucha in Thailand**. It is the second most sacred day for Buddhists after the Buddha Poornima or Vesak.
- The day marks **Buddha's first teaching after attaining Enlightenment** to the first five ascetic disciples (pañcavargika) on the full-moon day of **Asadha** at 'Deer Park', Rishipatana in the current day Sarnath, near Varanasi, India.
- This teaching of **Dhamma Cakka- PavattanaSutta (Pali)** or **Dharma chakra Pravartana Sutra (Sanskrit)** is also known as the **First Turning of Wheels of Dharma** and comprised of the **Four Noble Truths** and **Noble Eightfold Path**.
- The **Rainy Season retreat (Varsha Vassa)** for the Monks and Nuns also starts with this day lasting for three lunar months from July to October, during which they remain in a single place, generally in their temples dedicated to intensive meditation.
- They are served during this period by the **lay community who also observe Uposatha** i.e. to observe eight precepts and meditate under the guidance of their teachers.

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- The day is also observed as **Guru Poornima** by both Buddhists and Hindus as a day to mark reverence to their Gurus.

Raja Parba Festival

- The Raja Parba is one of the most popular festivals of **Odisha**. This is a three-day-long festival dedicated to **Mother Earth (Bhuma Devi)** and womanhood at large. The festivities begin a day before **Mithuna Sankranti** and conclude two days after that.
- The first day of the festival is called **Pahili Raja**, the second is **Mithuna Sankranti** and the third **Bhudaha or Basi Raja**. The preparation begins one day before Pahili Raja, and it is called **Sajabaja**. Primarily, it is a time for the unmarried girls to prepare for their matrimony.
- It is believed that during this period **Goddess Earth (Bhuma Devi)**, the consort of **Lord Vishnu**, undergoes her menstrual cycle during this period.
- During the Parba, Odia people **do not undertake any construction works or tilling** that requires the earth to be dug. And by not doing such activities, they pay ode to the Mother Earth who needs a break from routine work.
- The festival concludes with a custom called **Vasumati Snana** or the bathing of Bhuma Devi. Women worship a stone that symbolises Mother Earth.
- This festival is also associated with the end of the summer season and the **arrival of the monsoon**.

Raja Ravi Verma

- **April 29** is the **birth anniversary** of the famed Indian painter **Raja Ravi Varma (1848-1906)**, remembered for giving Indians their **western, classical representations** of Hindu gods and goddesses.
- His works are held to be among the best examples of the **fusion of European techniques with a purely Indian sensibility**. While continuing the tradition and aesthetics of Indian art, his paintings employed the latest European academic art techniques of the day.
- He is also known for having **mastered** the reproduction of his work on the **lithographic press**—through which his paintings spread far and wide.

Awards and Honour

- His 1873 painting '**Nair Lady Adorning Her Hair**' won Varma prestigious awards including Governor's Gold Medal when it was presented in the Madras Presidency, and Certificate of Merit at an exhibition in Vienna.
- In 1904, the British colonial government awarded Varma with the **Kaiser-i-Hind Gold Medal**.
- In 2013, a **crater on the planet Mercury** was named in his honour.

United Nations Educational, Scientific and Cultural Organization

- It was founded in **1945** to develop the "**intellectual and moral solidarity of mankind**" as a means of building lasting peace.
- It is **located in Paris, France**.

World Heritage Site

- To be selected as a **World Heritage Site by UNESCO**, it must be an already **classified landmark, unique** in some respect as a geographically and historically identifiable place having special **cultural**

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or physical significance. It may signify a remarkable accomplishment of humanity, and serve as evidence of the intellectual history on the planet.

- The sites are **intended for practical conservation for posterity**, which otherwise would be subject to risk from human or animal trespassing or threat from local administrative negligence.
- **There are three types of sites:** cultural, natural, and mixed. **India has a total of 38 recognised heritage sites: Cultural (30), Natural (7) and Mixed (1).**

National List of Intangible Cultural Heritage

- The Ministry of Culture has released the **draft National List of Intangible Cultural Heritage (ICH) of India**. The initiative is a part of the ministry's Vision 2024 programme.
- At present, the list has more than 100 elements **including the 13 elements of India** recognised on the UNESCO Representative List of the Intangible Cultural Heritage.
- The National List of ICH is an attempt to recognize the diversity of Indian culture embedded in its intangible heritage. It aims to raise awareness about the various intangible cultural heritage elements from different states of India at national and international level and ensure their protection.
- Following **UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage**, this list has been **classified into five broad domains** in which intangible cultural heritage is manifested:
 - i) Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage
 - ii) Performing arts
 - iii) Social practices, rituals and festive events
 - iv) Knowledge and practices concerning nature and the universe
 - v) Traditional craftsmanship
- The present items in the list have been collated from the projects sanctioned under the scheme for '**Safeguarding the Intangible Cultural Heritage and Diverse Cultural Traditions of India**' formulated by the Ministry of Culture.

UNESCO's List of Intangible Cultural Heritage:

- UNESCO established its Lists of Intangible Cultural Heritage with the aim of **ensuring better protection of important intangible cultural heritages** worldwide and the awareness of their significance.
- The list was **established in 2008** when the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage took effect.

List of Intangible Cultural Heritage Sites from India:

1. Ramlila, the traditional performance of the Ramayana
2. Tradition of Vedic chanting
3. Kutiyattam, Sanskrit theatre
4. Ramman, religious festival and ritual theatre of the Garhwal Himalayas.
5. Mudiyettu, ritual theatre and dance drama of Kerala
6. Kalbelia folk songs and dances of Rajasthan
7. Chhau dance
8. Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir.

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9. Sankirtana, ritual singing, drumming and dancing of Manipur
10. Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab
11. Yoga
12. Nowruz
13. Kumbh Mela

Ambubachi Mela

- The Ambubachi Mela is an **annual Hindu mela** held at **Kamakhya Temple** in Guwahati, Assam. The fair is organised from **June 21-25 every year**.
- It is **celebrated during the monsoon season** that happens to fall during the **Assamese month Ahaar**, around the middle of June when sun transit to the zodiac of Mithuna, when the Brahmaputra river is in spate.
- It is the celebration of the **yearly menstruation course of goddess Kamakhya**. It is believed that the presiding goddess of the temple, Devi Kamakhya, the Mother Shakti, goes through her annual cycle of menstruation during this time stretch.
- It is also believed that during the monsoon rains the creative and nurturing power of the 'menses' of Mother Earth becomes accessible to devotees at this site during the mela.
- The **attainment of womanhood of girls in Assam** is celebrated with a ritual called **Tuloni Biya**, meaning small wedding.
- A similar custom is followed at the **Devi Temple at Chengannur town in Alleppey district of Kerala**.
- The Kamakhya Temple, also known as **Kamrup-Kamakhya temple, Kamakhya Devalaya**, is a Hindu temple dedicated to the mother goddess Kamakhya. It is situated on the **Nilachal Hill in western part of Guwahati, Assam**.
- Kamakhya is **one of 51 shakti peethas or holy sites** for the followers of the Shakti cult, each representing a body part of the Sati, Lord Shiva's companion.
- The temple's sanctum sanctorum **houses the yoni** – female genital – symbolised by a rock.

Khudai Khidmatgar Movement

- The Khudai Khidmatgar was a **nonviolent movement led by Abdul Ghaffar Khan** against British occupation of the Indian subcontinent.
- Abdul Ghaffar Khan was a **Pashtun freedom fighter in the North-West Frontier Province**.
- Over time, the movement acquired a more political colour, leading to the British taking notice of its growing prominence in the region.
- Members of the Khudai Khidmatgar were organised and the men stood out because of the **bright red shirts** they wore as uniforms, while the **women wore black garments**.

Qissa Khwani Bazaar massacre

- Abdul Ghaffar Khan & other leaders of Khudai Khidmatgar were arrested on April 23, 1930 by British police after he gave a speech at a gathering in town of Utmanzai in North-West Frontier Province.
- A respected leader well-known for his non-violent ways, Khan's arrest spurred protests in neighbouring towns, including Peshawar. **Protests spilled into the Qissa Khwani Bazaar in Peshawar on the day of Khan's arrest**.

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- British soldiers entered the market area to disperse crowds that had refused to leave. In response, British army vehicles drove into the crowds, killing several protesters and bystanders. British soldiers then opened fire on unarmed protestors, killing even more people. **It is 90 years since the Qissa Khwani Bazaar massacre.**
- In **August 1931**, the **Khudai Khidmatgar aligned themselves with the Congress party**, forcing the British to reduce the violence they perpetrated on the movement.
- The **Khudai Khidmatgar opposed Partition**, a stance that many interpreted as the movement not being in favour of the creation of the independent nation of Pakistan.

Jagannath Rath Yatra

- Jagannath Rath Yatra, also known as **Rathjatra or Chariot Festival**, is a Hindu festival associated with Lord Jagannath held at **Puri in Odisha**.
- Rath Yatra is celebrated on **Ashadha Shukla Dwitiya**, meaning the 2nd day of the bright fortnight of Ashadha (June- July of Roman calendar) every year.
- The cart festival is said to be the oldest of its kind and **marks the return of Lord Krishna to Vrindavan with his brother Balabhadra and sister Subhadra**.
- The festival commemorates Jagannath's annual visit to **Gundicha Temple via Mausi Maa Temple** (aunt's home) near Balagandi Chaka, Puri.
- The Jagannath Temple of Puri is an important Hindu temple dedicated to **Jagannath, a form of Vishnu**, in Puri, Odisha on the eastern coast of India.
- The temple is believed to be constructed by **King Anatavarman Chodaganga Deva** of the **Eastern Ganga Dynasty** in the 12th century.
- This temple is a **part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram)** and is called the **White Pagoda**.
- Jagannath Puri temple is also called **Yamanika Tirtha** where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- The temple has **four distinct sectional structures**, namely -
 - i. Deula, Vimana or Garba griha (Sanctum sanctorum)
 - ii. Mukhashala (Frontal porch)
 - iii. Nata mandir/Nata Mandapa, which is also known as the Jagamohan (Audience Hall/Dancing Hall)
 - iv. Bhoga Mandapa (Offerings Hall)

Toda Embroidery

- The Toda Embroidery, also locally known as "**pukhoor**", is an artwork made exclusively by the **women of the Toda tribe of Nilgiris, Tamil Nadu**.
- The Todas, also known by names such as Tudas, Tudavans, and Todar, are pastoral people in the Nilgiri Hills in the higher elevations of the Nilgiri plateau, in Tamil Nadu.
- The embroidery has a fine finish, appears like a woven cloth but is made with **use of red and black threads with a white cotton cloth background**.
- This handicraft product got a geographical indication tag.

Gandhi Peace Prize

- The Gandhi Peace Prize is an **international award** given annually by the Government of India for **social, economic and political transformation through non-violence and other Gandhian methods**.
- It was **instituted by the Government of India in 1995** to commemorate the **125th anniversary celebration of Mahatma Gandhi**.
- The Award comprises an amount of Rs. 1 Crore and a Citation. The Award may be divided between two persons / institutions who are considered by the Jury to be equally deserving of recognition in a given year.
- The Award is **open to all persons regardless of nationality, race, language, caste, creed or gender**.

Katkari Tribe

- The Katkari is a *scheduled tribe* mostly belonging to the state of **Maharashtra**.
- They are bilingual, speaking the **Katkari language**, a dialect of the Marathi-Konkani languages, with each other and speaking **Marathi**.
- In Maharashtra the Katkari have been designated a **Particularly Vulnerable Tribal Group (PVTG)**, along with two other groups included in this sub-category: **the Madia Gond and the Kolam**.
- The Katkari population engage in a wide range of livelihoods including the production and sale of catechu, charcoal, firewood and other forest products, freshwater fishing, hunting of small mammals and birds, upland agriculture and agricultural labour on the farms of both tribal and nontribal farmers.
- In the case of the Katkari, this vulnerability derives from their **history as a nomadic, forest-dwelling people** listed by the British Raj under the **Criminal Tribes Act of 1871**, a stigma that continues to this day.

Purandara Dasa

- Purandara Dasa (1484 – 1565) was a **Haridasa**, a renowned composer of Carnatic music, a great devotee of Lord Krishna, a Vaishnava poet, a saint and a social reformer.
- He was a **disciple of the Dvaita philosopher-saint Vyasatirtha**, and a **contemporary of yet another Haridasa, Kanakadasa**.
- Purandaradasa blended the rich musical streams, namely the **Dravidian** and **Aryan music**, into a single stream known as **Carnatic music**.
- In honor of his significant contributions to Carnatic music, he is widely referred to as the **father of Carnatic music**. He is also respected as an **Avatar (incarnation) of the great sage Narada** (a celestial being who is also a singer).
- Purandara Dasa is noted for **composing Dasa Sahithya**, as a Bhakti movement vocalist, and a music scholar.
- The Department of Archaeology, Heritage and Museums will soon commence field research work at Keshavapura in Araga Gram Panchayat (GP), Karnataka **to explore definitive archaeological evidence** that may put an end to speculations **regarding the birthplace of Purandara Dasa**.

Madhubani Paintings

- Madhubani painting is a **traditional Indian painting** belonging to **Mithila region** in the areas of Indo-Nepal border across Bihar. Madhubani means “forests of honey”.
- Madhubani painting, also referred to as **Mithila Art**, is characterized by **line drawings filled in by bright colours and contrasts or patterns**.
- These paintings are popular because of their **tribal motifs and use of bright earthy colours**. The paintings are done on freshly plastered or a mud wall with **mineral pigments** prepared by the artists.
- Figures from **nature & mythology** are adapted to suit their style. The **themes & designs** widely painted are of **Hindu deities** such as Krishna, Rama, Siva, Durga, Lakshmi, Saraswati, Sun and Moon, Tulasi plant, court scenes, wedding scenes, social happenings etc. **Floral, animal and bird motifs, geometrical designs** are used to fill up all the gaps.
- It has been granted the **Geographical Indication (GI) tag**.

Bal Gangadhar Tilak

- The Prime Minister paid tribute to **Bal Gangadhar Tilak** on his birth anniversary. He was born on **23rd July 1856** in Ratnagiri, **Maharashtra**.
- Tilak was a scholar, mathematician, philosopher, and ardent nationalist who helped lay the foundation for India's independence.
- He was one of the first and strongest proponents of “**Swaraj**” (**Self-rule**). He gave the slogan “**Swaraj is my birthright and I shall have it**”.
- He joined the Indian National Congress (INC) in 1890 and was part of the **Lal-Bal-Pal trio** along with **Lala Lajpat Rai** and **Bipin Chandra Pal**.
- Tilak became widely known for his **bitter criticisms of British rule and of those moderate nationalists** who advocated social reforms along Western lines and political reforms along constitutional lines.
- Tilak's activities aroused the Indian populace, but they soon also brought him into conflict with the British government, which prosecuted him for sedition and sent him to jail in 1897. The trial and sentence earned him the title '**Lokmanya Tilak**'.
- He founded the **All India Home Rule League in April 1916 at Belgaum**. The league worked in Maharashtra (except Bombay), the Central Provinces, Karnataka and Berar.
- Tilak re-joined the Indian National Congress in 1916 after the **Surat Split in 1907**. In 1916, he concluded the **Lucknow Pact with Mohammed Ali Jinnah**, which provided for Hindu-Muslim unity in the nationalist struggle.
- He founded **Deccan Education Society in 1884** which aimed at educating the masses, especially in the English language for the dissemination of liberal and democratic ideals.
- He also founded **Fergusson College (1885)** in **Pune** along with others through the Deccan Education Society.
- He owned and edited: **Kesari** (“The Lion”), published in Marathi, and **The Mahratta**, published in English.
- **Books:** **Gita Rahasya (Secret of the Bhagavad Gita), The Arctic Home in the Vedas**
- He died on **1st August 1920**. This year marks the **100th death anniversary** of Lokmanya Tilak.

Chandra Shekhar Azad

- Chandra Shekhar Azad was born on **23rd July 1906** in the Alirajpur district of **Madhya Pradesh**.
- Azad was drawn into the Indian national movement at a young age of 15 when apprehended by the police while participating in the **Non-Cooperation Movement (1920–22)** at Varanasi.
- When produced by the magistrate, he announced his name as '**Azad**', his **father's name as 'Swatantrata'** and his **address as 'Jail'**.
- After the suspension of the Non-Cooperation movement in 1922 by Gandhi, Azad joined **Hindustan Republican Association (HRA)**.
- He played a key role in reorganizing the HRA as the **Hindustan Socialist Republican Association (HSRA) in 1928**.
- Azad was involved in the **1925 Kakori Conspiracy**.
- He died on **27th February 1931** at Azad Park in Allahabad.

Natesa & Pratihara Architecture

- Natesa, a **rare sandstone idol** in the **9th century Pratihara style of Rajasthan**, will be returned to India after 22 years, having been **stolen in 1998**. The Natesa icon, currently at the Indian High Commission, London, was originally from the **Ghateswara Temple, Baroli, Rajasthan**.
- The sandstone Natesa figure stands tall **at almost 4 ft.** in a rare and brilliant depiction of **Shiva**. A beautiful depiction of **Nandi is shown behind the right leg of the Natesa icon**.
- Pratihara style of temple architecture belongs to the **Gurjara-Pratihara dynasty of Rajasthan**. Gurjara-Pratihara are known for their **sculptures, carved panels and open pavilion style temples**.
- One of the most notable Gurjara-Pratihara styles of architecture was **Khajuraho**, now a **UNESCO World Heritage Site**.
- The Gurjara-Pratiharas, also known as the **Pratihara Empire**, ruled much of **Northern India** from the **mid-7th to the 11th century**.
- The dynasty rose in prominence by gaining a reputation for **repelling the Arab Islamic invasions**. In the famous **Battle of Rajasthan (738 C.E.)**, **Nagabhata I** defeated the Arab army.

Subhash Chandra Bose Aapda Prabandhan Puraskar

- The Government of India has invited nominations for the "**Subhash Chandra Bose Aapda Prabandhan Puraskar**" for excellence in the field of **Disaster Management**.
- These awards are announced on the **birth anniversary of Netaji Subhash Chandra Bose** on **23rd January every year**.
- The Government of India instituted this award **to recognize the excellent work done** by individuals and institutions in India **in the field of Disaster Management**.
- In addition to a certificate, these awards carry a cash award of Rs 51 lakhs for an Institution and Rs 5 lakhs for an Individual.
- An individual can apply for the award as well as nominate another person or institution. The nominated individual or institution should have worked in any area of disaster management like Prevention, Mitigation, Preparedness, Rescue, Response, Relief, Rehabilitation, Research, Innovation or early warning in India.
- **Only Indian nationals and Indian institutions** can apply for the award.

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- For institutional awards, voluntary organizations, corporate entities, academic/research institutions, response/ uniformed forces or any other institution may apply for the award.

Jyotirao Phule

- The Maharashtra government has claimed it has waived off loans of 83% out of total eligible farmers under the **Mahatma Jyotirao Phule crop loan waiver scheme** amounting to ₹17,646 crore.
- The scheme was announced in December 2019, **to write off crop loans up to Rs 2 lakh** (taken between April 1, 2015, and March 31, 2019) which has not been repaid till September 30, 2019.
- Jyotirao Phule was born on **11 April 1827 in Katgun, Satara District in Maharashtra**.
- Jyotirao 'Jyotiba' Govindrao Phule was a prominent social reformer and thinker of the nineteenth century India.
- His work included **eradication of untouchability and caste system, emancipation and empowerment of women**, reform of Hindu family life. As a staunch opponent of the caste system, Phule attacked the Vedas and the role of Brahmins in society.
- He along with his wife, **Savitribai Phule**, is regarded as pioneers of women's education in India. They **started a school for girls in Pune in 1848**, which was the first such school by Indians.
- Mahatma Phule founded the **Satyashodhak Samaj in 1873** to oppose caste system, idolatry and denounce the need for priests. He also championed the necessity of rational thinking.
- He was given the title of Mahatma by a Maharashtrian social activist, **Vithalrao Krishnaji Vandekar**.
- **His published works included:** Tritiya Ratna, Brahmananche Kasab, Gulamgiri, Satyashodhak Samajokt Mangalashtakasah Sarva Puja-vidhi, Sarvajanic Satya Dharmapustak, Shetkaryacha Asud.

Gandhi-King Scholarly Exchange Initiative Act

- The Gandhi-King Exchange Act was passed by the House Foreign Affairs Committee in the U.S. House of Representatives. The bill would establish an **exchange initiative between the United States and India** to study the **work and legacies of Mahatma Gandhi and Martin Luther King Jr.**
- The Act authorises the US State Department, in cooperation with the Indian government, to **establish an annual educational forum for scholars** from both countries that focuses on the legacies of two leaders.
- The bill also seeks to **establish the Gandhi-King Global Academy**, a conflict resolution initiative based on the principles of nonviolence and **establish a foundation to address social, environmental, and health priorities in India**.
- The Foundation, which has a proposed budget authorized of up to \$30 million per year for five years through 2025 is tasked with administering grants to NGOs that work in **health, pollution and climate change, education and empowerment of women**.

Abanindranath Tagore

- The **National Gallery of Modern Art (NGMA)**, New Delhi organised the virtual tour titled "**The Great Maestro | Abanindranath Tagore**" to commemorate the **150th birth anniversary of Abanindranath Tagore** on 7th August 2020.
- Abanindranath Tagore, the **nephew of Rabindranath Tagore**, was born in 1871 in the Jorasanko town of Bengal.

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- He was one of the most prominent artists of India and was the first major **supporter of swadeshi values in Indian art.**
- Abanindranath first **created the ‘Indian Society of Oriental Art’** and later went on to establish Bengal school of art.
- He painted a range of subjects. He had a leaning towards **painting images with historic or literary allusions.** He liked to paint sets of images dealing with a theme or a text such as the '**Arabian Nights**' or the '**Krishna Leela**'. He also enjoyed painting theatrical subjects.
- He sought to **modernize Mughal and Rajput styles** in order to counter the influence of Western models of art, as taught in Art Schools under the British Raj and developed an Indian style of painting, later known as **Bengal school of art.**
- **Famous Paintings:** Ganesh Janani, Bharat Mata, The Victory of Buddha, The Passing of Shah Jahan, Journey's End, etc.
- He was an elegant and accomplished writer. Most of his literary works were meant for children. Some of his books like '**BudoAngla**', '**KhirerPutul**' and '**Rajkahini**' are best examples of Bengali children's literature.

Quit India Movement

- **78th anniversary** of the Quit India Movement was observed on **8th August, 2020.**
- The Quit India Movement, also known as the '**India August Movement**', was a nation-wide movement launched at the **Bombay session of the All-India Congress Committee by Mahatma Gandhi on 8th August 1942.**
- While factors leading to such a movement had been building up, the **immediate cause was the failure of the Cripps Mission.** The failure of the Cripps Mission made **Mahatma Gandhi give the call of “Do or Die”.** At the Working Committee meeting in Wardha in July 1942, it was decided the time had come for the movement to move into an active phase.
- The slogan was **coined by Yusuf Meherally**, a socialist and trade unionist who also served as Mayor of Mumbai. In 1928, it was Meherally who had coined the slogan "**Simon Go Back**".
- **Aruna Asaf Ali**, popularly known as the 'Grand Old Lady' of the Independence Movement **hoisted the Indian flag at the Gowalia Tank Maidan** in Mumbai during the Quit India Movement.
- The Quit India Resolution was ratified at the Congress meeting at Gowalia Tank, Bombay, on August 8, 1942. Gandhi was named the leader of the struggle.

National Flag of India

- India celebrated its **74th Independence Day** with the Prime Minister hoisting the **National Flag at Red Fort**, New Delhi.
- Arguably the **first national flag of India** is said to have been **hoisted on August 7, 1906**, in Kolkata at the Parsee Bagan Square (Green Park). It was reportedly designed by **Sister Nivedita, an Irish disciple of Swami Vivekananda.**
- It comprised **three horizontal strips of red, yellow and green**, with **Vande Mataram written in the middle.**
- The red strip on the flag had symbols of the sun and a crescent moon, and the green strip had eight half-open lotuses.

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- In 1907, Madame Cama and her group of exiled revolutionaries hoisted an Indian flag in Germany. This was the **first Indian flag to be hoisted in a foreign land**.
- In 1917, Dr Annie Besant and Lokmanya Tilak adopted a new flag as part of the **Home Rule Movement**.
- It had five alternate red and four green horizontal stripes, and seven stars in the saptarishi configuration.
- A white crescent and star occupied one top corner, and the other had Union Jack.
- The design of the present-day Indian flag is largely attributed to **Pingali Venkayya**, an Indian freedom fighter who reportedly first met Mahatma Gandhi in South Africa during the second Anglo-Boer War (1899-1902).
- At the **All India Congress Committee in Bezwada in 1921**, Venkayya proposed a basic design of the flag, **consisting of two red and green bands to symbolise the two major communities, Hindus and Muslims**. Gandhi arguably suggested adding a **white band to represent peace and the rest of the communities living in India**, and a spinning wheel to symbolise the progress of the country.
- In 1931, the Congress Committee met in Karachi and **adopted the tricolour as the national flag**. Red was replaced with saffron and the order of the colours was changed. **The flag was to have no religious interpretation**.
- **Saffron** on top symbolises “**strength and courage**”, **white** in the middle represents “**peace and truth**” and **green** at the bottom stands for “**fertility, growth and auspiciousness of the land**”.
- The Ashok Chakra with 24 spokes replaced the spinning wheel as the emblem on the flag. It is intended “to show that there is **life in movement and death in stagnation**”.

Pingali Venkayya

- Pingali Venkayya was a freedom fighter, born on **August 2, 1876 in Krishna district of Andhra Pradesh**, who went on to become synonymous with the spirit of free and independent India.
- Venkayya served as a soldier in the British Army in South Africa during the Anglo Boer war in Africa.
- Venkayya, who passed away in 1963, was posthumously **honoured with a postage stamp in 2009** for his contribution towards Indian freedom struggle.
- **In 2014, his name was also proposed for the Bharat Ratna.**

Nagara Architecture of Ayodhya's Ram Mandir

- The grand **Ram Mandir**, coming up at the **Ram Janmabhoomi in Ayodhya**, will be constructed in '**nagara**' style of temple architecture.
- Spread over an area of **more than 84,000 square feet**, the proposed Ram Temple at Ayodhya would be a unique example of Indian architecture.
- The temple would be 360 feet long and 235 feet wide and would have three floors.
- The chief architect of the temple is **Chandrakant Sompura**.
- The temple would have an octagonal '**shikhar**' (top) with five '**mandaps**' (halls). There would be separate '**mandaps**' for '**keertans**' (religious songs) and prayer.
- There would be 106 pillars of eight feet radius on every floor. The pillars would have the idols of '**yakhas**' (the servants of Kuber, the God of wealth).

- Ram Lalla (the child Lord Rama) would be seated on a throne made with 9.5 kilograms of silver. The temple would consume three lakh cubic feet of sandstones.
- The temple would also have a library, accommodation for the saints, a hostel and a museum. Sompura said that the temple would be completed in three years.

Nagara Style Of Temple Architecture

- The Nagara style of temple architecture is found in **northern India**. Nagara school is further subdivided into different schools based on regions like **Odisha, Khajuraho, Solanki** etc.
- In the Nagara style, the temple is generally constructed on **an upraised platform called jagati**. Mandapas are present in front of the **Garbhagriha**. These are adorned with the **Shikhara**, the tallest one being above the **Garbhagriha**.
- The **shikhara over the mandapas** in the pictures of the Ayodhya Ram temple can be seen having a **square base, and a rectilinear outline**.
- This is called the **phamsana-style shikhar**. The **mandapa shikhar** right at the entrance has an **octagonal base**.

The **basic form of a Hindu temple** contains the following architectural elements:

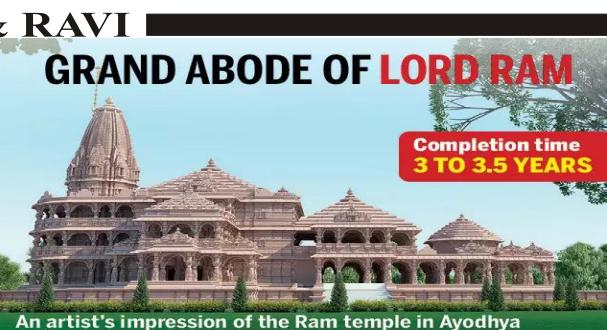
- **Garbhagriha** - the small room where the principle deity/deities of the temple reside.
- **Mandapa** - the portico or hall at the entrance of the temple generally designed to house a large number of people.
- **Shikhara** - the mountain like spire which can have different shapes from pyramidal to curvilinear
- **Vahana** - the mount of the main deity placed generally in line of sight from Garbhagriha.

Thenzawl Golf Resort

- GOI inaugurates world class “**Thenzawl Golf Resort**” project implemented in Mizoram under the **Swadesh Darshan Scheme of the Ministry of Tourism**
- The Project was sanctioned under the **Integrated Development of New Eco Tourism** under **Swadesh Darshan- North East Circuit**.

Swadesh Darshan Scheme

- **It is a scheme of the Ministry of Tourism.**



An artist's impression of the Ram temple in Ayodhya

Completion time
3 TO 3.5 YEARS

- 3-storey Ram temple will have 5 dome-shaped mandaps and 1 'shikhar'
- Original design had 2 storeys, 3 mandaps and 1 shikhar. Sanctum sanctorum will be octagonal
- Number of pillars increased from 212 to 360
- Temple design based keeping in consideration Vastu Shastra, says chief architect Chandrakantbhai Sompura who also designed the Akshardham temple of Gujarat. His grandfather Prabhakarji Sompura had designed the Somnath temple
- Stones from Banshi mountains in Rajasthan will be used
- 4 more temples, smaller in size, will surround the main structure
- Over 2 lakh bricks with 'Sri Ram' inscribed on them in various languages, collected over 30 years ago from across the country, will form the foundation of the temple

Temple height up from 141 feet to 161 feet

Total Area | Ram temple will be built in 10 acres and the remaining 57 acres will be developed as the temple complex

Temple height | 161 feet

Total columns | 360

Total floors | 3

Total mandaps | 5 (kudu, rang, nritya, kirtan and prarthana)

Width of stairs | 16 feet



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- The scheme aims to promote, develop and harness the potential of tourism in India.
- This is a **central sector scheme**; i.e. - **100% funded by the Central Government of India**. The funding available for **Corporate Social Responsibility (CSR)** initiatives of Central Public Sector Undertakings and Corporate Sector is also used in this scheme.
- The entire scheme is based on **theme-based** tourism. Each theme is called a "**circuit**" and composed of various tourist destinations. Currently, there are **15 theme-based circuits** across India.

Museums for Tribal Freedom Fighters

- Government has decided to set up **Museums to commemorate the contribution** of Tribals in the freedom struggle.
- There will be **nine** in total and the largest to be built in Rajpipla in **Gujarat**. The rest of the museums are built in Ranchi (Jharkhand), Raipur (Chhattisgarh), Lambasingi (Andhra Pradesh), Kozhikode (Kerala), Hyderabad (Telangana), Chhindwara (Madhya Pradesh), Senapati (Manipur) and Kelsi (Mizoram).

Thumbimahotsavam 2020

- The **World-Wide Fund for Nature (WWF-India)** and **Society for Odonate Studies (SOS)** has launched the **first-ever State Dragonfly Festival** in **Kerala**, called Thumbi Mahotsavam 2020
- Official **mascot** of the festival: **Pantalu**
- National Dragonfly Festival was **started in 2018**.



About Dragonfly

- Dragonflies are found on every continent except Antarctica.
- They belong to an 'Order' of **insects** called the Odonata.
- Dragonflies can **eat mosquitoes**, small flies, butterflies, bees, and other dragonflies. So, dragonflies are crucial in controlling the mosquito population & play a key role in maintaining **healthy ecosystem**.
- They help in **preventing the spread of diseases** like dengue, malaria, etc.
- They play a role of **bio-indicators of an ecosystem**.

About World Wide Fund for Nature (WWF)

- It is an international **non-governmental organization** founded in **1961** that works in the field of **wilderness preservation** and the reduction of human impact on the environment.
- Its current work is organized around these six areas: **food, climate, freshwater, oceans, wildlife, and forests**.
- **Headquarter** — Gland (Switzerland)
- **Symbol** - Giant Panda
- **WWF India** was established as a Charitable Trust in November 1969.
- **Reports & Programmes:**
 - **Living Planet Report**— It is published every two years and based on a Living Planet Index and ecological footprint calculation.

- **Earth hour**— It annually encourages people to turn off non-essential electric lights, for one hour
- **Debt-for-nature swaps**— It is financial transactions in which a portion of a developing nation's foreign debt is forgiven in exchange for local investments in environmental conservation measures.
- **Healthy Grown Potato** — It is sustainably grown potatoes by leveraging integrated pest management (IPM) farming practices on large scale farms.
- **Marine Stewardship Council (MSC)** — It is an independent non-profit organization which sets a standard for sustainable fishing.

Living Planet Report 2020

- The World Wide Fund for Nature released the Living Planet Report 2020.
- It is a comprehensive study of trends in **global biodiversity and the health of the planet**.
- The Living Planet Report 2020 is the **13th edition** of the report and provides the scientific evidence to back what nature has been demonstrating repeatedly -- unsustainable human activity is pushing the planet's natural systems that support life on Earth to the edge.

Key Findings of Living Planet Report 2020

- The **Living Planet Index (LPI)** was used by the report to calculate this decline.
- It tracked almost 21,000 populations of more than 4,000 vertebrate species between 1970 and 2016.
- The **population of vertebrate species declined by around 68 per cent** between 1970 and 2016.
- Wildlife populations in **freshwater** habitats suffered a decline of **84 per cent, equivalent to four per cent per year**, particularly in Latin America and the Caribbean. An **example** in the form of the population of the **Chinese sturgeon, a species of fish found in the country's Yangtze river**, was cited by the report. The population of this fish **declined by 97 per cent** between 1982 and 2015 because of the damming of the river's waterway.
- **Megafauna, or bigger species in terms of size**, were more vulnerable because they were subjected to intense anthropogenic threats and overexploitation.
- Factors that are drivers for this decline -- **Land-use change, Use and trade of wildlife, Natural habitat loss, degradation, deforestation etc.**
- The destruction of natural habitats was only possible if ambitious conservation efforts were embraced and transformational changes were made to the way food is produced and consumed.

Living Planet Index

- The Living Planet Index (LPI) is an **indicator of the state of global biological diversity**, based on trends in vertebrate populations of species from around the world in terrestrial, freshwater and marine habitats.
 - The **Zoological Society of London (ZSL)** manages the index in cooperation with the World Wide Fund for Nature (WWF) a.k.a. the World Wildlife Federation.
- Chess legend **Viswanathan Anand** has been named as the new **ambassador for World Wide Fund (WWF) India's Environment Education program**.
 - As an ambassador, he will support **wildlife conservation and work to educate children** across India on issues related to the environment.

- The announcement comes at a time when **WWF India is celebrating its 50 years of conservation in India.**

Istanbul's Chora Museum

A month after turning the iconic **Hagia Sophia museum**, originally a cathedral, into a mosque, Turkey's government has decided to convert another **Byzantine monument (Chora church)** in Istanbul, which has been a museum for over 70 years, into a working mosque.

About Chora Church (Kariye Mosque)

- In the 16th century, during the **Ottoman era**, the Christian church was converted into a mosque; it became a museum in 1945, but was **turned back into a mosque in 2020**.
- Originally built in the early 4th century as a chapel outside the city walls of Constantinople **built by Constantine the Great**.
- The official title of the chapel, dedicated to Jesus, was the '**Church of the Holy Saviour in Chora**'.
- The literal meaning of chora in Greek is "country". The chapel was called Chora as it was located outside the city walls.
- **Emperor Justinian I**, who **built Hagia Sophia** during 532-537, reconstructed Chora after the chapel had been ruined by an earthquake.

Nuakhai Juhar

- Nuakhai or Navakhai is an **agricultural festival** mainly observed by people of **Western Odisha** and **Southern Chhattisgarh** in India.
- It is also called the **Festival of Harvest**.
- Nuakhai is observed to welcome the **new rice of the season**.
- The word **nua means new** and **khai means food**, so the name means the farmers are in possession of the newly harvested rice.
- The fundamental idea of the celebration can be traced back at least to **Vedic times** when the rishis (sages) had talked of **panchayajna**, the five important activities in the annual calendar of an agrarian society.
- Oral tradition dates back its origin to **12th century AD**, the time of the first **Chauhan Raja Ramai Deo**.

DekhoApnaDesh 50th Webinar Series

- **Ministry of Tourism** has organised the webinar titled "**Cultural heritage of Hyderabad**" on 22nd August 2020.
- The Ministry of Tourism is organizing the DekhoApnaDesh webinars with an objective to create **awareness** about and **promote various tourism destinations** of India – including the lesser-known destinations and lesser-known facets of popular destinations.
- Dekho Apna Desh Webinar Series is an effort to showcase India's rich diversity under the **Ek Bharat Shreshtha Bharat programme**.
- **First** DekhoApnaDesh webinar series was launched on **14th April 2020**.
- The following important cultural sites of Hyderabad were highlighted in this session:

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- **Golconda Fort, Hyderabad**- It is a fortified citadel and an early capital city of the **Qutb Shahi dynasty**. Because of the vicinity of diamond mines, especially **Kollur Mine**, Golconda flourished as a trade centre of large diamonds, known as the **Golconda Diamonds**. Colourless **Koh-i-Noor** (now owned by the United Kingdom) was found here.
- **Chowmahalla Palace**- Chowmahalla Palace, the seat of power of Nizams, has bagged the **UNESCO Asia-Pacific Heritage Merit Award** for Culture Heritage Conservation.
- **Mecca Masjid**- As one of the oldest and the largest mosques of India, it was completed by **Aurangazeb** in 1693. The bricks used here are believed to be from Mecca, and hence the name.
- **Warangal Fort**- This fort appears to have existed since at least the **12th century** when it was the capital of **Kakatiya dynasty**. The fort has four ornamental gates, known as **Kakatiya Kala Thoranam**.
- **About Hyderabad**- It is popularly known as the "**City of Pearls**" and the "**City of Nizams**", and has been the centre of a vibrant historical legacy, ever since its inception by the **QutubShahi dynasty**. Hyderabad has been selected as a **creative city** in the category of **gastronomy** by **UNESCO**.

Warli Painting

- **National Fertilizers Limited**, a PSU under the Department of Fertilizers, has displayed Maharashtra's famous Warli painting on the outer walls of its Corporate Office in Noida **to promote Indian folk art**.
- Warli painting is a form of **tribal art** mostly created by the tribal people from the North **Sahyadri Range in Maharashtra**.
- The Warli culture is centered on the **concept of Mother Nature** and elements of nature are often **focal points** depicted in Warli painting.
- Warli artists use their clay huts as the backdrop for their paintings, similar to how ancient people used cave walls as their canvases.
- **Painting Technique**
 - These **rudimentary wall paintings** use a set of basic **geometric shapes**: a circle, a triangle, and a square. These shapes are symbolic of different elements of nature.
 - **Male gods** are **unusual** among the Warli and are frequently related to spirits which have taken human shape.
 - One of the central aspects depicted in many Warli paintings is the **tarpa dance**. The tarpa, a trumpet-like instrument, is played in turns by different village men.
 - The Warli **only paints with a white pigment** made from a mixture of rice flour and water, with gum as a binder.
 - Warli painting has a **geographical indication** tag under the intellectual property rights act.

Pulikkali to go Online this Onam

- Pulikkali is a **recreational folk art** from the state of **Kerala**.
- It is performed by trained artists to entertain people on the **occasion of Onam, an annual harvest festival**.
- Meaning of Pulikali is the **play of the tigers**. The performance revolves around the **theme of tiger hunting**.

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- On the **fourth day of Onam** celebrations (Nalaam Onam), performers painted like tigers and hunters in bright yellow, red, and black dance to the beats of instruments like **Udukku and Thakil**.
- The origin of Pulikkali dates back to over 200 years, when the **Maharaja Rama Varma Sakthan Thampuran**, the then Maharaja of Cochin, is said to have introduced the folk art.



Seven New Circles of Archaeological Survey of India

- **The Ministry of Culture** has announced 7 new circles of Archaeological Survey of India to facilitate and **strengthen the process of preservation** and registration of archaeological monuments.
- Tamil Nadu- **Trichy**
- Karnataka – **Humpi**
- West Bengal- **Raiganj** has been made as a new circle
- Gujarat- **Rajkot**
- Madhya Pradesh-**Jabalpur**
- Uttar Pradesh- **Jhansi** in Bundelkhand and **Meerut** in western UP have been announced as two new circles
- Now the entire country is divided into **36 Circles**.

About Archaeological Survey of India

- ASI was founded in **1861** by **Alexander Cunningham** who also became its first Director-General.
- ASI carry out archaeological fieldwork, research activities and implement the various provisions of the **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958** and **Antiquities and Art Treasures Act 1972**.
- **Other facts:**
 - The first systematic research into the subcontinent's history was conducted by the **Asiatic Society**, which was founded by the British Indologist **William Jones** on **15 January 1784**.
 - **Charles Wilkins** who published the **first English translation** of the **Bhagavad Gita** in **1785** with the patronage of the then Governor-General of Bengal, Warren Hastings.
 - Asiatic society's achievements was the decipherment of the **Brahmi script** by **James Prinsep** in **1837**.
 - India's **first museum** was established by the Asiatic Society in Calcutta in **1814**.

Mahatma Ayyankali

- **Mahatma Ayyankali** born in **1863** has been remembered as one of the most influential **anti-caste Dalit activists** in colonial **Kerala** who effectively challenged caste-based restrictions in education, public space and social interactions in the late 19th century.
- **Mahatma Gandhi** called Ayyankali as '**Pulaya King**' and Indira Gandhi described him as '**India's greatest son**'.

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- As riding animal carts was considered as an upper-caste prerogative in Kerala. In 1893, he rode a **bullock cart (villuvandi)** to voice against caste suppression.
- His **choice of dress challenged** the sartorial exclusivity of **caste** Hindus who did not allow the Dalits to wear anything except knee-length loincloths.
- Ayyankali emphasised physical culture and **martial training** to prepare Dalits for this physically demanding campaign.
- Following the “**walk to freedom**”, Ayyankali proposed revolutionary ideas about Dalit education and employment. However, his persistent **efforts to enrol Dalit boys and girls into schools** resulted in several brutal riots
- Ayyankali started **Sadhu Jana Paripalana Sangham** (association for the protection of the poor) to raise funds for starting their own schools.

WWII Spy Noor Inayat Khan

- The upcoming limited series, **Olivia Hetreed**, is based on Shrabani Basu's '**Spy Princess: The Life of Noor Inayat Khan**'.
- Khan was born in Moscow in 1914 to **Indian father** Hazrat Inayat Khan and American mother Ora Ray Baker.
- She was sent to **Nazi-occupied France in 1943** as an **undercover radio operator** for **Britain's Special Operations Executive (SOE)**.
- As an SOE agent under the **codename Madeleine**, she became the **first female wireless operator** to be sent from the UK into occupied France to aid the French Resistance during World War II.
- Inayat Khan was captured after being betrayed, and executed at Dachau concentration camp at an early age of 30.
- She was posthumously **awarded the George Cross** for her service in the SOE, the **highest civilian decoration in the United Kingdom**.

Odisha to Give Facelift to 11th century Lingaraj Temple

- The Odisha Government has approved the redevelopment plan of the peripheral area of the **55-metre-tall temple**, known as '**Ekamravan Kshetra**', in Bhubaneswar.
- A permanent structure in between the Lingaraj Temple and the **Bindusagar (a sprawling pond)** to be built

About Lingaraj Temple

- It was built by the kings from the **Somavamsi dynasty**, with later additions from the Ganga rulers.
- The temple is built in the **Deula style** that has four components namely, **vimana** (structure containing the sanctum), **jagamohana** (assembly hall), **natamandira** (festival hall) and **bhoga-mandapa** (hall of offerings), each increasing in the height to its predecessor.
- The harmony between the two sects of **Hinduism- Shaivism and Vaishnavism** - is seen in this temple where the deity is worshipped as **Harihara**, a combined form of Vishnu and Shiva.
- **Type-** Kalinga Architecture
- **Creator-** Jajati Keshari
- Bhubaneswar is called the **Ekamra Kshetra** as the deity of Lingaraja was originally under a **mango tree (Ekamra)**.

- The inscription was written in **archaic Telugu** which was readable in **25 lines** -- the first side with eleven lines and the remaining on the other side
- It was assigned to the **8th Century A.D.** when the region was under the rule of the **Chola Maharaja of Renadu**.
- This inscription throws light on the record of a **gift of six Marttus** (a measuring unit of land) gifted to a person **Sid Yamayu**, one of the Brahmins serving the temple at Pidukula village in Andhra pradesh.
- Inscription says that the people who **safeguard** this inscription for future generations will acquire the **status of conducting Ashwamedha Yajna** and those **destroying** it will incur **sin** equivalent to causing death in Varanasi.

About Renati Cholas

- The **Telugu Cholas** of Renadu ruled over Renadu region, the present day **Cuddapah district** in Andhra pradesh.
- They were originally independent, later forced to the **suzerainty of the Eastern Chalukyas**.
- They used the **Telugu language in their inscriptions** belonging to the **6th and 8th centuries**.
- The earliest of this family was **Nandivarman (500 AD)** who claimed descent from the **family of Karikala** and the **Kasyapa gotra**.
- Nandivarman's son **Dhananjaya** is described as **Erikal-muthuraju** and as ruling Renadu.

About Chola Administration

- The Chola dynasty was a **Tamil thalassocratic empire** of southern India, one of the longest-ruling dynasties in the world's history (**3rd century BCE–1279 CE**).
- Capital: **Tanjore**.
- **Royal Emblem: Tiger**
- **Uttaramerur inscriptions** throw light on the administration of the Cholas.
- The Chola kingship was **hereditary (eldest son)** in nature.
- The Chola government depended mainly on the **land revenue** as the main source of income. **1/6 of the land produce** was collected as tax.
- The army was made of **70 regiments**. Chola kings imported highly efficient **Arabian horses** at a very high price.

Webinar Titled Hampi

- **The Ministry of Tourism** organised their latest webinar titled Hampi- Inspired by the past; Going into the future on 29th August 2020 under the **Dekho Apna Desh Webinar series**.
- **A UNESCO World Heritage site**, Hampi's spectacular setting is dominated by river **Tungabhadra**, craggy hill ranges and open plains with widespread physical remains.
- Hampi's name is derived from **Pampa** which is the **old name of the Tungabhadra River** on whose banks the city is built.
- In **1336 CE**, the Vijayanagara Empire arose from the ruins of the **Kampili kingdom**. It grew into one of the famed Hindu empires of South India that ruled for over 200 years. The Vijayanagara rulers fostered developments in intellectual pursuits and the arts, maintained a **strong military** and fought **many wars with sultanates** to its north and east.

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- The site used to be **multi-religious and multi-ethnic**; it included Hindu and Jain monuments next to each other.
- The buildings predominantly followed **South Indian Hindu arts and architecture** dating to the **Aihole-Pattadakal styles**, but the Hampi builders also used elements of **Indo-Islamic architecture** in the **Lotus Mahal**, the public bath and the elephant stables.
- Vijayanagara Empire flourished as it controlled **cotton and spice trade** routes of Southern India. So, it was an important **centre of trade**.
- With the death of Krishnadevaraya, the combined armies of the **five muslim kingdoms- Bidar, Bijapur, Golconda, Ahmednagar and Berar** destroyed this mighty **empire** in 1565.
- **Virupaksha Temple, Hampi**
 - It is part of the **Group of Monuments** at Hampi, designated as a **UNESCO World Heritage Site**.
 - The temple is dedicated to **Lord Virupaksha, a form of Shiva**. The temple was built by **Lakkan Dandesa**, a nayaka (chieftain) under the ruler **Deva Raya II** also known as Prauda Deva Raya of the Vijayanagara Empire.
 - Evidence indicates there were **additions** made to the temple in the late **Chalukyan and Hoysala periods**, though most of the temple buildings are attributed to the Vijayanagar period.
 - **Temple structure:** Usage of mathematical concepts to build and decorate it. The main shape of the temple is triangular.
 - The **nine-tiered eastern gateway**, which is the largest at **50 meters**, is well-proportioned and incorporates some earlier structures.
 - Another gopuram towards the north known as the **Kanakagiri gopura**, leads to a small enclosure with subsidiary shrines and eventually to the **river Tungabhadra**.
- **Vitthala Temple, Hampi**
 - It dates back to the **15th century**. It was built during the reign of **King Devaraya II** of the Vijayanagara Empire.
 - It is built in the **Dravidian style of architecture**. It has traits and features that are characteristic of typical south Indian temple architecture.
 - **Maha Mantapa:** The Maha Mantapa or main hall of the Vitthala Temple is situated in the inner courtyard of the temple complex.
 - **Stone Chariot:** The Vitthala Temple Complex has the richly sculpted Stone Chariot, which is considered to be the most stunning architecture of the Vijayanagara kingdom. The Stone Chariot or Ratha stands in the courtyard of the temple. It is **one of the three famous stone chariots in India**. The other two chariots are situated in **Konark (Odisha)** and **Mahabalipuram (Tamil Nadu)**.
 - **The Musical Pillars of the Ranga Mantapa:** The Ranga Mantapa is one of the main attractions of the Vitthala Temple. The large mantapa is renowned for its **56 musical pillars**. These musical



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pillars are also known as **SAREGAMA pillars**, indicating the musical notes emitted by them. The musical notes emanate when the pillars are tapped gently.

Indira Gandhi Peace Prize

- Former Prime Minister Manmohan Singh has conferred the **Indira Gandhi Peace Prize 2019** to British broadcaster **David Attenborough** for his prodigious creativity in educating the humankind with brilliant films and books about the **natural world**.
- The Indira Gandhi Prize for Peace, Disarmament and Development was instituted in the memory of the former prime minister by a **trust** in her name in **1986**.
- The prize carries a cash **award of 2.5 million** Indian rupees and a citation.
- The award is given to individuals or organisations who work towards ensuring **international peace and development**, ensuring that scientific discoveries are used to further the scope of freedom and better humanity, and creating new international economic order.
- **Notable Recipients of Indira Gandhi Peace Prize:**
 - Parliamentarians for Global Action (1986)
 - UNICEF (1989)
 - M S Swaminathan (1999)
 - Kofi Annan (2003)
 - Indian Space Research Organization (ISRO) (2014)
 - UN High Commission for Refugees (UNHRC) (2015)

Webinar Titled “Punjab- A Historic Perspective”

- The Ministry of Tourism's DekhoApnaDesh Webinar series titled “Punjab- A historic perspective” organized on 05th September 2020 with focus on **Virasat-e- Khalsa Museum**, an architectural marvel commemorating the 550-years of culture and tradition of Punjab and Sikhism and the Partition Museum-world's first museum on the largest human migration.
- **The Virasat-e-Khalsa in Anandpur Sahib** which began in **1999** to commemorate the third centenary of the founding of the **KhalsaPanth (Sikh nation)** by **Guru Gobind Singh**. Spread across 6,500 sq m, the recently opened **Viraasat-e-Khalsa museum** tells a memorable story of both Punjab and Sikhism, using hand-crafted artifacts and the latest technology.
- The **Golden Temple**- also known as Harmandir Sahib, meaning "**abode of God**" or Darbar Sahib, meaning "**exalted court**" is a gurdwara located in the city of Amritsar, Punjab.
- The gurdwara is built around a **man-made pool (Amritsaroval)** that was completed by the fourth Sikh Guru, **Guru Ram Das in 1577**.
- **Maharaja Ranjit Singh** after founding the Sikh Empire, rebuilt it in marble and copper in 1809, overlaid the **sanctum with gold foil in 1830**. This has led to the name the **Golden Temple**.
- It became a centre of the **Singh Sabha Movement between 1883 and 1920s**, and the **Punjabi Suba movement** between 1947 and 1966.
- **Operation Blue star** caused the deaths of over 1,000 Sikh soldiers and civilians due to **Khalistan movement** (a movement led by **Jarnail Singh Bhindranwale** seeking to create a **new nation** named Khalistan).

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- The Gurdwara complex has been nominated as a UNESCO World Heritage Site, and its application is pending on the **tentative list of UNESCO**.
- The Temple is described by Ian Kerr, and other scholars, as a **mixture of the Indo-Islamic Mughal and the Hindu Rajput architecture**.

About Guru Govind Singh

- Guru Gobind Singh (1666 - 1708), born Gobind Rai, was the **tenth Sikh Guru**, a spiritual master, warrior, poet and philosopher.
- When his father, **Guru Tegh Bahadur**, was executed by **Aurangzeb**, Guru Gobind Singh was formally installed as the leader of the Sikhs at the **age of nine**, becoming the **tenth and final human Sikh Guru**.
- He founded the Sikh warrior community called **Khalsa in 1699** and introduced the **Five Ks**, the five articles of faith that Khalsa Sikhs wear at all times.
 - **Kesh**: uncut hair.
 - **Kangha**: a wooden comb.
 - **Kara**: an iron or steel bracelet worn on the wrist.
 - **Kirpan** : a sword or dagger.
 - **Kacchera**: short breeches.
- Guru Gobind Singh is credited with the **Dasam Granth** whose hymns are a sacred part of Sikh prayers and **Khalsa rituals**
- He is also credited as the one who finalized and enshrined the Guru Granth Sahib as Sikhism's primary scripture and eternal Guru.
- **Panj Pyare** is the collective name given to **five Sikh men** by Guru Gobind Singh during the historic and monumental divan at Anandpur Sahib. They formed the **nucleus of the Khalsa**:the first five persons to receive **Khanda di Pahul** initiation and rites (baptism) of the two-edged sword.

Patrika Gate in Jaipur

- Prime Minister Narendra Modi virtually inaugurated the historic **Patrika Gate** located at Jawaharlal Nehru Marg in Jaipur.
- The idea of building the gate is connected with the **old gates of Jaipur walled city**.
- In 1727 AD, **Maharajah Sawai Jai Singh II** founded the **pink city** and occupied the perimeter with a wall and **eight gates**.
- The city was founded on the principles of **Shilpa Shastra and Vastu**. Several building and temples were built on the same axis--Govind Dev Ji Temple, Jaipur City Palace, Garh Ganesh Temple, the Albert Hall Museum, Tripolia Gate, and the New Gate
- The Patrika Gate is inspired by the old architectural legacies of Mewar, Hadauti Shekhawati, Brij, Vadodara, Godwad, and Ajmer.
- The Patrika Gate encompasses different **murals that tell stories** of the **royalty of Rajasthan** adorned with those bright and characteristic colors applied by hand.



A Fresco of Guru Gobind Singh and The Panj Piare in Gurdwara Bhai Than Singh built in the reign of Maharaja Ranjit Singh.

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- Patrika Group built 'Patrika Gate' as part of **Mission Anupam Yojana** of Jaipur Development Authority.
- The construction of Patrika Gate was in keeping with **Jaipur** having recently been recognised as a **UNESCO World Heritage Site**.

Punnapra-Vayalar Revolt

- Review report to **Indian Council for Historical Research (ICHR)** suggests deletion of martyrs of Punnapra-Vayalar, Karivelloor, Kavumbayi agitations as they were "**riots against the interim government** headed by Jawaharlal Nehru.
- **The Punnapra-Vayalar uprising (October 1946)** was a **communist uprising** in the Princely State of **Travancore**, British India against the Prime Minister, C. P. Ramaswami Iyer and the state.
- The objectives of the revolt was to liberate from the exploitative diwan of Travancore and to liberate the working class from unjust taxation and exploitation of the establishment.
- **Background-** Sir CP Ramaswami Iyer had proposed constitutional reforms making Travancore an independent country, not joining Indian Union. The Communists in Travancore opposed this move.
- **The Maharaja of Travancore** desired to declare himself **independent** and supported by CP Ramaswamy. As **Travancore's declaration of independence** was **unacceptable** to India, negotiations were started with the Diwan by the Government of India.
- This revolt resulted in establishing democracy in the region and also gave a decisive turn to the politics of the state.

About Indian Council for Historical Research

- The Indian Council of Historical Research (ICHR) is an **autonomous organization** under the Ministry of **Education**, Government of India duly registered under **Societies Registration Act (Act. xxi of 1860)** in 1972.
- The primary objective of the Indian Council of Historical Research is to promote and give direction to **historical research** and to encourage and foster objective and scientific writing of history.
- **Enhancing the academic standard** of the output of ICHR activities has been the foremost objective in our agenda.

125th Birth Anniversary Celebrations of Sri Viswanatha Satyanarayana

- Stating that Viswanatha Satyanarayana remains the first writer to impart a true **Teluguness to the Ramayana**, Vice president Shri M. Venkaiah Naidu recalled that **Ramayana Kalpvruksham**, the seminal work of Shri Viswanatha had fetched him the prestigious **Jnanpith Award**.
- Through his works, he had highlighted the importance of **imparting learning in the mother tongue**, preserving culture and **protecting nature**.
- He was given the honorific "**Kavi Samrat**" (emperor of poets).
- In 1970, Indian government awarded him **Padma Bhushan**.

National School of Drama

- **Paresh Rawal**, an actor, has been appointed **Chairperson** of the National School of Drama Society by President Ram Nath Kovind.
- National School of Drama (or NSD) is a theatre training institute situated at **New Delhi**.

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- It is an **autonomous organization** under the **Ministry of Culture**, Government of India. It was set up in 1959 by the **Sangeet Natak Akademi** and became an independent school in 1975.
- **Performing Wings-**
 - **Repertory Company**-The professional performing wing was set up in 1964 with an aim to promote professional theatre in India.
 - **Sanskaar Rang Toli**- It is Theatre-in-Education Company. The company regularly performs plays for school and adults audiences alike, and has its own yearly theatre festivals, '**Jashn-e-Bachpan**' and **Bal Sangam**.
- Bharat Rang Mahotsav or the '**National Theatre Festival**', established in **1999**, is the annual theatre festival of National School of Drama (NSD), held in **New Delhi**, today it is acknowledged as the **largest theatre festival of Asia**, dedicated solely to theatre.

About Sangeet Natak Akademi-

- The Sangeet Natak Akademi is presently an **Autonomous Body** of the **Ministry of Culture**, and is **fully funded** by the Government for implementation of its schemes and programmes.
- It was created **by a resolution in 1952**.
- The academy functions as the **apex body of the performing arts** in the country to preserve and promote the vast cultural heritage of India expressed in music, dance and drama.

An Ancient Temple's Transition Over Years of Neglect

- A temple constructed by emperor **Ganapati Deva**, a ruler of **Kakatiya dynasty**, in Dharanikota near Amaravathi has been converted into an **abode of local goddess Balusulamma (Goddess Durga)**.
- Ganapati Deva is the first king who introduced the worship of Kakati Devi into the coastal region of Andhra
- This is a very rare and unique image possessed with best iconographical illustrations of the Kakatiya sculptures and pointing towards a most distinguished cult deity
- The architectural significance of the temple is that the ceiling bears decorations of lotus medallions and no sikhara on its top.



About Kakatiya Dynasty

- It was a **South Indian dynasty** that ruled most of **eastern Deccan region** comprising present day **Telangana and Andhra Pradesh**, and parts of eastern Karnataka and southern Odisha between **12th and 14th centuries**.
- Their capital was **Orugallu**, now known as **Warangal**.
- Early Kakatiya rulers served as **feudatories to Rashtrakutas and Western Chalukyas** for more than two centuries.
- In 1303, **Alauddin Khilji**, the emperor of the Delhi Sultanate **invaded the Kakatiya territory** which ended up as a disaster for the Turks.
- The Kakatiya period also saw the **construction of reservoirs** for irrigation in the uplands called "**tanks**" many of which are still used today.
- They were **egalitarian** in nature and anyone, regardless of birth, could acquire the **nayaka title** to denote the warrior status.

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- Distinct style of architecture - notable examples are the **Thousand Pillar Temple** in Hanamkonda, Ramappa Temple in Palampet, **Warangal Fort**, and Kota Gullu in Ghanpur.

Thousand Pillar temple:

- The Thousand Pillar Temple or **Rudreshwara Swamy Temple** is dedicated to **Lord Shiva, Vishnu and Surya**.
- It was built by **Rudra Deva** in **1163 AD** in the style of later Chalukyan and early Kakatiyan Architecture, **star-shaped and triple shrined (Trikutalaya)**.
- Thousand Pillar Temple, along with Warangal Fort, Kakatiya Kala Thoranam and Ramappa Temple are added to the **tentative list of World Heritage sites recognised by UNESCO**.

International Day of Sign Languages 2020

- The first International Day of Sign Language was observed across the world on **September 23, 2018**, with the theme "**With Sign Language, Everyone is Included!**"
- The theme for 2020 International Day of Sign languages is "**Sign Languages Are for Everyone!**"
- The United Nations General Assembly (UNGA) has proclaimed 23 September as the International Day of Sign Languages (IDSL) intending to raise awareness of the significance of **sign language** in the full realization of the human rights of people who are deaf.

About Sign Language

- Sign languages are fully-fledged **natural languages**, structurally distinct from the spoken languages. It is a form of **visual language** that uses **hand gestures and body language** to convey meaning.
- There is also an international sign language, which is used by **deaf people** in international meetings and informally when traveling and socializing.
- According to the World Federation of the Deaf, there are approximately **72 million deaf people worldwide**.
- More than 80% of them live in developing countries. Collectively, they use more than **300 different sign languages**.

Jnanpith Award Presented To Renowned Malayalam Poet Akkitham

- **Akkitham Achuthan Namboothiri** is the **sixth** writer to bag the Jnanpith Award for **Malayalam literature**.
- Akkitham is the only living poet being called **Mahakavi** (great poet) in Malayalam.
- A true **Gandhian, social reformer, journalist** and an iconic example of simplicity, Akkitham has been a man who wears many hats with aplomb besides his gifted literary life.

About Jnanpith Award

- Instituted in **1961**, the award is bestowed only on Indian writers writing in Indian languages included in the **Eighth Schedule** to the Constitution of India and **English**, with **no posthumous conferral**.
- The **first recipient** of the award was the Malayalam writer **G. Sankara Kurup** who received the award in 1965 for his collection of poems, **Odakkuzhal** (The Bamboo Flute)
- It is known for bringing "**integration of the diverse people of this land on a spiritual plane**".

Shanti Swarup Bhatnagar Prize 2020

- The **Council for Scientific and Industrial Research, CSIR**, released the names of 14 scientists who have been awarded Shanti Swarup Bhatnagar Prize **2020**.
- Shanti Swarup Bhatnagar (SSB) Prize is given **each year** for outstanding contributions to **science and technology**.
- SSB Prizes, each of the value of **Rs 5 lakh**, are awarded annually for notable and outstanding research, applied or fundamental, in the **following disciplines**: Biological Sciences, Chemical Sciences, Earth, Atmosphere, Ocean and Planetary Sciences, Engineering Sciences, Mathematical Sciences, Medical Sciences, and Physical Sciences.
- Any citizen of India engaged in research in any field of science and technology up to the age of **45 years is eligible** for the prize.
- An **overseas citizen of India (OCI)** working in India is also eligible.

Amnesty International To Halt India Operations

- **Amnesty International India alleged** that it has been facing an onslaught of attacks, bullying and harassment by the government in a very systematic manner.
- The government of India said the organisation's FCRA had been declined one after another for 20 years by different governments in power as per the law.
- An Amnesty International office was first set up in India in Bihar in 1966.

About Amnesty International

- It is a **non-governmental organization** with its headquarters in the **United Kingdom** focused on human rights.
- The stated mission of the organization is to campaign for "a world in which every person enjoys all of the human rights enshrined in the **Universal Declaration of Human Rights** and other international human rights instruments.
- The organization was awarded the **1977 Nobel Peace Prize** for its "defence of human dignity against torture.

77th Year of Formation of Azad Hind Government

- **Union Minister of State for Culture and Tourism** attended the Commemoration of '77th Year of Formation of Azad Hind Government' **on 21st October, 2020** at Red Fort, Delhi.
- The Provisional Government of Free India was an Indian provisional government established **in Japanese occupied Singapore during World War II**.
- It was created in **October 1943** and supported by – as well as largely dependent on – the **Empire of Japan**.
- The government of Azad Hind had its **own currency, court and civil code**, and in the eyes of some Indians its existence gave a greater legitimacy to the independence struggle against the British.
- Its army, the **Indian National Army (Azad Hind Fauj)**, went into action against the British Indian Army and the allied forces as part of the **Imperial Japanese Army** in the **Imphal-Kohima sector**.

On Mar 19, 1944 **Azad Hind Fauj hoisted the national flag** for the first time on Indian mainland

Was hoisted by Col **Shaukat Malik** in Moirang with the help of Manipuris and members of the INA

The organisation was a provisional government of **India established in Singapore & supported by Japan**

It had strength of about **85,000 troops**, including a separate women's unit, headed by **Capt Lakshmi Swaminathan**



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- Its provisional capital was **Port Blair**, while its **capital-in-exile** was **Rangoon** and **Singapore**.
- The **Provisional Government of Free India** consisted of a Cabinet headed by **Subhas Chandra Bose** as the **Head of the State**
- Captain Doctor **Lakshmi Swaminadhan** (later married as Lakshmi Sahgal) was the **Minister in Charge of Women's Organization**. She also held Rani Jhansi Regiment, a brigade of women soldiers fighting for the **Indian National Army**.

“Life in Miniature” Project

- The Union Minister of State for Culture and Tourism launched the “Life in Miniature” project, a collaboration between the **National Museum**, New Delhi, **Ministry of Culture**, and **Google Arts & Culture today**.
- Several **hundred miniature paintings** from the **National Museum**, New Delhi **can be viewed online** on Google Arts & Culture by people around the world in a new project
- The project uses technologies like **machine learning, augmented reality and digitization** with high-definition robotic cameras, to showcase these special works of art in a magical new way.

About National Museum, New Delhi

- It comes under the **Ministry of Culture** and it is the **premiere cultural institution** of the Nation.
- The National Museum, today, has in its **possession over 2,00,000 antiquities & art objects, both of Indian and Foreign origin** covering more than 5,000 years of our cultural heritage.
- During current pandemic time, the National Museum has been engaging its visitors through digital platforms.

About Google Arts & Culture

- Google Arts & Culture puts the collections of more than **2,000 museums at one's fingertips**.
- It's an immersive way to explore art, history and the wonders of the world. The Google Arts & Culture app is free and available online for **iOS and Android**.

Evidence of Dairy Production In Indus Valley Civilisation

- The year **2020 marks 100 years of discovery of Indus Valley Civilisation**, and a new study has shown that **dairy products** were being produced by the Harappans as far back as **2500 BCE**.
- The research team used **molecular analysis techniques** to study the residues from ancient pottery. Since pots are porous, so as soon as we put any liquid form of food, it will absorb it. The pot preserves the molecules of food such as fats and proteins. Using **techniques like C16 and C18 analysis** we can identify the source of lipids.
- The Harappans did not just use dairy for their household. The large herd indicates that milk was **produced in surplus** so that it could be **exchanged** and there could have been some kind of **trade between settlements**.
- The most fascinating thing about the Indus Valley Civilisation is that it is **faceless — there is no king, no bureaucratic organisations**, but there are these very close **regional interactions between settlements**, a symbiotic relationship of give and take that helped the civilisation survive for so long.

About Indus Valley Civilization

- This is the **earliest known urban culture of the Indian subcontinent**. The **nuclear dates** of the civilization appear to be about **2500–1700 BCE**.

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- The civilization was first identified in 1921 at Harappa in the Punjab region and then in 1922 at Mohenjo-daro (Mohenjodaro), near the Indus River in the Sindh (Sind) region.
- The ruins of Mohenjo-daro were designated a UNESCO World Heritage site in 1980.
- Agriculture- Wheat and six-row barley were grown; field peas, mustard, sesame, as well as some of the earliest known traces of cotton.
- Domesticated animals included dogs, cats etc.
- Technology- Great accuracy in measuring length, mass, and time. The weights and measures later used in Kautilya's Arthashastra (4th century BCE) are the same as those used in Lothal. Harappans evolved some new techniques in metallurgy and produced copper, bronze, lead, and tin.
- Arts and crafts- Various sculptures, seals, bronze vessels pottery, gold jewellery, and anatomically detailed figurines in terracotta, bronze, and steatite have been found at excavation sites.
- Human statuettes- most famous is the lost-wax casting bronze statuette of a slender-limbed Dancing Girl adorned with bangles, found in Mohenjo-daro.
- Seal-Seals have been found at Mohenjo-daro depicting a figure standing on its head, and another, on the Pashupati seal, sitting cross-legged in what some call a yoga-like pose.
- Possible writing system- Between 400 and as many as 600 distinct Indus symbols have been found on seals, small tablets, ceramic pots and more than a dozen other materials, including a "signboard" that apparently once hung over the gate of the inner citadel of the Indus city of Dholavira.

Parampara Series 2020- National Festival of Music & Dance

- Virtual festival of 'Parampara Series 2020' was organised by Natya Tarangini in partnership with the United Nations.
- From Pandit Hariprasad Chaurasia (flute artist), Vidushi Kishori Amonkar (vocals), Vyjayanthimala Bali (Bharatanatyam danseuse-actor), L Subramaniam (Carnatic singer violinist), Vikku Vinayakram (percussionist – ghatam) — and various maestros are part of 24th edition of the event.

Rashtriya Ekta Diwas

- Prime Minister Modi inaugurated the first seaplane service in Gujarat and dedicated it to the people of the state on the occasion of Sardar Patel 145th birth anniversary.
- The seaplane will connect Sabarmati Riverfront in Ahmedabad to Statue of Unity in Kevadia in Narmada district.
- The seaplane, which will be operated by SpiceJet, is a Twin Otter 300. It is a 19-seater seaplane and will be able to accommodate 14 passengers. It can cover up to 290 kilometres per hour and can fly close to four hours at slower speed, which is ideally used for surveying.
- The seaplane may affect Shoolpaneshwar Wildlife Sanctuary, which is located at an approximate aerial distance of 2.1 km from the proposed project site.
- He also inaugurated Sardar Patel Zoological Park near the 182-metre statue of Sardar Patel, popularly referred to as the Iron Man of India.

About Sardar Patel

- National Unity Day (Rashtriya Ekta Diwas) is celebrated in India on 31 October to mark the birth anniversary of Sardar Vallabhai Patel.

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- He organised peasants from **Kheda, Borsad, and Bardoli** in Gujarat in non-violent civil disobedience against the British Raj.
- In 1918 he led a massive “**No Tax Campaign**” that urged the farmers not to pay taxes after the British insisted on tax after the floods in Kaira.
- Under the chairmanship of Sardar Patel “**Fundamental Rights and Economic Policy**” resolution was passed by the Congress in **1931**.
- **Women of Bardoli** bestowed the title ‘**Sardar**’ on Vallabhbhai Patel, which means ‘**a Chief or a Leader**’.
- He served as the **first Deputy Prime Minister** of India. He was an Indian barrister, and a senior leader of the Indian National Congress.
- He acted as **Home Minister** during the political integration of India and the **Indo-Pakistani War of 1947**.
- He is also remembered as the “**patron saint of India's civil servants**” for having established the modern all-India services system. He is also called the “**Unifier of India**”.

Maharani Jindan Kaur

- Maharani Jindan Kaur, the last **wife of Maharaja Ranjit Singh**, is in news for the auction of some of her jewellery at **Bonhams Islamic and Indian Art sale in London**.
- She was the youngest wife of Maharaja Ranjit Singh, founder of the Sikh empire, whose boundaries stretched from Kabul to Kashmir and the borders of Delhi.
- She was also the **mother of Maharaja Duleep Singh**, the last ruler of the empire, who was raised by the British.
- Duleep Singh was five years old when he was placed on the throne in 1843 after the death of two heirs to Maharaja Ranjit Singh. She became **regent** and took an active interest in running the kingdom, introducing **changes in the revenue system**.
- In 1845 after Britisher’s victory in the first Anglo-Sikh war, they retained Duleep Singh as the ruler but **imprisoned Jindan Kaur**. She escaped from **Chunnar fort** and arrived at **Kathmandu** in 1849.
- William Dalrymple and Anita Anand have also written about Jindan in the **book, ‘Kohinoor: The Story of the World’s Most Infamous Diamond’**, in 2016.

The Miyas of Assam and Char-Chaporis Culture

- A proposed “**Miya museum**” reflecting the “**culture and heritage of the people living in char-chaporis**” has stirred up a controversy in **Assam**.
- The reason being that the museum has been proposed in the Kalakshetra, which is a **cultural complex** in Guwahati named after **neo-Vaishnavite reformer Srimanta Sankardev**.
- **Char-chaporis** are **shifting riverine islands** of the **Brahmaputra** and are primarily **inhabited by the Muslims of Bengali-origin**. A char is a **floating island** while chaporis are **low-lying flood-prone riverbanks**. They **keep changing shapes** — a char can become a chaporis, or vice versa, depending on the **push and pull of the Brahmaputra**.

Who are Miyas

- The ‘Miya’ community comprises **descendants of Muslim migrants** from **East Bengal** (now Bangladesh) to Assam. They came to be referred to as ‘Miyas’, often in a **derogatory manner**.

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- The community migrated in several waves — starting with the **British annexation of Assam in 1826**, and continuing into Partition and the **1971 Bangladesh Liberation War**.
- **What are char-chaporis-**

Avadhanam

- Avadhanam is a **literary performance** popular from the very ancient days in India.
- Avadhanam **originated as a Sanskrit literary process** and is revived by poets in **Telugu and Kannada** in modern times. It involves the **partial improvisation of poems** using specific themes, metres, forms, or words.
- Avadhani refers to the individual who performs the Avadhanam; one of the **many individuals asking questions** is a **Prcchaka (questioner)**.

Separate Religious Code for the Sarna Tribals

- The **Jharkhand government** passed a **resolution** to send the Centre a letter to **recognise Sarna religion** and include it as a **separate code in the Census of 2021**.
- **Final authority to approve** the new Sarna code lies with the **Central government**.

What is the Sarna Religion-

- The followers of Sarna faith believe **praying to nature**. The holy grail of the faith is “**Jal, Jungle, Zameen**” and its followers pray to the trees and hills while believing in **protecting the forest areas**.
- **Jharkhand** has 32 tribal groups of which **eight are from Particularly Vulnerable Tribal Groups**. While many follow Hindu religion, some have converted to Christianity — this has become one of the planks of demanding a separate code “**to save religious identity**”.
- It is believed that **50 lakhs tribals** in the entire country put their **religion as ‘Sarna’ in the 2011 census**, although it was not a code.
- Many of the tribals who follow this faith have later **converted to Christianity**. The issue now is that the **converted tribals** are taking the **benefits of reservation as a minority** as well as the benefits given to **Schedule Tribes**.
- Currently, citizens can choose from only six religions: Hinduism, Islam, Christianity, Sikhism, Buddhism and Jainism.

Birsa Munda

- The Prime Minister Modi paid homage to **Bhagwan Birsa Munda**, on his **145th birth anniversary on 15th November**.
- In recognition of his impact on the national movement, the **state of Jharkhand** was created on his birth anniversary in **2000**.
- His **portrait hangs in the Indian Parliament Museum**; he is the **only tribal leader** to have been so honored.
- He spearheaded a **tribal religious millenarian movement** that arose in the Bengal Presidency (now Jharkhand) in the late 19th century, during the British Raj, thereby making him an important figure in the history of the **Indian independence movement**.

Birsa Munda led the Ulgulan (resistance by Adivasis) against the British capture of land and forests in present day Jharkhand. This movement (1899-1900) won legal protection of land rights and banned forced labour. Millions of Adivasis commemorate his birth anniversary each year.

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- He is also known as '**Dharti Abba**' or the Earth Father.
- Bisra started a movement called '**Ulgulan**', or 'The Great Tumult'. His struggle against the exploitation and discrimination against tribals led to the **Chotanagpur Tenancy Act being passed in 1908**.

Bru Refugees Demand Immediate Implementation of Settlement Pact

Leaders of the **Mizoram Bru refugees** have demanded commencement of their **permanent rehabilitation in Tripura** in the light of the **quadrilateral agreement** signed in New Delhi in January.

About Bru Agreement

- All Bru currently living in **temporary relief camps in Tripura** will be **settled in Mizoram, if they want to stay on**.
- A package of **Rs. 600 crore** will be disbursed under this agreement.
- A fixed deposit of **Rs. 4 lakh** will be given to each family as an amount of government aid.
- Each of the displaced families will be given **40x30 sq ft residential plots**.
- Each family will be given **Rs. 5,000 cash per month for two years**.
- Each **displaced family** will be given **free ration for two years and aid of Rs. 1.5 lakh** to build their **houses**.

Who are Bru Refugees

- **Reang (Bru)** are one of the **21 scheduled tribes** of the Indian state of **Mizoram and Tripura**.
- The majority of **the Reangs** belong to the **Vaishnav school of Hinduism** and claim **Kshatriya status**.

AICTE's Lilavati Award-2020

- Union Minister of Education launches **Lilavati Award-2020**: AICTE's Innovative education program to empower women.
- With **women empowerment as the theme**, the objective of the award is to **create awareness** about issues like sanitation, hygiene, health, nutrition, literacy, employment, technology, credit, marketing, innovation, skill development, natural resources and **rights among women**.
- These initiatives will inspire the girl students and women to participate and excel.

About AICTE

- The **All-India Council for Technical Education (AICTE)** is a **statutory body**, and a national-level council for technical education, under the **Department of Higher Education**
- **Established in November 1945** first as an **advisory body**, it was later given **statutory status in 1987 by an Act of Parliament**.
- AICTE is responsible for proper **planning and coordinated development** of the **technical education and management** education system in India.

Lachit Borphukan

- **Lachit Borphukan (1622 -1672)** was a commander and **Borphukan (Phu-Kon-Lung)** in the **Ahom kingdom** in present-day **Assam**.

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- He is known for his leadership in the **Battle of Saraighat 1671** that thwarted a drawn-out attempt by **Mughal forces** under the command of **Ramsingh I** to take over **Ahom kingdom**.
- He was given the responsibility of serving as the **Soladhara Barua (scarf-bearer)** of the **Ahom Swargadeo**, a position equivalent to a **Private Secretaryship**.
- **The National Defence Academy** since **1999** has been conferring the **best passing out cadet** with the Lachit Borphukan **gold medal**.

About Battle of Saraighat

- The Battle of Saraighat was a naval battle fought in **1671 between the Mughal Empire** (led by the Kachwaha king, Raja Ramsingh I), and the **Ahom Kingdom (led by Lachit Borphukan)** on the Brahmaputra river at Saraighat, Guwahati.
- The Ahom Army **defeated the Mughal Army** by brilliant uses of the terrain, clever diplomatic negotiations.
- The Battle of Saraighat was the **last battle** in the last major attempt by the **Mughals to extend their empire into Assam**.

1st Bird Festival At Nagi-Nakti Bird Sanctuaries in Bihar

- Bihar's first state-level bird festival '**Kalrav**' was held at world famous **Nagi-Nakti bird sanctuaries** in **Jamui district** to **save migratory birds** that arrive in the State in large numbers every year.
- The 60-kilometre-long stretch of the **Vikramshila Dolphin Sanctuary** between Sultanganj and Kahalgaon had long been a **hub of migratory birds**.
- **Bird ringing stations** set up in **Bhagalpur**.
- **The 'ringing of birds'** involves **trapping them in nets and snares**. Subsequently, they are weighed and their details logged before a metal ring inscribed with a **unique number is tied** to their tibia bone.

About Nagi Bird Sanctuary-

- It is located in **Jhajha, Jamui** district of south Bihar.
- It was declared an **Important Bird Area (IBA)** by **BirdLife International** and home to over **133** bird species.
- Around 1600 **bar-headed geese (Anser indicus)** have been recorded from this site.
- According to **Wetlands International (2002)**, the 1% threshold of this species is 560. Hence, **about 3% of the global population of bar-headed geese are found at this site**.
- **Migratory birds at this site-**
 - The arrival of migratory birds begins in October with the coming of **white wagtails and black redstarts**. Hundreds of **Eurasian coots** start arriving in the sanctuary in the beginning of November.
 - The **reason for the arrival** is thriving **aquatic plants, plankton and molluscs** in the reservoir. Birds feed on them and also the fish in the wetland.

Culture and Peace: On India's Stand against 'UN's Selectivity on Religions

- Discussing resolutions of the **UN Alliance of Civilizations (UNAOC)** on the '**Culture of Peace**', India criticised the world body for what it called "**selectivity**" in seeking to **protect Abrahamic religions — Islam, Christianity and Judaism — over others**.

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- India's concerns that **UN resolutions** should be broadened to **include every community** that faces **religion-based violence**.

About The United Nations Alliance of Civilizations (UNAOC)

- It is an initiative that **seeks to galvanize international action against extremism** through the forging of international, intercultural and interreligious dialogue and cooperation.
- The Alliance places a particular emphasis on **defusing tensions between the Western and Islamic worlds**.
- In 2009, the **United Nations General Assembly** recognized the mandate of the Alliance of Civilizations by adopting resolution A/RES/64/14.
- In its 2006 report, the High-Level Group identified **four priority areas** for action: **Education, Youth, Migration, Media**.
- In 2019, it proposed adding "**Women as peace mediators**" as an additional pillar of UNAOC.

About Culture of Peace-

- The Declaration and Programme of Action on a **Culture of Peace** was adopted by the United Nations General Assembly in **1999**.
- **UN resolution A/53/243** called for the programme of action to include **eight action areas**:
 - Culture of peace through education
 - Sustainable economic and social development
 - Respect for all human rights
 - Equality between women and men
 - Democratic participation
 - Understanding, tolerance and solidarity
 - Participatory communication and the free flow of information and knowledge
 - International peace and security
- The General Assembly also declared the **Decade 2001-2010** as the **International Decade for a Culture of Peace and Non-Violence** for the Children of the World.

Hanukkah

- It is a **Jewish festival** commemorating the **recovery of Jerusalem** and subsequent rededication of the Second Temple at the beginning of the **Maccabean revolt** against the **Seleucid Empire** in the **2nd century BCE**. It is also known as the **Festival of Lights**.
- Hanukkah is observed for **eight nights and days**, starting on the **25th day of Kislev** according to the **Hebrew calendar**, which may occur at any time from late November to late December in the **Gregorian calendar**.
- The festival is observed by **lighting the candles** of a **candelabrum with nine branches**, called a **menorah (or hanukkiah)**.
- This unique candle is called the **shamash**.
- Other Hanukkah festivities include **singing Hanukkah songs**, playing the game of dreidel and eating oil-based foods, such as **latkes and sufganiyot, and dairy foods**.

Vijay Diwas is celebrated on **December 16th** every year to **recall the victory of India over Pakistan in 1971**. This day led to the **liberation of East Pakistan** and the creation of the **new state of Bangladesh**.

1971 India-Pakistan War

- The **Liberation War of Bangladesh** gave rise to the conflict after **West Pakistan** misbehaved with the people and undermined the election results in **East Pakistan**.
- East Pakistan raised the **call for secession** officially on March 26, 1971. India's then PM **Indira Gandhi** gave full support in the **independence struggle**.
- Widespread genocide against Bengalis, mainly Hindus, at the hands of the Pakistani military was reported by the media. It forced around **10 million people to migrate** to neighbouring India. India had also opened its borders to **refugees** from Bengal.
- On the night of December 4-5, the Indian Navy's Western Naval Command successfully conducted a **surprise attack on Karachi port** under the **codename Trident**.
- Pakistan had deployed its troops along the **western front**. The Indian Army retaliated and successfully took over several thousand kilometres of the Pakistani territory.
- Pakistan's 8000 soldiers died and 25,000 wounded, while India lost 3000 soldiers and 12,000 were wounded.
- **The Mukti Bahini guerrillas** in East Pakistan joined with the Indian forces to fight against Pakistani troops in the east. Indian army provided them with weapons and training to participate in the war.
- **Around 93,000 Pakistani troops** led by **General Amir Abdullah Khan Niazi** surrendered to the allied forces during the end of the war. They were returned as part of the **Shimla Agreement of 1972**.
- Nearly one-third of the army of Pakistan was captured by Indian forces. It was a **13-day India-Pakistan war** which began on December 13th, 1971 sparked by the revolt in erstwhile East Pakistan against the government of Islamabad.

Yogasana is Now a Sport

- The **Sports Ministry** formally recognised yogasana as a **competitive sport**, which will enable the **ancient practice** to avail government funding.
- The move was made to **encourage yoga, spread awareness** about its benefits and to help improve physical and **mental wellbeing** of the people.
- An **International Yogasana Sports Federation** was formed under the **presidency of yoga guru Baba Ramdev**.
- A **National Yogasana Sport Federation of India (NYSFI)** was also established for preservation and development of yoga as a competitive sport. It was recognised by the sports ministry as a **National Sports Federation**.
- The Sports Minister also said yogasana will be inducted in future **Khelo India Games programme**.
- For competitions, **51 medals** have been proposed **in four events and seven categories** in the sport.
- Events proposed include **traditional yogasana, artistic yogasana (single and pair) , rhythmic yogasana (pair, free flow/group yogasana)**, individual all round-championship and team championship.

About National Yogasana Sport Federation-

- **Mission**-To gain an athlete-base **across 600 districts** across age, religion, gender and social standing that will allow us to **build the brand value** of more than **1000 cr** in the **next 5 years**.

Monpa Handmade Paper

- KVIC commissioned a **Monpa handmade paper** making unit in **Tawang**, which aims at **reviving the art** but also engaging the local youths with this art **professionally and earn**.
- The **fine-textured handmade paper**, which is called **Mon Shugu** in the **local dialect**, is integral to the vibrant culture of the local tribes in Tawang.
- The paper has great historic and **religious significance** as it is the paper used for writing **Buddhist scriptures** and **hymns in monasteries**.
- The Monpa handmade paper will be made from the **bark of a local tree called Shugu Sheng**, which has **medicinal values** too.
- Back then, such was the scale of production that **Monpas used to sell these papers** to countries like **Tibet, Bhutan, Thailand and Japan** as no paper making industry existed in these countries at that time.
- However, the local industry gradually **began declining** and the indigenous handmade paper was taken over by **inferior Chinese paper**.
- This is a local product with great **global potential**, which is aligned with the Mantra of “**Local to Global**”.
- Apart from handmade paper, **Tawang** is known for **two other local crafts – handmade pottery and handmade furniture** – that are also getting extinct with passage of time.

Khadi and Village Industries Commission (KVIC)-

- KVIC is a **statutory body** formed in April 1957 (During 2nd Five Year plan) under the Act of Parliament, '**Khadi and Village Industries Commission Act of 1956**'.
- It is an apex organisation under the **Ministry of Micro, Small and Medium Enterprises**.
- The Commission has **three main objectives** which guide its functioning. These are -
 - The Social Objective - Providing **employment** in rural areas
 - The Economic Objective - Providing **saleable articles**
 - The Wider Objective - **Creating self-reliance** amongst people and building up a strong **rural community spirit**.

Adopt a Heritage: Apni Dharohar, Apni Pehchaan

- It is a collaborative effort between the **Ministry of Tourism, Ministry of Culture and Archaeological Survey of India, and State/UTs Governments**.
- The Project **aims** to develop synergy among all partners to effectively **promote “responsible tourism”**.
- It aims to involve public sector companies, private sector companies and corporate citizens/individuals to take up the responsibility for making our **heritage and tourism more sustainable** through development, operation and maintenance of **world-class tourist infrastructure and amenities** at ASI/ State heritage sites and other important tourist sites in India.
- They would become ‘**Monument Mitras**’ through the innovative concept of “**Vision Bidding**”, where the agency with the best vision for the heritage site will be given an opportunity to associate pride with their **CSR activities**.
- **The priority areas of Programme are listed as under:**
 - Developing basic **tourism infrastructure**;

- Promoting cultural and heritage value of the country to **generate livelihoods** in the identified regions;
- Enhancing the **tourist attractiveness** in a sustainable manner by developing world-class infrastructure at the heritage monument sites;
- Creating **employment** through active involvement of local communities;
- Harnessing tourism potential for its effects in **employment generation** and economic development;
- Developing sustainable tourism infrastructure and ensuring **proper operations and Maintenance** therein.

ENVIRONMENT**World Environment Day 2020**

- The **World Environment Day** is celebrated on the **5th of June** every year for encouraging **worldwide awareness** and action to protect our environment.
- This year, the day was **hosted in Colombia** in partnership with **Germany**. India hosted in 2018.
- The day was **first designed by the United Nations in 1972** during the **United Nations Conference on Human Environment**. However, it was **first celebrated in 1974**.
- **Theme 2020 : 'Biodiversity'**.
- **India** will be **focusing** on the **Nagar Van (Urban Forests)** in addition to the official theme of the World Environment Day.
- The Chief Minister of **West Bengal** highlighted that about **28% of the Sunderbans** has been **damaged** by **Cyclone Amphan** and launched a **drive for planting mangroves** and trees to mark the World Environment Day.
 - The **Indian Sunderbans**, an area **south of the Dampier Hodges line**, is spread over 9,630 sq km, of which the mangrove forest accounts for 4,263 sq km.
 - **Dampier Hodges** line is an **imaginary line**, passing through **24 Parganas South and North districts (West Bengal)** which indicates the **northern-most limits of the estuarine zone affected by tidal fluctuations**.
 - The CM has told the Forest Department to prepare a **plan to plant 3.5 crore mangroves** by **14th July (celebrated as the World Forest Day)**.

Sundarbans

- It is a **vast contiguous mangrove forest ecosystem** in the **coastal** region of Bay of Bengal spread over **India and Bangladesh** on the delta of the **Ganges, Brahmaputra and Meghna rivers**. It spans from the **Hooghly River in India's state of West Bengal** to the **Baleswar River in Bangladesh**.
- **It constitutes over 60% of the country's total mangrove forest area**.
- Indian Sundarbans was recognised as **UNESCO World Heritage Site in 1987**, '**Wetland of International Importance**' under the Ramsar Convention in January 2019 and also a Biosphere Reserve in 1989.
- The Sunderbans Delta is the **only mangrove forest in the world inhabited by tigers**.
- **Sajnekhali Bird Sanctuary** is a part of Sundarban and is famous for the sight of rare birds.

Mangrove

- A mangrove is a **shrub or small tree that grows in coastal saline or brackish water**.
- The term is also used for **tropical coastal vegetation consisting** of such species.
- Mangroves occur worldwide in the **tropics and subtropics**, mainly between latitudes **25° N & 25°S**.

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- In India, West Bengal has the highest percentage of area under total Mangrove cover followed by Gujarat and Andaman and Nicobar Islands.

Nagar Van Scheme

- On the occasion of **World Environment Day**, the government announced implementation of the **Nagar van scheme** to develop **200 Urban Forests** across the **country** in **next five years** with a renewed focus on people's participation and collaboration between the **Forest Department, Municipal bodies, NGOs, Corporates and local citizens**.
- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has also released a **brochure** on the best practices on Urban Forests.
- The **Warje Urban Forest (Pune, Maharashtra)** will be a role model for the rest of the country.
- The finances for the scheme will be paid for by the **CAMPA (Compensatory Afforestation Fund (CAF) Act, 2016)** funds.

iCommit Initiative

- The '#iCommit' initiative was launched on **World Environment Day**.
- The initiative, driven by **Energy Efficiency Services Limited (EESL)**, under the administration of the **Ministry of Power, Government of India** is uniting a diverse set of **players** such as Governments, Corporates, Multilateral and Bilateral Organisations, Think Tanks and Individuals.
- The initiative is a clarion call to all stakeholders and individuals to continue moving towards energy efficiency, renewable energy, and sustainability to create a robust and resilient energy system in the future.

Healthy and Energy Efficient Buildings

- On occasion of **World Environment Day**, **Energy Efficiency Services Limited (EESL)** in **partnership** with the **U.S. Agency for International Development's (USAID) MAITREE program**, launched the "**Healthy and Energy Efficient Buildings**" initiative that will pioneer ways to make **workplaces healthier and greener**.
- This initiative is **addressing the challenges of retrofitting existing** buildings and air conditioning systems so that they are both healthy and energy efficient.
- As part of this Initiative, **EESL has taken the leadership** by being the **first** to implement this framework in its own offices.

Biggest Biodiversity Park in Uttarakhand

- Uttrakhand opened its **first** and **biggest biodiversity park in Haldwani** on the **World Environment Day**.
- Inside the Park, there are **thematic gardens**, a **soil museum**, **species of plants**, **lichens**, **mosses** and **algae** from the **Jurassic era**, a **vermicompost** unit, an **interpretation** centre, and a **state-of-the-art** weather station.
- The **various species of plants** have been brought to the park from diverse terrains like **Niti Mana Valley** (located near the **India Tibetan Border in Chamoli district of Uttarakhand**) and even from some **glaciers around Kedarnath**.

- The **Andhra Pradesh** government launched the first online waste exchange programme on the occasion of World Environment Day. The programme was launched for safe disposal of toxic wastes and promote recycling and reuse of toxic wastes.
- It will help the authorities monitor the movement of hazardous waste real-time using the tools incorporated in the platform.
- The platform will track, scrutinise and audit the waste besides encouraging proper utilisation of waste and promoting **6Rs -- reduce, reuse, recycle, refurbish, redesign and re-manufacturing of waste items.**

Environmental Performance Index (EPI Index 2020)

- India secured **168 rank (scored 27.6 out of 100)** in EPI Index 2020 among 180 countries. India's **rank was 177** (with a score of 30.57 out of 100) in **2018**.
- Denmark topped the index with a score of 82.5.
- India's performance was **worse than all South Asian countries, except Afghanistan.**
- India scored **below the regional (South-Asia) average score** on **all five key parameters** on environmental health, including air quality, sanitation and drinking water, heavy metals and waste management.
- It has also **scored below the regional average** on parameters related to **biodiversity** and **ecosystem** services too.
- These findings **resonated** with the concerns raised by the '**State of India's Environment 2020 in Figures**', published by the **Centre for Science and Environment**.

Environmental Performance Index

- It is released **biennially (in Two years)** by **Yale University and Columbia University in collaboration with the World Economic Forum.**
- The global index considered **32 indicators** of environmental performance, giving a snapshot of the **10-year trends in environmental performance** at the national and global levels.
- This index was **first published in 2002** designed to supplement the environmental targets set forth in the **United Nations Millennium Development Goals.**

Scorpionfish

- Researchers at the **Central Marine Fisheries Research Institute (CMFRI)** have found a rare fish, **Scorpionfish**, in the **Gulf of Mannar**.
- This is the first **time that it is found alive** in Indian waters.
- It is well-known for its **stinging venomous spines** and **ability to change colour**.
- Unlike other fish, this **band-tail Scorpion fish** uses its **lateral sensory system (detect movement, vibration, and pressure gradients in the surrounding water)** instead of eyes to hunt its prey.



Gulf of Mannar

- The Gulf of Mannar is a large shallow bay forming part of the **Laccadive Sea** in the **Indian Ocean**.
- It lies between the west coast of **Sri Lanka** and the southeastern tip of **India**, in the **Coromandel Coast region**.
- **Islands:** Pamban Island, Mannar Island, Adam's Bridge (Rama's Bridge).

Asiatic Lions

- **Population** of the majestic **Asiatic Lion**, living in **Gujarat's Gir Forest**, has increased (from 523 in 2015 to 674 lions in recent count, up by almost 29%). The lion population in the state of Gujarat has **doubled since 2001**.
- The **geographical distribution** area for **Gir forests's lions has been increased by 36%** (from **22,000 sq. km in 2015 to 30,000 sq. km in 2020**).
- The count was estimated from **a population observation exercise** called **Poonam Avlokan** in place of the **15th Lion Census**.
- **Poonam Avlokan** is a **monthly in-house exercise carried out every full moon**. It was a mechanism developed by the **Forest Department** in **2014** as part of preparations for the **2015 Lion Census**.
- **Protection Status:**
 - IUCN Red List: Endangered
 - CITES: Appendix I
 - Wildlife (Protection) Act 1972: Schedule I

Gir National Park

- It is the **only natural habitat of Asiatic lions** situated in Junagadh district of Gujarat.
- It was declared as a **sanctuary in 1965 and a national park in 1975**.
- Gir is often linked with "**Maldharis**" who have survived through the ages by having **a symbiotic relationship** with the lions.
- Maldharis are **religious pastoral communities living in Gir**. Their **settlements** are called "**nesses**".

Indian Gaur

- The **first population estimation** exercise of the **Indian Gaur (Bison)** was carried out in the **Nilgiris Forest Division, Tamil Nadu**.
- It has revealed that more than **an estimated 2,000 Indian gaurs** inhabit the entire division, with an average of **eight individuals per square kilometre**.
- **Worldwide Fund for Nature-India assisted** the Department during the **exercise**.
- It is **found** in some of the famous **national parks** of India like **Nagarhole (also known as Rajiv Gandhi National Park, situated in Karnataka)**, **Bandipur (Karnataka)**, **Kabini (Karnataka)** and **Masinagudi (part of Mudumalai National Park in Tamil Nadu)**.
- **Protection Status:**
 - IUCN Red List: Vulnerable
 - Wildlife (Protection) Act 1972: Schedule I



Malabar Gliding Frog

- A rare amphibian **Malabar Gliding Frog** was spotted in Pullad, Kerala. It is **endemic** to the rainforest of western ghats.
- It is a **green frog** with **slender body, webbed feet, unusual body positions**, very well **camouflaged** and **gliding** in the air.
- It can **glide in the air up to 10 to 12 metres**.
- The frog has got a **body length of 10 cm**, making it **one of the largest mossy frogs**. The **fingers and toes** are like **sticks to attach** and walk through tree branches. **Males are smaller than females**.
- **Mossy Frogs:** These frogs have the **skin which is green in colour** and **resembles moss** growing on the rock.
- They built **foam nests** above **small pools of water**, into which the tadpoles drop after hatching.
- **Protection Status:** IUCN Red List: Least Concern



World Crocodile Day

June 17 is celebrated as World Crocodile day. It is a global **awareness** campaign to highlight the plight of endangered **crocodiles** and **alligators** around the world. **India** is home to three crocodilian species:

1. Mugger or marsh crocodile

- They are **broad-snouted** crocodile and mugger, is a crocodilian native to **freshwater** habitats from **southern Iran** to the **Indian subcontinent**.
- It is **extinct** in **Bhutan** and **Myanmar**.
- The mugger is known to be **dangerous**.



Protection Status:

- IUCN List of Threatened Species: Vulnerable
- CITES : Appendix I
- Wildlife Protection Act, 1972 : Schedule I

2. Estuarine or saltwater crocodile

- It is native to **saltwater** habitats and **brackish** wetlands from India's east coast across **Southeast Asia** and the Sundaic region to **northern Australia** and Micronesia.
- In India, it is found in Odisha's **Bhitarkanika National Park**, the **Sundarbans** in West Bengal and the **Andamans** and **Nicobar Islands**.
- It is the **largest** living **reptile** and also known as the estuarine crocodile, Indo-Pacific crocodile, marine crocodile, sea crocodile or informally as saltie.
- The estuarine crocodile is infamous globally as a known **maneater**.



Protection Status:

- IUCN List of Threatened Species: Vulnerable

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- CITES: Appendix I for all wild populations (Appendix II for those of Australia, Indonesia and Papua New Guinea)
- Wildlife Protection Act, 1972: Schedule I

3. Gharial

- It is also known as the **gavial** or the **fish-eating crocodile** and is among the longest of all living crocodilians.
- They have a **distinct boss** at the end of the snout, which resembles an earthenware pot known as a **ghara**, hence the name "**gharial**".
- The gharial is found mostly in Himalayan rivers. The population of Gharials are a good indicator of **clean river** water.
- The gharial is known to be a relatively **harmless**, fish-eating species.



Protection Status:

- IUCN List: Critically Endangered
- CITES: Appendix I
- Wildlife Protection Act, 1972: Schedule I

- **Uttar Pradesh** has released **Gharials (*Gavialis gangeticus*)** in the Ghaghara river for the conservation and protection in natural habitat.
- The **National Chambal Sanctuary** is located along river Chambal on the **tri-junction** of Rajasthan, Madhya Pradesh and Uttar Pradesh. It is known for **critically endangered gharials, the red-crowned roof turtle, and the endangered Ganges river dolphin**.
- Unlike Crocodiles, Gharials are very shy and unharmed species.

International Horseshoe Crab Day

The International Union for Conservation of Nature (IUCN)'s Horseshoe Crab Specialist Group had decided to observe the **International Horseshoe Crab Day** in its meeting from June 14-20, 2019 at Qinzhou City in China. First-ever such celebration happened on **June 20, 2020**.

Horseshoe Crab

- Horseshoe crabs are **marine** and **brackish water arthropods** of the family Limulidae.
- Their popular **name** is a **misnomer**, as they are **not crustaceans**, which true crabs are. A 2019 molecular analysis places them as the sister group of **Ricinulei** within **Arachnida**.
- Horseshoe crabs **live** primarily in and around **shallow coastal** waters on soft sandy or muddy bottoms. They tend to spawn in the intertidal zone at spring high tides.
- In recent years, population declines have occurred as a consequence of coastal habitat destruction and overharvesting.
- Given their origin 450 million years ago, horseshoe crabs are considered **living fossils**. These animals have **existed virtually unchanged** since the time of the dinosaurs and are important ecosystem engineers and predators of small organisms in modern intertidal environments.



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- There are four **types** of horseshoe crab species:
 - a) **Mangrove Horseshoe Crab** found in South and Southeast Asia
 - b) **Atlantic or American Horseshoe Crab** found along the American Atlantic coast and in the Gulf of Mexico
 - c) **Indo-Pacific, Indonesian, Indian or southern horseshoe crab** found in South and Southeast Asia
 - d) **Chinese, Japanese or Tri-spine Horseshoe Crab** found in Southeast and East Asia
- In India, **Odisha** is their largest habitat.

Protection Status:

- IUCN List
 - American horseshoe crab: Vulnerable
 - Tri-spine horseshoe crab: Endangered
 - The two other species are not listed yet
- Wildlife Protection Act, 1972: Schedule IV: Catching and killing of a horseshoe crab is an offence

Fishing Cats

- The **Odisha** forest department has started a **two-year conservation** project for fishing cats in **Bhitarkanika National Park**.
- The fishing cat (*Prionailurus viverrinus*) is a medium-sized **wild cat** of South and Southeast Asia.
- It lives foremost in the **vicinity** of **wetlands**, along rivers, streams, oxbow lakes, in swamps, and mangroves.
- It is **nocturnal** and twice the size of a house cat and apart from **fish** also **preys** on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals.
- Protection Status:
 - IUCN Red List: Vulnerable
 - CITES: Appendix II
 - Indian Wildlife Protection Act, 1972: Schedule I
- **West Bengal** launched the **Fishing Cat Project** in 2010 and declared the Fishing Cat as the **State Animal** in 2012.



Gee's Golden Langur

- **Gee's golden langur**, also known as simply the **golden langur**, is an Old-World monkey found in a small region of western **Assam**, India and in the neighboring foothills of the **Black Mountains of Bhutan**.
- The coat of the adult golden langur ranges from **cream to golden**; on its flanks and chest the hairs are darker and often rust coloured; the coats of the juveniles and females are lighter, silvery white to light buff.



- **Protection Status:**

- IUCN List: Endangered
- CITES: Appendix I
- Wildlife Protection Act, 1972: Schedule I

Hyacinth Macaw

- The hyacinth macaw is a **parrot** native to **central** and **eastern South America**.
- With a length (from the top of its head to the tip of its long-pointed tail) of about one meter it is longer than any other species of parrot. It is the **largest macaw** and the largest flying parrot species.
- Protection Status:
 - IUCN List: Vulnerable
 - CITES: Appendix I



Marmots

- The Marmots have come into focus ever since the incidents of **plague** in **Mongolia, China** and the **Russian** Far East have been caused largely after locals consumed the **Tarbagan Marmot**.
- Marmots are relatively large ground **squirrels** in the genus *Marmota*, with 15 species living in Asia, Europe and North America.
- These **herbivores** are **active during the summer** when often found in groups but are not seen during the winter when they **hibernate** underground. They are the heaviest members of the squirrel family.
- South Asia or the Indian Subcontinent is home to the Himalayan Marmot as well as the Long-tailed Marmot. Both are **Least Concerned** in the IUCN Red List.
- Tarbagan marmot or Mongolian marmot found in Mongolia, China, and parts of Russia (Siberia). IUCN Status: **Endangered**
- Marmots are eaten in China and Mongolia for proteins and hunted for their fur.



Golden Birdwing

- A Himalayan butterfly named **Golden Birdwing** is now **India's largest butterfly**.
- Before it, **Southern Birdwing** held this record since 1932. Southern Birdwing is the state butterfly of Karnataka.
- While the **female** Golden Birdwing was recorded from Didihat in **Uttarakhand**, the largest **male** was from the **Wankhar Butterfly Museum** in **Meghalaya** capital Shillong.

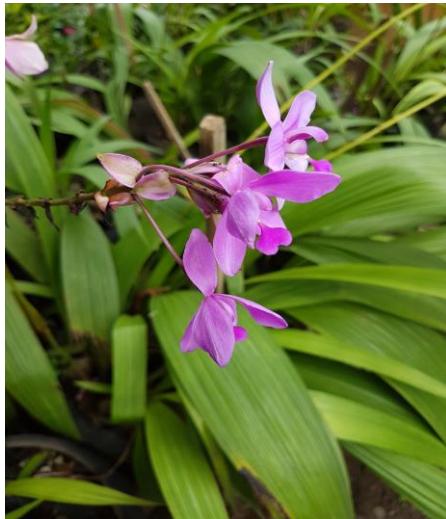


Ophiocordyceps Nutans

- Ophiocordyceps nutans is an **entomopathogenic fungus** (a fungus that can act as a parasite of insects and kills or seriously disables them) and researchers for the first time found these fungi in central India in Kanger Valley National Park in Chhattisgarh.
- Earlier, these have been reported in India only from the Western Ghats.
- The fungus was found on its specific **host insect Halyomorpha halys**. Also called the stink bug, this insect is a pest to forest trees and agricultural crops.
- Several species of the Ophiocordyceps fungi have **medicinal properties**. Reports have shown that China has been traditionally using it. Also, in the Western Ghats, the local people use these fungi as an **immune stimulator**.

Rare Orchid Species

- A rare orchid species, **ground orchid**, has been rediscovered in India in **Dudhwa Tiger Reserve (protected area in Uttar Pradesh)** chanced upon the white flower with bright pink hues.
 - In India, the species was last recorded in Pilibhit (Uttar Pradesh) in 1902.
 - IUCN Red List: Critically Endangered
 - In 2008, the plant species was sighted in Bangladesh for the first time.
- **Tiger orchids (*Grammatophyllum speciosum*)** are in full bloom at the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Kerala.
 - It is called Tiger for their large and resplendent flowers which resemble the tiger skin, flowers in alternate years.
 - These epiphytic plants are not native to India. They, in fact, are endemic to southeast Asia.
 - It flowers in alternate years and remains in bloom for about a month.



Ground orchid



Tiger orchids

South Asian River Dolphin

The South Asian river dolphin (*Platanista gangetica*) is an **endangered freshwater or river dolphin** found in the region of **Indian subcontinent**, which is split into two subspecies,

1. Ganges River Dolphin

- Primarily found in the Ganges and Brahmaputra Rivers and their tributaries in India, Bangladesh, and Nepal.
- National Aquatic Animal** of India and **official animal** of the Indian city of **Guwahati**.
- Vikramshila Gangetic Dolphin Sanctuary (VGDS) in Bihar's Bhagalpur district is India's only sanctuary for dolphins.
- Synonyms: Ganges susu, shushuk

**2. Indus River Dolphin**

- Found only in the main channel of the Indus River in Pakistan and active channels connected to it between the Jinnah and Kotri barrages, and in the River Beas (a tributary of the Indus) in Punjab in India.
- National Mammal of Pakistan.
- Synonyms:** bhulan, Indus dolphin, Indus blind dolphin
- Protection Status:
 - IUCN List: Endangered
 - CITES: Appendix I
 - Wildlife Protection Act, 1972: Schedule I

Two New Butterflies

- Lepidopterists** (a person who studies or collects butterflies and moths) have discovered the **Striped Hairstreak** and **Elusive Prince** in Arunachal Pradesh.
- The **Striped Hairstreak** was first recorded by Japanese entomologists in Hainan province of China.
- Elusive Prince** has a **Vietnamese** connection and was thought to be the more familiar **Black Prince** found in the Eastern Himalayas.

**Globba Andersonii**

- A rare and critically endangered plant species called **Globba andersonii** from the **Sikkim Himalayas** near the **Teesta river** have been rediscovered in the valley region after a gap of nearly 136 years.
- The plant, known commonly as ‘dancing ladies’ or ‘swan flowers’ was thought to have been extinct until its “re-collection”, for the first time since 1875.
- The earliest records of the collection of this plant were dated between the period **1862-70** when it was collected by **Scottish botanist**



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Thomas Anderson from Sikkim and Darjeeling. Then, in 1875, the British botanist Sir George King, had collected this taxon from the Sikkim Himalayas.

- Globba andersonii are characterised by white flowers, **non-appendaged anthers** (the part of a stamen that contains the pollen) and a “yellowish lip”.
- Classified as “critically endangered” and “**narrowly endemic**”, the species is restricted mainly to the Teesta River Valley region which includes the Sikkim Himalayas and Darjeeling hill ranges.

Central Zoo Authority

- The Environment Ministry has **reconstituted** the Central Zoo Authority (CZA) to **include** an **expert** from the **School of Planning and Architecture**, Delhi, and a **molecular biologist**.
- Apart from the chairman, it consists of 10 members and a member-secretary. Almost all of them are officials in the Environment Ministry and non-government experts are those who are wildlife conservationists or retired forest officers.
- The CZA is a **statutory** body constituted under **Wild Life (Protection) Act 1972, in 1992** and is **chaired by the Environment Minister** and tasked with regulating zoos across the country.
- The authority lays down guidelines and prescribes rules under which animals may be transferred among zoos nationally and internationally. It also regulates the **exchange** of animals of endangered category Listed under Schedule-I and II of the Wildlife Protection Act between Indian and foreign zoos.

Coccolithophores

- A study of a **microscopic ancient marine algae (Coccolithophores)** led by the **National Centre for Polar and Ocean Research (NCPOR)** has found that there is a decrease in the concentration of oceanic **calcium carbonate (CaCO₃)** in the **southern Indian ocean**.
- This **decrease in CaCO₃** is attributed to the **increase** in the concentration of another **single-celled algae known as diatoms**. This, in turn, will affect the growth and skeleton structure of **coccolithophores**, with potential significance for the world ocean ecosystem.
- **Coccolithophores** are **single-celled algae** living in the **upper layers** of the **world's oceans**. They have been playing a key role in marine ecosystems and the global carbon cycle for millions of years. Coccolithophores **calcify marine phytoplankton** that produce up to 40 per cent of open ocean calcium carbonate and are responsible for 20 per cent of the global net marine primary productivity.
- Coccolithophores build **exoskeletons** from individual CaCO₃ plates consisting of chalk and seashells building the tiny plates on their exterior.
- Though **carbon dioxide** is produced during the formation of these plates, coccolithophores help in removing it from the atmosphere and ocean by consuming it during photosynthesis. At equilibrium, coccolithophores absorb more carbon dioxide than they produce, which is beneficial for the ocean ecosystem.

Advisory To Import Live Exotic Animals

- The Union Ministry of Environment, Forest and Climate Change (MoEF&CC) issued an **advisory** to streamline and formalise the process of importing live exotic animals.

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- The advisory has **defined** them as those that are **mentioned under the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), but not under the schedules of the Wild Life (Protection) Act, 1972.**
- Many exotic species of birds, reptiles & amphibians are imported into India for commercial purposes.
- These **imports** were happening though the **Director General of Foreign Trade (DGFT)**, but they were **beyond the purview of the forest departments and the chief wildlife wardens weren't aware about them. Now, with this advisory, they'll be kept in the loop.**
- The advisory has **provisions for import and disclosure** of exotic animals and their **progeny already in India.**
- A person trying to import a **live exotic animal will have to submit an application for grant of a licence to the DGFT under the Ministry of Commerce and Industry.**
- The importer will **also** have to attach a **No Objection Certificate (NOC)** of the **chief wildlife warden of the state concerned** along with the application.
- For those people **who have already imported** exotic animals, a **declaration** will have to be made **within six months**, which wouldn't require submissions on the provenance of the animal. However, if the declaration is made **after six months, documents** will have to be submitted.
- The major **reason** to do this is to **regulate the trade** because the issue of **zoonotic diseases** is also linked to wildlife. With this advisory, it will be **known how many** such exotic animals there in the country are.
- However, the advisory did not provide answers to all problems as it does not have the force of law.

CITES

- CITES (**Convention on International Trade in Endangered Species of Wild Fauna and Flora**, also known as the **Washington Convention**) is a **multilateral treaty to protect endangered plants and animals.**
- It was drafted because of a **resolution adopted in 1963** at a meeting of members of the **International Union for Conservation of Nature (IUCN).**
- The convention was opened for signature in 1973 and CITES **entered** into force on **1 July 1975.**
- **The CITES Secretariat is administered by UNEP (The United Nations Environment Programme) and is located at Geneva, Switzerland.**
- The **Conference of the Parties (CoP)** to CITES is the **supreme decision-making** body of the Convention and comprises all its Parties.
- The last **CoP (18th)** was held at Geneva (Switzerland), in August 2019. The next one (**CoP 19**) will be in San Jose, **Costa Rica in 2022.**
- Although CITES is **legally binding** on the Parties, it **does not take the place of national laws.** It provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level.
- **India ratified CITES in 1976 and hosted 3RD CoP in 1981.**

Poaching During Lockdown

According to the report '**Indian wildlife amidst Covid-19 crisis: An analysis of poaching and illegal wildlife trade trends**' released by the **TRAFFIC**, there has been a **significant increase** in reported **poaching of wild animals** during the lockdown.

- TRAFFIC, the **wildlife trade monitoring network**, is a **joint program** of WWF and IUCN (the International Union for Conservation of Nature).
- TRAFFIC works to ensure that **trade in wild plants and animals** is not a threat to the conservation of nature.
- It is an **International non-governmental organization founded in 1976 with headquarters at Cambridge, United Kingdom.**

66-Million-Year-Old Egg Found In Antarctica “The Thing”

- Scientists have finally resolved the mystery behind the 66-million-year-old fossil egg found in **Antarctica’s Seymour Island** which was found in 2011.
- The fossil, since then was kept at a museum in Chile and was named ‘**The Thing**’ for over the next 7 years scientists kept on trying to resolve the football-sized mysterious fossil.
- After much research and analysis, scientists have said that the egg belongs to an **extinct giant sea lizard or snake (the marine lizards also known as mosasaurs)** that lived alongside the dinosaurs.
- The millions year old fossil egg, measuring 29 cm by 20 cm (8 inches by 11 inches), is the **second-largest egg** in the world. The **first position** remains with the eggs of **Madagascar’s extinct giant flightless elephant birds**.
- This new egg is the very first fossil egg from Antarctica, and the largest soft-shelled egg ever discovered.

Preventing the Next Pandemic: Zoonotic diseases and How to Break the Chain of Transmission Report

- This report is a **joint effort** by the **United Nations Environment Programme (UNEP) and the International Livestock Research Institute.**
- The report identifies the **One Health approach** -- which unites public health, veterinary and environmental expertise -- as the optimal method for preventing as well as responding to zoonotic disease outbreaks and pandemics.
- It identifies seven trends driving the increasing emergence of **zoonotic diseases**, including increased demand for animal protein; a rise in intense and unsustainable farming; the increased use and exploitation of wildlife; and the climate crisis.
- The report finds that **Africa** in particular, which has experienced and **responded to a number of zoonotic epidemics** including most recently, to Ebola outbreaks, could be a source of important solutions to quell future outbreaks.
- A “zoonotic disease” or “zoonosis” is a disease that has passed into the human population from an animal source.

International Livestock Research Institute

- It is a **non-profit institution** helping people in **low- and middle-income countries** to improve their lives, livelihoods and lands through the animals that remain the backbone of small-scale agriculture and enterprise across the developing world.
- **International Livestock Research Institute** is a **CGIAR research centre co-hosted by Kenya and Ethiopia** and with 14 other offices across Africa and Asia.

Assam Gas Leak

- A gas leak happened at **Baghjan well** in **Tinsukia district** of Assam following a blowout.
- Since 2006, it has been drilled by **Oil India Limited (OIL)**.
- The well is a **purely gas-producing well** and is at a distance of **900 metres** from the **Dibru-Saikhowa National Park**. There are reports that the **condensate** is falling into **Dibru-Saikhowa National Park** and **Maguri-Motapung wetland** too.
- The authorities have **built a temporary water reservoir** through pipelines from the **Dangori river** nearby the well to control the blowout.

Dibru-Saikhowa National Park

- It is a **National Park**, a **Biosphere Reserve** and one of the 19 biodiversity hotspots in the world.
- It is an **Important Bird Area (IBA)** identified by the **Bombay Natural History Society**. It is most famous for the rare **white-winged wood ducks** as well as **feral horses**.
- It is situated in the **south bank** of the river **Brahmaputra** in Assam.
- The **forest** type comprises **semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests**. It is the **largest swamp forest** in north-eastern India.
- **Maguri Motapung Beel**, an Important Bird Area, is less than 10 km from **Dibru-Saikhowa National Park** and part of the **Dibru-Saikhowa Biosphere Reserve**. The wetland derives its name from "Magur", the local word for the catfish '*Clarias batrachus* (walking catfish)'.

Oil Spill in Russia's Arctic region

- Russia declared a **state of emergency** in its **Krasnoyarsk Region** after a power plant fuel leak in its Arctic region caused 20,000 tonnes of diesel oil spilled into the **Ambarnaya river**, turning its surface crimson red.
- **Krasnoyarsk Region** is located in the **vast and sparsely populated Siberian peninsula** and the **Ambarnaya river** is part of a network that flows into the environmentally sensitive **Arctic Ocean**.
- The **Ambarnaya** river flows to the **Pyasino lake** and river **Pyasina**, which connects it to the **Kara Sea**, a part of the **Arctic Ocean**.

Seabed 2030 Project

- The **Nippon Foundation-GEBCO Seabed 2030 Project**, which is coordinating efforts to **complete the mapping of the entire ocean floor by 2030**.
- It was **launched in 2017** and it had finished mapping nearly **one-fifth** of the world's ocean floor.
- The knowledge of **bathymetry** (the measurement of the **shape and depth** of the **ocean floor**) is instrumental in understanding several natural phenomena, including ocean circulation, tides, and biological hotspots.
- It also provides **key inputs** for navigation, forecasting tsunamis, exploration for oil and gas projects, building offshore wind turbines, fishing resources, and for laying cables and pipelines.
- This data becomes highly valuable during **disaster situations**. Due to the previously mapped seafloor, scientists in **Japan** were able to reconstruct the forces behind the destructive 2011 **Tohoku** earthquake.

VAJIRAM & RAVI **Forest Fire Prevention and Management Scheme**

- It is the **only centrally funded** program specifically dedicated to **assist the states** in dealing with forest fires.
- In 2017, it replaced the **Intensification of Forest Management Scheme (IFMS)**.
- **Funds** allocated under the Scheme are according to a **center-state cost-sharing** formula, with a 90:10 ratio of central to state funding in the Northeast and Western Himalayan regions and a 60:40 ratio for all other states.
- It also provides the states the flexibility to direct a portion of the **National Afforestation Programme (NAP)** and **Mission for Green India (GIM)** funding toward forest fire work.

Global Warming and Arctic Sea

- The **National Centre of Polar and Ocean Research (NCPOR)** found the **largest decline in the Arctic Sea ice in the last 41 years** due to global warming — leading to localised increase in evaporation, air humidity, cloud cover and rainfall.
- The NCPOR noted that this decline in Arctic Sea ice happened in July 2019. In the last **40 years (1979-2018)**, the sea ice has been **declining at -4.7 percent per decade**, while its rate was found to be **-13 per cent in July 2019**.
- NCPOR noted that if this trend continues, there would be no ice left in the Arctic Sea by 2050.

National Centre for Polar and Ocean Research (NCPOR)

- Formerly known as the **National Centre for Antarctic and Ocean Research (NCAOR)**, it is an Indian research and development institution, situated in Vasco da Gama, **Goa**.
- It is an **autonomous** Institution of the Department of Ocean Development (DOD), **Ministry of Earth Sciences**
- It is the **nodal agency** for planning, promotion, coordination and execution of the entire gamut of **polar and Southern Ocean scientific research** in the country as well as for the associated logistics activities.

Reducing Emissions from Deforestation and forest Degradation (REDD+)

- **Uganda** has become the **first African** country to submit results for **Reducing emissions from deforestation and forest degradation (REDD+)** to the **United Nations Framework Convention on Climate Change (UNFCCC)**.
- It paved the way for potential **results-based payments** to the country.
- The submission of results is a significant development on REDD+ for Africa. This will encourage other African countries to reduce carbon emissions by decreasing deforestation and forest degradation.
- Africa had the greatest annual rate of net forest loss, at 3.9 million ha, across the world in this decade, according to the **FAO's Global Forest Resources Assessment 2020**.

REDD+

- It is a mechanism developed by the parties to the **UNFCCC** to reduce **emissions from deforestation and forest degradation**.
- **REDD** was first discussed in 2005 by the **UNFCCC** at its **11th session of the Conference of the Parties to the Convention (COP)** at the request of **Costa Rica** and Papua New Guinea, on behalf of the Coalition for Rainforest Nations.

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- REDD received substantial attention from the **UNFCCC (COP 13, 2007)**, where the first substantial decision on REDD+ was adopted. It called for demonstration activities to be reported upon two years later and assessment of drivers of deforestation.
- REDD+ was also referenced in the decision of the "**Bali Action Plan**", with reference to **all five eligible activities for REDD+** (with sustainable management of forests, conservation of forest carbon stocks and enhancement of forest carbon stocks constituting the "+" in REDD+)
- It has three phases — **Readiness, Implementation** and **Result-based actions**.
- Most of the key REDD+ decisions were completed by 2013, with the final pieces of the rulebook **finished in 2015**.
- **Results-based payments** comprise the final **REDD+** phase.
 - Financial incentives to developing countries - done through rigorous UN-backed technical evaluations
 - The **Green Climate Fund (GCF)** established at Conference Of Parties (COP)-17 to function as the financial mechanism for the UNFCCC, is currently financing REDD+ programs.
 - **Brazil** was the first country to receive \$96.5 million under the results-based payments.

Jet Zero Plan

- The **United Kingdom** announces, '**Jet Zero' Plan** to drive down **greenhouse gas emissions from aviation** to make **carbon-free** transatlantic flights possible within a generation.
- Aviation emissions currently account for more than 2% of global greenhouse gases and have risen by 70% since 2005. The International Civil Aviation Organization forecasts that they will rise another 300% by 2050 in the absence of measures to bring them down.
- The U.K has formed a group bringing together leaders from aviation, environmental groups and government to form the "**Jet Zero Council.**"

Assessment Of Climate Change Over The Indian Region

- The **Union Ministry of Earth Sciences (MoES)** published the **first 'Assessment of Climate Change over the Indian Region.'**
- The projections, based on a climate forecasting model developed at the **Indian Institute of Tropical Meteorology (IITM), Pune**, will be part of the next report of the **Intergovernmental Panel on Climate Change (IPCC)**, expected to be ready in 2022.
- The report said that in a **worst-case scenario**, average surface air **temperatures** over India could rise by up to 4.4 degrees Celsius by the end of the century as compared to the period between 1976 and 2005.
- The worst-case scenario is defined by the **Representative Concentration Pathway (RCP) 8.5** that calculates a radiative forcing of 8.5 watt per square metre due to the rising greenhouse gas (GHG) emissions in the atmosphere. **Radiative forcing or climate forcing** is the difference between sunlight energy absorbed by the Earth (including its atmosphere) & the energy that it radiates back into space.
- Under an intermediate scenario of **RCP 4.5**, country's average temperature could rise by up to 2.4°C.
- The rise in temperatures will be even more pronounced in the **Hindu Kush-Himalayan** region where the average could reach 5.2°C. The region is already highly vulnerable to climate-related variability in temperatures, rainfall, and snowfall.

- Between **1900 and 2018**, the average temperatures of India rose by 0.7°C .
- The report predicts that **monsoon** rainfall could change by an average of 14 per cent by 2100 that could go as high as 22.5 per cent.
- The report does not mention if this change will be an increase or a decrease but still represents variability. It further says that the overall rainfall during the monsoon season has decreased by six per cent between 1950 and 2015.

Aerosol Radiation Effects In Western-Trans Himalayas

- A study by the **Aryabhatta Research Institute of Observational Sciences (ARIES)** has found that **radiative forcing of aerosols** is much higher over the high altitudes of western trans-Himalayas.
- **Monthly-mean** atmospheric radiative forcing of aerosols leads to **heating rates of 0.04 to 0.13 C per day**. Further, the **temperature** over the **Ladakh region** is increasing **0.3 to 0.4 degrees Celsius** per decade from the last 3 decades.
- The **atmospheric aerosols** play a **key role in the regional/global climate system** through **scattering and absorption** of incoming **solar radiation** and by modifying the **cloud microphysics**.
- Despite the large progress in **quantifying** the impact of **different aerosols** on radiative forcing, it remains one of the major **uncertainties** in the climate change assessment.
- **Precise measurements** of aerosol properties are required to reduce the uncertainties, especially over the **oceans** and **high-altitude** remote locations in the Himalayas where they are scarce.
- The scientists observed and analysed the **aerosol radiative forcing (ARF)** assessment and **aerosol optical depth (AOD)**.
- **ARF** is the effect of **anthropogenic aerosols** on the **radiative fluxes** at the top of the atmosphere and at the surface and on the absorption of radiation within the atmosphere.
- **AOD** is a measure of **how light is absorbed or reflected by airborne particles** as it travels through the atmosphere.

Ozone Pollution

- While **particulate matter** and **nitrous oxide** levels **fell** during the lockdown, **ozone** (a harmful pollutant) **increased** in several cities, according to an analysis by the Centre for Science and Environment (CSE).
- Ozone is primarily a “**sunny weather problem**” in India, that otherwise remains highly variable during the year.
- It is a highly **reactive** gas; even **short-term** exposure of an hour is **dangerous** for those with respiratory conditions and asthma and that’s why an eight-hour average is considered for ozone instead of the 24-hour average for other pollutants.
- Ozone is **not directly emitted** by any source but is formed by photochemical reactions between oxides of nitrogen (NOx) and other volatile organic compounds (VOCs) and gases in the air under the influence of sunlight and heat. It can be curtailed only if gases from all sources are controlled.
- The **ozone** present in the **stratosphere** protects human beings from harmful Ultraviolet (UV) radiation whereas the **ground level ozone (troposphere)** is harmful.

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- About 90% of total ozone in the atmosphere is in the stratosphere, and 10% is in the troposphere. Although tropospheric ozone is less concentrated than stratospheric ozone, it is of concern because of its health effects. Ozone in the troposphere is considered a greenhouse gas, and may contribute to global warming.

Anthropause or Great Pause

- Researchers have coined the term “**Anthropause**” also being referred to as the “**Great Pause**” to refer to the **Covid-19 induced lockdown period** and they will study its impact on other species.
- Reduction in human activity during the coronavirus lockdown on both land and sea has been “unparalleled” in recent history, and the effects have been “drastic, sudden and widespread”.

Global E-waste Monitor 2020

- The Global E-waste Monitor 2020 is a **collaborative** product of the **Global E-waste Statistics Partnership (GESP)**, formed by **UN University (UNU)**, the **International Telecommunication Union (ITU)**, and the **International Solid Waste Association (ISWA)**, in close collaboration with the **UN Environment Programme (UNEP)**.
- According to it, there was 53.6 million tonnes (MT) e-waste in 2019 that is a nearly 21 per cent increase in just five years. It will increase by 38 per cent in the decade between 2020 and 2030.
- **Asia** generated the **greatest** volume of e-waste in 2019 — some 24.9 MT, followed by the **Americas** (13.1 MT) and **Europe** (12 MT). Africa and Oceania generated 2.9 MT and 0.7 MT respectively.
- Most E-waste in 2019 consisted of small equipment (17.4 MT), large equipment (13.1 MT) and temperature exchange equipment (10.8 MT).
- Less than 18 percent of the e-waste generated in 2019 was collected and recycled.
- The number of countries that have adopted a national e-waste policy, legislation or regulation has increased from 61 to 78 and includes India.
- Formal recycling capacity remains underutilised, as the large majority of the waste is still handled by the **informal sector**. About 90 per cent of the country’s e-waste is recycled in the informal sector.
- E-waste (discarded electrical and electronic equipment) is a health and environmental hazard, containing toxic additives or hazardous substances such as mercury, which damages the human brain and / or coordination system.

Decarbonising Transport in India

- NITI Aayog in collaboration with **International Transport Forum (ITF)** launched the “**Decarbonising Transport in India**” project on 24 June, with the intention to develop a pathway towards a low-carbon transport system for India.
- India has been a member of ITF, an intergovernmental organisation for transport policy, since 2008.
- The India project is carried out in the wider context of the **ITF’s Decarbonising Transport initiative**. It is part of the **Decarbonising Transport in Emerging Economies (DTEE)** family of projects, which supports transport decarbonisation across different world regions.
- The **DTEE** is a collaboration between the ITF and the Wuppertal Institute, supported by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

- India, Argentina, Azerbaijan, and Morocco are current participants.

International Transport Forum

The International Transport Forum, headquartered in **Paris, France**, is an **inter-governmental** organisation within the **OECD system**. It is the only global body with a mandate for all modes of transport. It acts as a **think tank for transport policy** issues and organises the annual global summit of transport ministers.

Virtual Climate Action Ministerial

- The **fourth edition** of the **virtual Ministerial** on Climate Action witnessed countries exchanging views on how countries are aligning economic recovery plans with the **Paris Agreement** and the critical enabling conditions to ensure continued climate action.
- It was co-chaired by **European Union, China** and **Canada** to advance discussions on the full implementation of the **Paris Agreement** under the **United Nations Framework Convention on Climate Change (UNFCCC)** and to demonstrate continued political commitment to global climate action.
- The **Union Environment Minister represented India** and called upon developed country parties to do their part as envisaged under UNFCCC and its Paris Agreement, for extending financial and technological support to developing countries.
- **USD 1 trillion was promised** by 2020 but has not been fulfilled so far, and it is expected that the promised amount is mobilized and delivered, for further strengthening climate actions in developing countries.

Paris Agreement (COP 21)

- The Paris Agreement is a historic international accord signed at the **UNFCCC Conference of Parties (COP)** in 2015, that brings almost 200 countries together to address climate change and its negative impacts.
- **Targets:**
 - **Temperature:** hold warming below 2°C above pre-industrial levels with effective efforts to limit warming to 1.5°C
 - **Adaptation:** Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development
 - **Low Emission Finance flows:** Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.
- **Intended Nationally Determined Targets (INDC):** The Paris Agreement requires all Parties to put forward their best efforts through INDC's and to strengthen these efforts in the years ahead.
- It called for **raising money** to help developing countries adapt to climate change and transition to clean energy was an important point in the agreement. However, it is **non-legally binding** to developed countries.
- As of January 2021, 190 members of the UNFCCC are parties to the agreement. Of the seven UNFCCC member states which have never ratified the agreement, the only major emitters are **Iran, Turkey and Iraq**. The United States denounced the agreement in 2020, but accepted it again on 20 January 2021, with entry into force on 19 February 2021.
- India had submitted its NDCs in 2015. The **three quantitative goals in the Indian NDCs** are:
 - Reduce the emissions intensity of its GDP by 33% to 35% by 2030 from 2005 level,

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- Increase total cumulative electricity generation from fossil free energy sources to 40% by 2030,
- Create an additional carbon sink of 2.5 to 3 billion tons through additional forest and tree cover.
- India has a target of installing 175 GW of renewable power capacity by 2022.

Rewa Solar Project

- The Prime Minister has inaugurated the 750 MW solar project set up in Rewa, **Madhya Pradesh**.
- It comprises three solar generating units of 250 MW each located on a 500-hectare plot of land situated inside a Solar Park (total area 1500 hectare).
- It is the first solar project in the country to break the **grid parity barrier**. Grid parity occurs when an alternative energy source can generate power at a cost of electricity that is less than or equal to the price of power from the electricity grid.
- It is the **first renewable energy project to supply an institutional customer outside the state**, i.e. Delhi Metro, which will get 24% of energy from the project with the remaining 76% being supplied to the state DISCOMs of Madhya Pradesh.
- It is also **India's first solar project to get funding from Clean Technology Fund (CTF)**, which is available at a rate of 0.25% for a 40-year period from the **World Bank**.
- It has also received the **World Bank Group President's Award for innovation and excellence**.

Medicinal and Aromatic Plants Genetic Resources (MAPGRs)

- **National Medicinal Plants Board (NMPB)** under **Ministry of AYUSH** and **ICAR-National Bureau of Plant Genetic Resources (NBPGR)** under **Department of Agricultural Research and Education** have entered into a Memorandum of Understanding (MoU) to conserve the Medicinal and Aromatic Plants Genetic Resources (MAPGRs) at designated space of **ICAR-NBPGR** in **long-term** storage module in the **National Gene bank** and or at **Regional Station** for **medium** term storage module.
- **National Gene Bank** was notified in 1996-97 and hosted by the National Bureau of Plant Genetic Resources (NBPGR), New Delhi.

India's Seed Bank

- India has also established its own seed storage facility at Chang La in **Ladakh**. It was built jointly by the Defence Institute of High-Altitude Research (DIHAR) and the National Bureau of Plant Genetic Resources (NBPGR) in 2010 under the aegis of Defence Research and Development Organisation (DRDO).
- **The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** in Hyderabad had set up **world's first gene bank** that is powered entirely by **solar energy** in Hyderabad in 2019. There is a total of 16 gene banks, including one at ICRISAT, located in different cities across India.

Other Seed Bank:

- **The Millennium Seed Bank Project (MSBP)** is located at the Royal Botanical Gardens, Kew, **United Kingdom**.
- **The Vavilov Institute of Plant Industry** was established in 1894 in St. Petersburg, **Russia**, and is the oldest seed bank in the world.
- **Berry Botanic Garden** (Portland, **United States**): Seeds from endangered plants of the Pacific Northwest.

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- **International Center for Tropical Agriculture (Colombia)**: Cassava, forages, beans.
- **International Potato Center (Lima, Peru)**: Potatoes
- **International Institute for Tropical Agriculture (Ibadan, Nigeria)**: Groundnut, cowpea, soybean, yam
- **International Rice Research Institute (Los Banos, Philippines)**: Rice

Saharan Cheetah

- Critically Endangered Saharan Cheetah was seen in Hoggar Mountains national park Algeria for the first time in a decade
- The Saharan cheetah is quite different in appearance from the other African cheetahs. Its coat is **shorter and paler in colour**. Its face has few or no spots and tear stripes are almost absent.
- Its range is now limited to isolated pockets across the Sahara and Sahel from Mali in the west to the Central African Republic in the east. The main countries where it is found include Algeria, Chad, Mali, Benin, Burkina Faso and Niger.
- In 2012, the International Union for Conservation of Nature estimated the remaining population in Algeria at just 37 individuals.

National Board for Wildlife (NBWL)

- NBWL issued the final clearance for the ₹55,335-crore **Mumbai-Nagpur Super Communication Highway**.
- The project will require felling of over one lakh trees and passes through the 10-km **eco-sensitive zone (ESZ)** of **Katepurna and Karanja Sohal Blackbuck wildlife sanctuaries** (Protected area in Washim district in **Maharashtra**) towards one end of the state while cutting through the ESZ of **Tansa lake sanctuary** (located in Thane district of **Maharashtra**).
- NBWL is a **statutory body**, under the **Union Environment Ministry**, constituted under **Section 5 A** the **Wildlife Protection Act (WPA), 1972**.
- The WPA **mandates** that without the approval/recommendation of the NBWL, construction of tourist lodges, alteration of the boundaries of PAs, destruction or diversion of wildlife habitat and de-notification of Tiger Reserves, cannot be done.
- **Composition**: It is a **47-member board** (including the chairman) which usually meets once a year. It is **chaired** by the **Prime minister**.

National Green Tribunal (NGT)

NGT has urged the State Pollution Control Board (SPCB) and Pollution Control Committee (PCC) to put in serious efforts to mitigate possible risk of **unscientific disposal of the bio-medical waste arising out of the handling of the COVID-19 disease**.

- The NGT was **established** on October 18, 2010 under the **National Green Tribunal Act 2010** to handle the **expeditious disposal** of the cases pertaining to environmental issues.
- The Tribunal shall **not be bound** by the procedure laid down **under the Code of Civil Procedure, 1908** and **Indian Evidence Act, 1872**, but shall be **guided by principles of natural justice**.
- It draws **inspiration** from India's constitutional provision of **Article 21 Protection of life and personal liberty**, which assures the citizens of India the right to a healthy environment.

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- India is the **third country following Australia and New Zealand** to have such a system. Delhi Pollution Control Committee (DPCC) works under the act of (NGT).
- **New Delhi** is the **Principal Place** of Sitting of the Tribunal and **Bhopal, Pune, Kolkata** and **Chennai** are the other places of sitting of the Tribunal.

Structure

- The Tribunal is **headed by a sitting or retired Supreme Court judge or the Chief Justice of a High Court.**
- The **chairperson** is appointed **by the Government** with the consultation of CJI. The maximum age of chairperson will be 70 years if he is from SC and 67 years if he is from HC.
- Apart from Chairperson, it has at least 10 and maximum 20 Full time judicial members and at least 10 and maximum 20 Full time Expert Members.
- Each bench of the NGT will comprise at least one Judicial Member and one Expert Member.

Powers: The NGT has the power to hear all civil cases relating to environmental issues and questions that are linked to the implementation of laws listed in **Schedule I of the NGT Act**. These include the following:

- The Water (Prevention and Control of Pollution) Act, 1974;
- The Water (Prevention and Control of Pollution) Cess Act, 1977;
- The Forest (Conservation) Act, 1980;
- The Air (Prevention and Control of Pollution) Act, 1981;
- The Environment (Protection) Act, 1986;
- The Public Liability Insurance Act, 1991;
- The Biological Diversity Act, 2002

However, NGT is **not empowered to** hear matters pertaining to issues coming under the ambit of the **Wildlife (Protection) Act, 1972** and the **Indian Forest Act, 1927**.

- Its decisions are **subjected to judicial review**. The **decision of the NGT is binding on the parties, unless they approach the Supreme Court** in appeal and the NGT's order is either stayed or reversed.

Black Panther in Netravali Sanctuary

- A **black panther** was spotted for the **first time** in Goa's Netravali Sanctuary.
- A black panther is the **melanistic colour variant** of any **Panthera**, particularly of the **leopard** in Asia and Africa, and the jaguar in the Americas. Melanism is the increased development of the **dark-colored pigment melanin** in the skin or hair.

Netravali Wildlife Sanctuary

- It is located in **Goa** and is part of the **Western Ghats**.
- It is bounded by **Cotigao wildlife sanctuary** on the eastern side and **Bhagwan Mahaveer Sanctuary** and **Mollem National Park** on the northern side.
- **Netravali** or **Neturli** is an important tributary of **River Zuari**, which originates in the sanctuary.
- It has two important **waterfalls** namely, **Savari** and **Mainapi**.

Sal Forest Tortoise

- A recent study by **Wildlife Institute of India (Dehradun)**, finds that over 90% of the **potential distribution of the Sal forest tortoise falls outside** the current protected area's network. The study covers parts of **India** with **Bangladesh and Bhutan**.
- It is found that the **representation of the species** in protected areas is least, and there is little to no connectivity among most of the protected areas where the species is present.
- Sal Forest Tortoise is also known as the **elongated tortoise** and widely distributed over **eastern as well as northern India and Southeast Asia**.
- **Protection Status:**
 - IUCN Red List: Critically Endangered.
 - CITES: Appendix II
 - Wildlife (Protection) Act of 1972: Schedule IV



World Migratory Bird Day (WMBD)

- Every year it is observed on May 9. The theme of 2020 is "**Birds Connect Our World**".
- The day was **first introduced in 2006** after the **Secretariat of Convention on the Conservation of Migratory Species of Wild Animals** and the **Secretariat of Agreement on the Conversation of African-Eurasian Migratory Waterbirds (AEWA)** came up with a proposal.

About Convention on Migratory Species (CMS)

- The **Convention on the Conservation of Migratory Species of Wild Animals (CMS)**, is an environment treaty under the **United Nations Environment Programme (UNEP)**.
- It is also referred to as the **Bonn Convention** (because the intergovernmental conference where the Convention was negotiated took place in Bonn in 1979) that provides a global platform for the conservation and sustainable use of migratory animals and their habitats.
- It also lays the legal foundation for internationally coordinated conservation measures throughout a migratory range.
- There are **130 parties to the convention** and India has been a member since 1983.
- There are now **173 species** in the Appendix 1 of the Convention.
- **What species are covered by CMS?** Mammals, birds, reptiles, fish and one insect are listed on the Convention's two Appendices –
 - **Appendix I** lists migratory species that are endangered.
 - **Appendix II** lists migratory species which have an unfavourable conservation status and which require international agreements for their conservation and management.

International Day for Biological Diversity

- The **United Nations** has proclaimed **May 22** as the **International Day for Biological Diversity (IDB)** to increase understanding and awareness of biodiversity issues.
- **2020 Theme: "Our Solutions Are In Nature"**

- On this occasion, the Union Minister of Environment launched some **key initiatives** towards conservation of biodiversity.
- 'Biodiversity Samrakshan Internship Programme':** It proposes to engage 20 students with postgraduate degrees for a period of one year through an open, online competitive process.
- Not all Animals Migrate by Choice Campaign:** The campaign, launched by the **Wildlife Crime Control Bureau**, with **UNEP**, seeks to address these environmental challenges, to raise awareness, and to advocate solutions.

**22 MAY 2020****INTERNATIONAL DAY FOR
BIOLOGICAL DIVERSITY****Our solutions are in nature**

World Turtle Day

- In an attempt to raise awareness on conservation of tortoise and turtles, and on illegal trafficking, every year **May 23** is celebrated as World Turtle Day.
- The day was founded by **American Tortoise Rescue (ATR)**, a non-profit animal rescue organization.
- 2020 Theme '**Adopt, Don't Shop**'

Turtles in India

- There are **five species** in Indian waters i.e. **Olive Ridley, Green turtle, Loggerhead, Hawksbill, Leatherback**.
- The **Olive Ridley, Leatherback** and Loggerhead are listed as '**Vulnerable**' on the **IUCN Red List** of Threatened Species.
- The **Hawksbill** turtle is listed as '**Critically Endangered**' and the **Green Turtle** is listed as '**Endangered**' on the IUCN Red List of Threatened Species.
- They are protected in Indian Wildlife Protection Act of 1972, under Schedule I.

World Dugong Day 2020

- Every year **28th May** is celebrated as **World Dugong Day**.
- Dugong (Dugong dugon)** also called '**Sea Cow**' is one of the four surviving species in the **Order Sirenia** and it is the **only existing species** of herbivorous (**graze on seagrass**) mammal that **lives exclusively in the sea** including in India.
- They are listed as **Vulnerable** on the **IUCN Red List** and are **protected** in India under Schedule I of the **Wild (Life) Protection Act, 1972**.
- It is estimated that there are only about 200 dugongs in the **Gulf of Mannar** in Tamil Nadu, the **Andaman and Nicobar Islands** and the **Gulf of Kutch** in Gujarat.

Fly Ash

- Fly Ash**, the after-burnt tiny coal dust, is a **by-product from the thermal power** plants and is an alumino-silicate **non-reactive inert particle** which may remain suspended in the air from a few seconds to several months.
- Application: As **resource material** for many applications of **construction industries** like in Manufacture of Portland Pozzolana Cement (PPC), or in bricks/blocks/tiles manufacturing, road embankment construction & low-lying area development, in agriculture as soil conditioner etc.

Bhagirathi Eco-Sensitive Zone

The **Ministry of Environment, Forest and Climate Change (MoEF&CC)** informed about approval of the **Zonal Master Plan** for the Bhagirathi Eco-Sensitive Zone that will pave the way for faster execution of **Char Dham Road Project**.

Located in the upper Himalayas in Uttarakhand. Geographically the area falls under the **Garhwal lesser Himalayas and Higher Himalayas**.

Char Dham Highway

- Char Dham National Highway is an **under construction all-weather two-lane 900 km** National Highway in the Indian state of Uttarakhand.
- The proposed highway will complement the under-construction Char Dham Railway by connecting the four holy places in Uttarakhand states namely **Badrinath, Kedarnath, Gangotri** and **Yamunotri**.

National Award of Excellence

- Kannan C S Warrier has received the **National Award of Excellence for Outstanding Research in Forestry** for the year 2019.
- The award was conferred on him by the **Indian Council of Forestry Research and Education (ICFRE)** for releasing three productive clones of **casuarina**, known as **kattadi** and **savukku**, that are suitable for salt affected soils for the first time in the country. India has around 6.73 million hectares of salt-affected land.
- Casuarina have a role in **nitrogen fixation in symbiotic association with bacteria Frankia**.
- India is the largest planter of casuarina in the world.
- He has also done extensive work on the **conservation of endangered sacred groves** in Alappuzha district of Kerala.

Sacred groves of India

- The **Hindu tradition** considers forests to be of **three types** - **Tapovan, Mahavan** and **Sreevan**.
- 1. **Tapovan** are forests associated with **penance (Tapas)**, and are inhabited by saints and rishis.
- 2. **Mahavan** refers to the grand **natural forests**. Tapovan and Mahavan are considered to be a Raksha ("sanctuary") for flora and fauna as ordinary human beings are not allowed to enter these forests.
- 3. **Sreevan**, which means, "**forests of prosperity**", consists of dense forests and groves.
- **Sacred groves** of India are forest fragments of varying sizes, which are **communally protected**, and which usually have a significant **religious connotation** for the protecting community. Hunting and logging are usually strictly prohibited within these patches.
- They are part of the in-situ method of conservation of flora, i.e. **on-site** conservation or the conservation of genetic resources in natural populations of plant or animal species, such as **forest genetic resources** in natural populations of tree species.
- The introduction of the protected area category **community reserves** under the **Wild Life (Protection) Amendment Act, 2002** has introduced legislation for providing government protection to community held lands, which could include sacred groves.
- They go by different names in different states.

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State	Local name
Andhra Pradesh	Pavitraskhetralu
Arunachal Pradesh	Gumpa forests
Assam	Than, Madaico
Chhattisgarh	Sarna, Devlas, Mandar, Budhadev
Haryana	Beed or Bid, Bani, Bann, Janglat, Shamlat
Himachal Pradesh	Dev Kothi, Devban, Bakhu Devban
Jharkhand	Sarna
Karnataka	Devarakadu, Devkad
Kerala	Kavu, Sarpa Kavu
Maharashtra	Deorai/Devrai
Manipur	Umang Lai, Gamkhab, Mauhak
Meghalaya	Law Kyntang, Law Lyngdoh
Orissa	Jahera, Thakuramma
Puducherry	Kovil Kadu
Rajasthan	Oran, Kenkri, Vani, Shamlat deh, Devbani, Jogmaya
Sikkim	Gumpa forests
Tamil Nadu	Kovil Kadu
Uttarakhand	Devbhumi, Baun, Bugyal
West Bengal	Garamthan, Harithan, Jahera, Sabitri than, Santalburithan

Bathynomus Raksasa

- A giant '**sea cockroach**' has been found by the researchers from Singapore at the **bottom of the Indian Ocean**. It has been described as the '**cockroach of the sea**'.
- The newly discovered cockroach has been identified as belonging to a new species and is given the name '**Bathynomus raksasa**'.
- The Bathynomus raksasa is a **super-giant isopod** in the genus **Bathynomus**.



Lonar Lake

- The **colour of Lonar lake** water in **Maharashtra's** Buldhana district turned **pink** due to a large presence of the **salt-loving 'Haloarchaea' microbes**, as per probe carried out by Pune-based **Agharkar Research Institute**.
- **Haloarchaea** or **halophilic archaea** is a **bacteria** culture which **produces pink pigment** and is found in water saturated with **salt**. It produces a pink pigment; it forms a pink colour mat on the water surface.
- The absence of rain, less human interference and high temperature resulted in the evaporation of water which increased its salinity and pH.
- **Initially**, we thought it was because of the red-pigmented **Dunaliella algae** due to which the water might have turned pink.
- Recently, the water in the Lonar lake was found to be turning reddish. Algal Bloom, Change in Salinity, Biological Change (due to lockdown) etc. are possible reasons for change.
- Lonar lake, a notified National Geo-heritage Monument, believed to have been created over 52,000 years ago when a meteorite hit the Earth.



Indian Bullfrog

- The **Indus Valley bullfrog** or **Indian bullfrog**, popularly named as **Asian bullfrog**, is a **large species of frog** found in mainland Myanmar, Bangladesh, India, Pakistan, Afghanistan, and Nepal and also the **largest frog found in the Indian Subcontinent**.
- It has been introduced in Madagascar and India's **Andaman Islands**, where it is now a widespread **invasive species**.
- **Protection Status:**
 - IUCN Red List: Least Concern
 - Wildlife (Protection) Act 1972: Schedule IV
- They can be identified by the pointed snout and long hind limbs, which help them jump.



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- They are nocturnal and carnivorous and eat other tadpoles (including their own species).

Pied Cuckoo to be Tracked

- The Wildlife Institute of India (WII), along with the Indian Institute of Remote Sensing (IIRS) and the Government of India's Department of Biotechnology, has begun a **study of the migration of the pied cuckoo from Africa to India** and back, by tagging two of the birds with satellite transmitters.
- This is the **first study** in the country that seeks to trace and observe the migratory routes of the pied cuckoo. It will help gather data and information on **climate change**.
- The **arrival of the pied cuckoos** (also called **pied crested cuckoo** and **Jacobin Cuckoo**) in the Himalayan foothills has traditionally been seen as heralding the onset of the **monsoon**.
- The migration study is part of a larger project called the **Indian Bioresource Information Network (IBIN)** funded by the Government of India's Department of Biotechnology (DBT), which aims to put relevant Indian bioresources information online.
- IUCN Status: **Least Concerned**



Dhole

- Karnataka, Maharashtra and Madhya Pradesh rank high in the **conservation** of the endangered dhole in India, according to a new study.
- Study was conducted by **Wildlife Conservation Society-India**, the University of Florida, the Wildlife Conservation Trust, and the National Centre for Biological Sciences.
- Dhole (*Cuon alpinus*), also known as **Asian wild dogs**, is a wild **carnivorous** animal belonging to the canine family, found in Central, South, East Asia, and Southeast Asia.
- Protection Status:
 - IUCN Red List: Endangered
 - CITES: Appendix II
 - Wildlife (Protection) Act 1972: Schedule 2
- India's first conservation breeding centre for dhole was built at the **Indira Gandhi Zoological Park (IGZP)**, Visakhapatnam, **Andhra Pradesh** in 2014.



KURMA App

- On May 23, 2020, **World Turtle Day**, a number of conservation agencies launched a citizen science initiative, a **mobile-based application called KURMA**, aimed at **turtle conservation**.
- Developed by the **Indian Turtle Conservation Action Network (ITCAN)** in collaboration with the **Turtle Survival Alliance-India and Wildlife Conservation Society-India**, it not only provides users a database to identify a species but also provides the location of the nearest rescue centre for turtles across the country.

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- It serves as a digital database, with a built-in digital field guide covering 29 species of freshwater turtles and tortoises of India, and information on turtle identification, distribution, vernacular names, and threats.

Indian Turtle Conservation Action Network

The ITCAN was formed to launch citizen-science initiative and to provide a platform to exchange vital information on turtles, and assistance to enforcement agencies, forest departments, etc.

Turtle Survival Alliance

- The Turtle Survival Alliance (TSA) was formed in 2001 as an **International Union for Conservation of Nature (IUCN)** partnership for sustainable captive management of freshwater turtles and tortoises.
- The TSA arose in response to the rampant and unsustainable harvest of Asian turtle populations to supply Chinese markets, a situation known as the **Asian Turtle Crisis**.
- It supports projects or programs – **both wild and captive** - that benefit 21 of the World's 25 Most Endangered Tortoises and Freshwater Turtles.
- TSA has made a bold commitment to **zero turtle extinctions in the 21st century**.

National Transit Pass System (NTPS)

- The **Ministry of Environment** launched an **online system, NTPS**, for issuing transit permits for **timber, bamboo and other forest produce**.
- It will make the process of getting **permits faster** and without physically going to forest department offices.
- The pilot project will be functional in **Madhya Pradesh** and **Telangana** for now. The system will be operational in all states by Diwali.

International Tiger day

- The Day is celebrated on **29th July** every year to create awareness about tiger conservation.
- The Union Environment Minister released a detailed **report of Tiger Census** on the eve of Global Tiger Day. With 2,967 tigers (around 1,400 tigers in 2006), India has achieved the target set in the **2010 St Petersburg Declaration of doubling tiger population** by 2022 four years in advance.
- During the said meeting it was also decided to **celebrate July 29 as Global Tiger Day** across the world, which is since being celebrated to spread and generate awareness on tiger conservation.
- There are currently **13 tiger range countries** -- India, Bangladesh, Bhutan, Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Vietnam.

High Levels Of Ammonia In Yamuna Water

- Ammonia levels in the river, flowing into Delhi from Haryana, had reached nearly **3 parts per million (ppm)**, almost six times above the acceptable limit of 0.5ppm.
- The Delhi Jal Board at present has the capacity to **treat 0.9 ppm of ammonia** in the raw water at nine water treatment plants. If the concentration is higher than this, then raw water is either diluted with fresh water from the Upper Ganga Canal or from the Munak Canal.
- The **acceptable maximum** limit of ammonia in drinking water, as per the **Bureau of Indian Standards**, is 0.5 ppm.

Ammonia (NH₃)

- Ammonia is **colourless with a distinct odour gas** and is used as an industrial chemical in the production of fertilisers, plastics, synthetic fibres, dyes and other products.
- Ammonia **occurs naturally in the environment** from the breakdown of organic waste matter, and may also find its way to ground and surface water sources through industrial effluents or through contamination by sewage.
- If the **concentration** of ammonia in water is above 1 ppm it is toxic to fishes. In humans, long term ingestion of water having ammonia levels of 1 ppm or above may cause damage to internal organs.

Bureau of Indian Standards

- The Bureau of Indian Standards is the **national Standards Body** of India working under the aegis of **Ministry of Consumer Affairs, Food & Public Distribution, Government of India**.
- It is established by the **Bureau of Indian Standards Act, 1986** which came into effect on 23 December 1986.

IFFCO Gas Leak: How Dangerous Is Ammonia

- **Ammonia** is stored for **industrial use in liquid form** under high pressure or in gaseous form at **low temperature**, as was the case in the **IFFCO unit, Prayagraj** where the accident took place.
- A **tri-hydride of nitrogen (NH₃)**, ammonia is a **building block for ammonium nitrate (NH₄NO₃)** that is used in **agriculture** as a **high-nitrogen fertiliser**.
- **Ammonia interacts immediately** upon contact with **moisture present in the skin, eyes, oral cavity, respiratory tract** to form ammonium hydroxide, which is very caustic and disrupts the cell membrane lipids, ultimately **leading to cellular destruction**.
- **Ammonia**, which is highly soluble in water, is found in soil, air, and water; it is naturally present in the body and **secreted by the kidneys to neutralise excess acid**.
- **Gas is toxic and affects the lungs** with a possibility of causing **chemical pneumonitis** — inflammation of the lung caused by aspirating or **inhaling irritants**.
- **Uses of ammonia-** Ammonia is critical in the **manufacturing of fertilizers**, and is one of the largest-volume synthetic chemicals produced in the world. **More than 80 per cent of ammonia** made is consumed in the manufacturing of **fertilizer**, and most of the remainder goes into the **production of formaldehyde**.

RAISE Initiative

- The **Ministry of Power** launched the **Retrofit of Air-conditioning to improve Indoor Air Quality for Safety and Efficiency (RAISE)** national programme.
- It is a joint initiative of **Energy Efficiency Services Limited (EESL)** and the **U.S. Agency for International Development's (USAID) MAITREE Program**.
- It can potentially alleviate the issue of bad air quality in workspaces across the nation and pioneer ways to make them healthier and greener.

EV Charging Plaza

- With a focus on enhancing energy efficiency and promoting e-mobility, the Union **Minister for Power, New & Renewable Energy**, inaugurated **India's first publicEV (Electric Vehicle) charging plaza at Chelmsford Club in New Delhi**.
- The EV charging plaza is a new avenue for making **e-mobility ubiquitous** and convenient in India. Such innovative initiatives are imperative for creation of a robust e-mobility ecosystem in the country.
- Energy Efficiency Services Limited (EESL)**, in collaboration with New Delhi Municipal Council, has established it.

Global Forest Resources Assessment

- The **Food and Agriculture Organization (FAO)** of the United Nations has brought out the latest **Global Forest Resources Assessment (FRA)**.
- FAO has brought out this **comprehensive assessment every five years since 1990**. This report assesses the state of forests, their conditions and management for all member countries.
- The top **10 countries** that have recorded the **maximum average annual net gains** in forest area during **2010-2020** are China, Australia, **India**, Chile, Vietnam, Turkey, the United States, France, Italy and Romania, according to the FRA 2020.
- The **Asian continent** reported the **highest net gain** in forest area in 2010-2020, it recorded 1.17 million hectares (ha) per year net increase in forests in the last decade.
- However, the **South Asia sub-region reported net forest losses** during 1990-2020.

India-related Finding

- India accounts for two per cent of the total global forest area. India reported 0.38 per cent annual gain in forest, or 266,000 ha of forest increase every year at an average.**
- The FRA 2020 has credited the government's **Joint Forest Management programme** for the significant increase in community-managed forest areas in the Asian continent. The forest area managed by local, tribal and indigenous communities in India **increased from zero in 1990 to about 25 million ha in 2015**.
- However, the **naturally regenerating** forest rate is disappointing, the rate of increase in naturally regenerating forest was just 0.38 per cent.
- It is also an indicator of the policies that India is pursuing. India has been taking up massive afforestation and plantation schemes.
- The assessment examined **employment in the forestry sector** (including logging) with data from 136 countries that represent 91 per cent of the world's forests. India reported the maximum employment in the forestry sector in the world.
- Globally, 12.5 million people were employed in the forestry sector. Out of this, India accounted for 6.23 million, or nearly 50 per cent.

Blue Poppy

- For the first time, scientists have discovered nearly 70 species of **alpine plants**, including some rare and endangered species, in the **Rohtang area of Manali**. Only 50 plant species have been recorded in the area till date.
- Blue poppy** is considered the **Queen of Himalayan Flowers**.



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- It is found from **Kumaon (Uttarakhand)** to **Kashmir** at elevations of 3,000 to 5,000 meters.

Green – Ag Project

- The Union Agriculture Ministry launched the **Green-Ag Project** in **Mizoram**, to reduce emissions from agriculture and ensure sustainable agricultural practices.
- The project will be implemented in **Dampa Tiger Reserve** in west **Mizoram**.
- Mizoram is among the **five states** where the Green-Ag project, funded by **Global Environment Facility (GEF)**, is being implemented. The other states are Madhya Pradesh, Odisha, Rajasthan and Uttarakhand.

Green – Ag: Transforming Indian Agriculture for global environment benefits and the conservation of critical biodiversity and forest landscapes

It is a **Global Environment Facility (GEF)** assisted project namely, in collaboration with the **Food and Agriculture Organisation (FAO)**, launched in September, 2018 in high-conservation-value landscapes of five States namely

- a) Madhya Pradesh : Chambal Landscape
- b) Mizoram: Dampa Landscape
- c) Odisha: Simlipal Landscape
- d) Rajasthan: Desert National Park Landscape
- e) Uttarakhand: Corbett-Rajaji Landscape.

Nagarjunasagar Srisailam Tiger Reserve

- It is the **largest tiger reserve** in India and spreads over five districts in **Andhra Pradesh** and **Telangana**.
- The area consists mostly of the **Nallamala Hills** and **Krishna river** cuts the basin of this reserve.
- The **multipurpose reservoirs- Srisailam and Nagarjunasagar** are located in the reserve.

Plastic Waste

- **Alliance to End Plastic Waste** plans to invest between USD 70 million to 100 million in India over the next five years to majorly reduce plastic waste.
- It was announced on **Nature Conservative Day**.
- India currently generates around 26,000 tonnes of plastic waste every day, over 10,000 tonnes of which is not collected, data from India Central Pollution Board.
- **UN-Habitat Waste Wise Cities (WWC) Tool** will be used.

Project Aviral

- It is a project of Alliance To End Plastic Waste and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to **Reduce Plastic Waste in the Ganga**.
- It aims to reduce the amount of plastic waste entering the environment in the northern Indian cities of **Haridwar and Rishikesh**.

UN-Habitat Waste Wise Cities (WWC) Tool

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- It is used to map waste flows and assess potential plastic leakage from waste management systems and identify short- and long-term pathways to increase the amount of plastic waste collected, recycled and recovered.

Alliance to End Plastic Waste

- It is a **Singapore-based-NGO** working in the environmental sector
- It was founded in January 2019 as a nonprofit organisation to help solve this serious and complex issue – 8 million tons of plastic waste entering the ocean every year.
- Nearly fifty companies across the plastics value chain have joined the Alliance and together they have committed to invest US\$1.5 billion towards solutions that will prevent the leakage as well as recover and create value from plastic waste.
- **Other Projects of Alliance to End Plastic Waste**
 - **Zero Plastic Waste Cities initiative in India and Vietnam**, a combined vision of the Alliance and the Grameen Creative Lab, the creative laboratory for social business solutions co-founded by **Nobel Peace Laureate Professor Muhammed Yunus**.
 - The two initial cities involved in this project are **Puducherry** on the southeast coast of India and **Tan An in the Mekong Delta region of Vietnam**.

World Nature Conservation Day

It is observed annually on **28 July** to remind humankind about the importance of nature and the need to protect it. The day is marked globally to spread awareness about the best practices to protect the natural resources.

Northern European Enclosure Dam (NEED)

- It is a proposed solution to the problem of **rising ocean levels in Northern Europe**.
- It would be a **megaproject**, involving construction of **two massive dams** in the **English Channel and the North Sea**; the former between France & England, and the latter between Scotland & Norway.
- **Scotland - Shetland**: The **western section** of the North Sea Dam would literally be an island jumping, from mainland Scotland in the southwest, through the **Orkney Island** to Shetland in the northeast, with a total length stipulated to 145 km.
- **Shetland - Western Norway**: The **eastern section** stipulated to a length of 331 km through open water and with the sea floor depths exceeding 300 m in the Norwegian trench.
- The concept was conceived by the oceanographers Sjoerd Groeskamp and Joakim Kjellsson.
- However, it is largely a **thought experiment** intended to demonstrate the extreme cost of engineered solutions to the effects of climate change. The scheme's authors describe it as "**more of a warning than a solution**".



Giant Garuda

Indonesia's government launched a coastal development project called a **Giant Sea Wall or "Giant Garuda"** (Garuda is the name of a bird from Hindu mythology and is Indonesia's national symbol) in 2014 meant to protect the city from floods.

Hornbill

- A study based on satellite data has flagged a high rate of deforestation in a major **hornbill habitat in Arunachal Pradesh**.
- **Papum Reserve Forest (RF)** adjoining **Pakke Tiger Reserve (Pakhui Tiger Reserve)** in Arunachal Pradesh was studied.
- The **hornbills (Bucerotidae)** are a family of birds found in tropical and subtropical Africa and Asia.
- India is home to **nine species of hornbills**. The north-eastern region has the highest diversity of hornbill species within India.
- The **great hornbill is the state bird of Arunachal Pradesh and Kerala**.
- The **Hornbill festival celebrated in Nagaland** is named after the bird.
- Protection Status:
 - **IUCN Red List:** nearly 40% species are Globally **Threatened** or Near Threatened with extinction and rest are **Least Concern**
 - **Wildlife (Protection) Act 1972:** Schedule I



Papum Reserve Forest (RF)

- It is an Important Bird and Biodiversity Areas (IBAs) in Arunachal Pradesh.
- It is located between two IBAs, **Itanagar Wildlife Sanctuary** to the east and **Pakke Wildlife Sanctuary to the west**.
- Papum Reserve Forest forms part of the Eastern Himalayas Endemic Bird Area. A large part of the site is covered by **Subtropical Dry Evergreen and Semi-evergreen Forests**, while the higher areas are under Subtropical Broadleaf Hill Forest cover.
- It is a part of the **Indo-Burma Biodiversity** hotspot in India.

World Elephant Day

- World Elephant Day — a day dedicated to the **largest mammal on land**- is commemorated on **12th August every year**.
- It was launched in 2012 to bring attention to the urgent plight of Asian and African elephants.
- **African elephants** are listed as "**Vulnerable**" and **Asian elephants** as "**Endangered**" on the IUCN Red List of threatened species.
- **Report "Elephants, Not Commodities"** was released by the **International Animal Welfare Organization, World Animal Protection** on the eve of World Elephant Day.
 - **India** is home to the **second highest number of elephants used in tourism** in Asia; and of the 21 venues housing 509 elephants, the report found that 45 per cent (225) of the elephants were kept in severely inadequate conditions.
 - Over 3,800 elephants are captive in over 357 Asian Elephant Tourism sites. **Thailand** is home to three-quarters of these elephants.

Indian Elephants

- Elephants are the **Natural Heritage Animal** of India. **India** is home to **50% of the Asian Elephant population**, and according to the 2017 elephant census, there are 27,312 elephants in the country, marking a decrease of nearly 3,000 elephants from the 2012 census.

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- They are considered to be **keystone species**. A keystone species is an organism that helps define an entire ecosystem. Without its keystone species, the ecosystem would be dramatically different or cease to exist altogether.
- Indian Elephants are included in list of the **Appendix I of the Convention of the Migratory species** in the recently concluded Conference of Parties of CMS 13 at Gandhi Nagar, Gujarat in February 2020.

Conservation Efforts: International Level

- **Monitoring of Illegal Killing of Elephants (MIKE) Programme:** It was established by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (**CITES**) adopted at the tenth Conference of the Parties in 1997. It was started in **South Asia in 2003**.
- **Asian Elephant Alliance:** It is an **umbrella initiative by five NGOs** which include Elephant Family, International Fund for Animal Welfare, IUCN Netherlands, World Land Trust and Wildlife Trust of India. They come together to **secure 96 out of the 101 existing corridors** used by elephants across **12 States in India**. The joint venture is aiming at **raising £20 million** to secure the 96 remaining elephant corridors, old and new, in the **next ten years**.

Conservation Efforts: National Level

- **Surakhsya Portal:** It is a National Portal on **human elephant conflict** for collection of real time information & also for managing the conflicts on a real time basis.
- **Project Elephant:** It was launched by the Government of India in the year **1992** as a centrally sponsored scheme to protect elephants, their habitat & corridors.
- **Gaj Yatra: Wildlife Trust of India (WTI)** launched Gaj Yatra, a campaign that aims to **raise awareness about the shrinking space** for India's wild elephants and the importance of securing elephant corridors.
- Elephant Proof trenches in Tamil Nadu.
- Hanging fences and rubble walls in Karnataka.
- **Use of chili smoke in north Bengal,**
- **Playing the sound of bees or carnivores in Assam**
- An **elephant corridor** initiative where 25.37 acres of private land was purchased at **Edayarahalli-Doddasampige in Karnataka** as part of conservation efforts.

Elephant Corridors and It's Significance

- They are **narrow strips of land** that connect two large habitats of elephants. They are **crucial to reduce animal fatalities** due to accidents and other reasons.
- Over **500 humans are killed** in encounters with elephants annually, and crops and property worth millions are also damaged. Many elephants (approx. 50) are also killed in retaliation due to conflict.
- Nearly **40% of elephant reserves are vulnerable**, as they are not within protected parks and sanctuaries.
- Also, the **migration corridors have no specific legal protection**. Only 22% of elephant habitat has some kind of protection.
- 88 elephant corridors have been identified by the **wildlife trust of India** under the National elephant Corridor project.

Seed-Bombs

- Encouraged by **germination** and **subsequent growth** in bamboo plantations, **Odisha's Athagarh Forest Division** has **begun casting seed balls** inside different reserve forest areas to **enrich food stock** for wild elephants.
- The growth in **bamboo plantations** is expected to **meet the needs** of the elephants, which often stray out of the forests and raid human habitations.
- A seed bomb is a little ball generally made up of a combination of compost, clay and seeds.

Initiatives of Other States:

- **Udaipur** has been chosen for experimenting the **seed bombing** technique to increase forest cover in Rajasthan.
- The **Haryana** government has done **aerial seeding techniques** to improve green cover in the **Aravalli** area of the State.

Lead Pollution

- The **United Nations Children's Fund (UNICEF)** released a report titled '**The Toxic Truth: Children's exposure to lead pollution undermines a generation of potential**'.
- It states that around **one in three children** has blood lead levels at or above five micrograms per decilitre ($\mu\text{g}/\text{dL}$). Out of the 800 million children worldwide that are suffering from lead poisoning, nearly **half of them are in South Asia**.
- Lead poisoning is affecting children on a "**massive and previously unknown scale**".
- Lead is a potent **neurotoxin** that causes irreparable harm to **children's brains**. It has also been linked to mental health and **behavioural problems** and an increase in crime and violence.
- Lead in the blood can damage **red blood cells** and limit their ability to carry oxygen to the organs and tissues that need it, causing **anaemia**. It can also affect **bones**, interfering with the absorption of calcium that bones need to grow healthy and strong.
- The **Global Alliance to Eliminate Lead Paint** is a cooperative initiative jointly led by the **World Health Organization** and the **United Nations Environment Programme** to focus and catalyze the efforts to achieve international goals to prevent children's exposure to lead from paints containing lead and to minimize occupational exposures to lead paint.

Leopard Poaching

- **TRAFFIC India** has studied the seizure and mortality of '**common leopards**' and released a paper titled "**SPOTTED** in **Illegal Wildlife Trade: A Peek into Ongoing Poaching and Illegal Trade of Leopards in India**".
- Of the total of **747 leopard** deaths between 2015-2019 in India, 596 were linked to **illegal wildlife trade and activities** related to poaching and **highest** numbers of poaching incidents were reported from the States of **Uttarakhand and Maharashtra**.
- Among all the derivatives found in illegal wildlife trade, **skin remained the most in-demand product**, accounting for 69% of all seizures, while derivatives like claws, teeth and bones were also traded.

Pangolin

- Though many think of them as reptiles, pangolins are **actually mammals**.

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- They are the **only mammals wholly-covered in scales** and they use those scales to protect themselves from predators in the wild. If under threat, a pangolin will immediately **curl into a tight ball** and will use their sharp-scaled tails to defend themselves.
- According to CITES, it is also the **most illegally traded** vertebrate within its class (Mammalia).
- **Eight species** of pangolins are found on two continents. They range from **Vulnerable to Critically Endangered**.
- **Four species live in Africa:**
 - Black-bellied pangolin (*Phataginus tetradactyla*),
 - White-bellied pangolin (*Phataginus tricuspis*),
 - Giant Ground pangolin (*Smutsia gigantea*) and
 - Temminck's Ground pangolin (*Smutsia temminckii*).
- **The four species found in Asia:**
 - Indian pangolin (*Manis crassicaudata*),
 - Philippine pangolin (*Manis culionensis*),
 - Sunda pangolin (*Manis javanica*) and
 - Chinese pangolin (*Manis pentadactyla*)
- **Two are found in India.** They are **Chinese pangolin**, mostly found in **northeast India and Indian pangolin**.
- **Protection Status:**
 - **IUCN Red List:** Chinese pangolin “critically endangered” and Indian pangolin “endangered”
 - **Wildlife (Protection) Act 1972:** Schedule I



Environmental Impact Assessment (EIA) notification 2020/ Draft EIA notification

- It seeks to replace the EIA 2006.
- EIA is statutorily backed by the **Environment Protection Act (EPA), 1986** which contains various provisions on EIA methodology and process and EPA, 1986 gives power to the **central government** to take all such measures for “protecting and improving the quality of the environment.

Key Points of EIA Notification 2020

- The new draft allows for **post-facto** approval for projects. A project that is already operating in violation of the EPA can now apply for clearance.
- The **Supreme Court** noted in a 1 April judgement that, “The concept of an ex post facto EC (environmental clearance) is in derogation of the fundamental principles of **environmental jurisprudence**.”
- Post facto approval is the derogation of the fundamental principles of environmental jurisprudence and violation of the “**precautionary principle**,” which is a principle of environmental sustainability.
- The draft notification reduced the time period **from 30 days to 20 days** for the **public** to submit their responses during a public hearing for any application seeking environmental clearance.
- The 2006 notification required that the project proponent submit a report every six months, the new draft requires to submit a report only once every year.

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- The new draft also **exempts a long list of projects** outside the purview of the EIA, including any project the government labels as “**strategic**”. The exempt list also includes **all inland waterways and national highways** projects.
- Construction projects of up to 150,000 sq. m shall be exempt from EIAs, earlier it was 20,000 square metres.

Tanystropheus

- A recent study has unveiled fresh details surrounding the **Tanystropheus**, that lived on Earth some 242 million years ago and had a remarkably elongated neck – longer than its body and tail combined.
- Tanystropheus, a **reptile**, are believed to have lived around the **Monte San Giorgio basin on the Swiss-Italian border during the middle Triassic period (247-237 million years ago)**, and were originally mistaken to be a kind of **Pterosaur – a flying reptile**.
- Researchers concluded that Tanystropheus was a “**ram-feeder**”, its **long neck** allowing it to approach unknowing prey and then use its fang-like teeth to directly snap a bit off its prey.



Environmental Emergency

Mauritius has declared a "state of environmental emergency" and asked France for help after an **oil spill** from a Japanese-owned ship near vulnerable waters.

National Parks in News

Kaziranga National Park

- Kaziranga National Park is a protected area in the northeast Indian state of **Assam**.
- Spread across the floodplains of the **Brahmaputra River**, its forests, wetlands and grasslands are home to tigers, elephants and the world's largest population of Indian **one-horned rhinoceroses**.
- Ganges River dolphins swim in the park's waters. It's visited by many rare migratory birds, and gray pelicans roost near Kaziranga village.
- It was declared as a National Park in 1974; **tiger reserve** in 2007; **UNESCO World Heritage Site** in 1985 and An **Important Bird Area by BirdLife International**.

Nagarahole National Park

- The Karnataka Forest Department decided to put in place a **traffic monitoring mechanism** along the roads adjacent to Nagarhole National Park to ensure better compliance of forest laws by motorists and minimise road kills.
- Nagarhole National Park, also known as **Rajiv Gandhi National Park**, is a wildlife reserve in the South Indian state of **Karnataka**.
- Part of the **Nilgiri Biosphere Reserve**, the park is backed by the **Brahmagiri Mountains** and filled with **sandalwood** and **teak trees**.
- The Kabini River passes through jungle landscapes and it is home to tigers, Asian elephants and a variety of birds.

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- In 1999 it was declared as Tiger Reserve.

Dehing Patkai Wildlife Sanctuary

- The Assam government has decided to **upgrade Dehing Patkai Wildlife Sanctuary, also known as the Jeypore Rainforest, into a National Park.**
- While the first proposal to accord national park status to the region dates back to 1995, Dehing Patkai was declared a **wildlife sanctuary in 2004.**
- The 111.942 sq km Dehing Patkai Wildlife Sanctuary is located within the larger **Dehing Patkai Elephant Reserve**, which spreads across the coal- and oil-rich districts of **Upper Assam** (Dibrugarh, Tinsukia and Sivasagar) and is believed to be the **last remaining contiguous patch of lowland rainforest area in Assam.**
- Dehing is the name of the river that flows through this forest and Patkai is the hill at the foot of which the sanctuary lies.
- The oldest refinery of Asia in Digboi and 'open cast' coal mining at Lido are located near the sanctuary.
- Post upgradation, Dehing Patkai will be the sixth national park in Assam — the other five being Kaziranga, Nameri, Manas, Orang and Dibru-Saikhowa.

Ranthambore Tiger Reserve

- It lies in the eastern part of **Rajasthan** state, at the **junction of the Aravali and Vindhya hill ranges.**
- It was established initially as **Sawai Madhopur Game Sanctuary in 1955** by the Government of India and declared a Tiger Reserve in 1973 and a national park in 1980.

Rajaji National Park

- it is an Indian national park and tiger reserve that encompasses the **Shivaliks**, near the foothills of the Himalayas. The park is spread over 820 km²., and three districts of **Uttarakhand**: Haridwar, Dehradun and Pauri Garhwal.
- The **Ganga** and **Song rivers** flow through the park.
- Rajaji National Park has been named after **C.Rajagopalachari (Rajaji)**, a prominent leader of the Freedom Struggle, the second and last **Governor-General of independent India** and one of the **first recipients** of India's highest civilian award **Bharat Ratna** (in 1954).
- In 2015, Rajaji became the second tiger reserve in Uttarakhand.
- Jim Corbett National Park is the first National Park of Uttarakhand as well as of India.
- It is home to the **Van Gujjars tribes** in the winters. The tribe is one of the few **forest-dwelling** nomadic communities in the country.
- Usually, they migrate to the **bugyals (grasslands)** located in the upper Himalayas with their buffaloes and return only at the end of monsoons to their makeshift huts, deras, in the foothills. The Van Gujjars traditionally practice buffalo husbandry; a family owns up to 25 heads of buffaloes.

Tillari Conservation Reserve

- The **Maharashtra government** declared the **Tillari forest area** in the **Dodamarg and Sawantwadi range** in coastal Sindhudurg district as a conservation reserve area.
- It is located near the border of Maharashtra, Goa and Karnataka, connecting **Mhadei sanctuary in Goa and Bhimgad in Karnataka.**
- Tillari reserve has semi-evergreen forest, tropical moist deciduous forests, and a number of unique trees, butterflies, and flowers.

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- The area covering nine villages in the forest range is known to serve as a **corridor** and even as a habitat for the population of tigers and elephants moving between the three states of Goa, Karnataka, and Maharashtra.
- Tillari will be the **seventh corridor** in the state to be declared as a 'conservation reserve'
- Maharashtra has 62 conservation reserves, of which 13 are in the western ghats.

Melghat Tiger Reserve

- The **Maharashtra Government** requested the Union government for an alternate alignment for the proposed upgradation of the railway line passing through **Melghat Tiger Reserve (MTR)**.
- It is located in Amravati district of **Maharashtra** in **Vidarbha region** in the South-western **Satpura mountain** ranges bordering Madhya Pradesh in the North and East. The **Tapti River** and the **Gawilgadh ridge** of the Satpura Range form the boundaries of the reserve.
- Melghat means '**meeting of the ghats**', which describes the area as a large tract of unending hills and ravines scarred by jagged cliffs and steep climbs.
- Melghat was declared a tiger reserve and was among the first nine tiger reserves notified in 1973-74 under the Project Tiger and **first Tiger Reserve** to be declared in the State of Maharashtra.
- In 1985, **Melghat Wildlife Sanctuary** was created. It consists of **Gugamal National Park, Wan, Ambawarba and Narnala sanctuaries**.

Indian Peacock Soft-Shell Turtle

- A **turtle of a vulnerable species** was rescued from a fish market in Assam's Silchar.
- Indian peacock softshell turtle (*Nilssonia hurum*) is a species of turtle found in **South Asia**.
- These are found in rivers, streams, lakes and ponds with mud or sand bottoms.
- In India, it is widespread in the **northern and central parts** of the Indian subcontinent.
- The species is characterised by a **large head**, a snout turned down and a low, oval carapace, with olive to **dark green colour** and has a yellow rim.
- **Protection Status**
 - **IUCN Red List: Vulnerable**
 - **Wildlife Protection Act, 1972: Schedule I**
 - **CITES: Appendix I**



India's Sprawling Renewable Energy Park

- Prime Minister of India laid the foundation stone for the 30,000 MW project in **Gujarat's Kutch district**, billed as the **largest of its kind in the world**.
 - The project is located between Khavda village and Vighakot.
 - It is close to the Indo-Pak border in Kutch district, within 1-6 km of the international border.
- The park will have **two zones**:

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- A 49,600-hectare hybrid park zone that will accommodate wind and solar power plants of 24,800 MW capacity; and
- An exclusive wind park zone spread over 23,000 hectares.
- This site has been chosen because this is a complete wasteland.

Eco-Ducts or Eco-Bridges

- **Ramnagar Forest Division in Nainital district, Uttarakhand built its first eco-bridge for reptiles and smaller mammals.**
- Eco-ducts or eco-bridges aim to enhance wildlife connectivity that can be disrupted because of highways or logging. These include
 - **canopy bridges** (usually for monkeys, squirrels and other arboreal species);
 - **concrete underpasses** or overpass tunnels or viaducts (usually for larger animals);
 - **amphibian tunnels or culverts.**
- Usually these bridges are overlaid with planting from the area to give it a contiguous look with the landscape.



Ischaemum Janarthanamii

- A new species of **Indian Muraingrasses (Genus Ischaemum)** have been spotted by scientists in the plateaus of **Western Ghats of Goa**. It is found on low altitude lateritic plateaus in the outskirts Goa's **Bhagwan Mahavir National Park**.
- Besides being of economic significance as it is commonly used as **fodder**, this species, has fought **harsh conditions** to survive in this ecologically-sensitive region.
- The species is named after **M K Janarthanam**, professor of Botany at Goa University.



Exotic Pets

- The Supreme Court upheld an Allahabad High Court order **granting immunity from investigation and prosecution** if one declared illegal acquisition or possession of exotic wildlife species between June and December. This was under a **new amnesty scheme announced by the Centre**.
- The Ministry of Environment, Forest and Climate Change (**MoEFCC**) has come out with an **advisory on a one-time voluntary disclosure scheme** that allows owners of exotic live species that have been **acquired illegally, or without documents, to declare their stock to the government between June and December 2020**.
- With this scheme, the government aims to address the challenge of zoonotic diseases, develop an inventory of **exotic live species** for better compliance under the **Convention on International Trade**

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in Endangered Species of Wild Fauna and Flora (CITES), and regulate their import. In its current form, however, the amnesty scheme is just an advisory, not a law.

- The advisory has **defined exotic live species** as animals named under the **Appendices I, II and III of the CITES**.
- It does **not include species from the Schedules of the Wild Life (Protection) Act 1972**. So, a plain reading of the advisory excludes exotic birds from the amnesty scheme.
- The disclosure has to be done online through MoEFCC's Parivesh portal.

PARIVESH (Pro Active and Responsive facilitation by Interactive and Virtuous Environmental Singlewindow Hub)

- PARIVESH is a **web based, role based workflow application** which has been developed for online submission and monitoring of the proposals submitted by the proponents for seeking Environment, Forest, Wildlife and CRZ Clearances from Central, State and district level authorities.
- It automates the **entire tracking of proposals** which includes online submission of a new proposal, editing/updating the details of proposals and displays status of the proposals at each stage of the workflow.

Myristica Swamp Treefrog

- Myristica Swamp Treefrog, a rare **arboreal species endemic to the Western Ghats** (*Mercurana myristicapalustris*), has been recorded for the first time north of the **Shencottah gap in Vazhachal Reserve Forest in Thrissur, Kerala**.
- These frogs are **rare and elusive** for the reason that they are **arboreal and active only for a few weeks during their breeding season**.
- During this season, **there is a large aggregation** of males that descend from the **high canopy** of the trees. The **males vocalise** in groups from the low perches in the swamps. The breeding season, unlike for other frogs, starts in the **pre-monsoons season (May)** and ends before the monsoon becomes fully active in June.
- Before the end of the breeding season, the female frogs along with their male counterparts descend to the forest floor.



Himalayan Serow

- A **Himalayan serow** has been sighted for the first time in the Himalayan cold desert region near Hurling village in Spiti, Himachal Pradesh.
- Himalayan serow resembles a cross between a **goat, a donkey, a cow, and a pig**.
- It's a **medium-sized** mammal with a large head, thick neck, short limbs, long, mule-like ears, and a coat of dark hair.
- There are **several species of serows**, and all of them are found in Asia. The **Himalayan serow** is restricted to the Himalayan region. Taxonomically, it is a subspecies of the mainland serow.



- **Protection Status:**

- IUCN Red List: Vulnerable (Previously 'near threatened')
- CITES: Appendix I
- The Wildlife Protection Act, 1972: Schedule I

Himalayan Trillium

The **Himalayan trillium (Trillium govanianum)**, a **common herb** of the Himalayas was declared '**endangered**' by the International Union for Conservation of Nature (IUCN).



Status of Leopards in India 2018

- Union Minister for Environment released the **Status of Leopards report**. The Leopard census was a **part of the India's tiger survey**.
- Conducting a **leopard (Panthera pardus)** survey, along with the tiger survey, is problematic as the former is adapted to **living on the edge of forests and human habitats**, unlike the tiger which is an elusive creature. This had led to gross errors in estimating the true numbers of leopards.
- There are 12,852 leopards in India as of 2018 as compared to the previous estimate of 7910 conducted in 2014, an **increase of 60% in 4 years**.
- The **highest concentration of the leopard** in India is estimated to be in **Madhya Pradesh** (3,421) followed by Karnataka (1,783) and Maharashtra (1,690).
- **Protection Status:**
 - IUCN Red List: Vulnerable
 - CITES: Appendix I
 - The Wildlife Protection Act, 1972: Schedule I
- **Nine subspecies** of the leopard (*Panthera pardus*) have been recognized, and they are distributed across **Africa and Asia**.

Firefly Bird Diverters To Save Great Indian Bustard

- The **Ministry of Environment Forest and Climate Change (MoEFCC)** along with **Wildlife Conservation Society (WCS)** India has come up with a unique initiative — a "**firefly bird diverter**" for overhead power lines in areas where **Great Indian Bustard (GIB) populations** are found in the wild.
- The diverters are **flaps installed on power lines**. They work as reflectors for bird species like the GIB. Birds **can spot them from a distance of about 50 meters** and change their path of flight to avoid collision with power lines.
- The diverters are called fireflies because they **look like fireflies** from a distance, shining on power lines in the night.
- The firefly detectors have been installed in the **Pokhran tehsil in Rajasthan**.
- GIB is one of the most **critically threatened species** in India, with less than 150 birds left in the wild.

- **Protection Status:**
 - IUCN Red List: Critically Endangered
 - CITES: Appendix I
 - The Wildlife Protection Act, 1972: Schedule I
- Great Indian Bustard is **one of the heaviest flying birds** in the world.
- Its population is confined mostly to **Rajasthan and Gujarat**. Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- Only two districts in Rajasthan — **Jaisalmer and Barmer** — have a breeding GIB population in the wild.



Ladakh's Tso Kar Wetland Complex: India's 42nd Ramsar Site

- The Tso Kar Basin is a high-altitude wetland complex, consisting of **two principal waterbodies**, **Startsapuk Tso**, a freshwater lake of about 438 hectares to the south, and **Tso Kar itself**, a hypersaline lake of 1800 hectares to the north, situated in the **Changthang region of Ladakh, India**.
- It is called Tso Kar, **meaning white lake**, because of the white salt efflorescence found on the margins due to the evaporation of highly saline water.
- It is an **A1 Category Important Bird Area (IBA)** as per Bird Life International and a key staging site in the Central Asian Flyway. The site is also one of the most important breeding areas of the Black-necked Crane (*Grus nigricollis*) in India.
- This is also the **major breeding area** for Great Crested Grebe (*Podiceps cristatus*), Bar-headed Geese (*Anser indicus*), Ruddy Shelduck (*Tadorna ferruginea*), Brown-headed Gull (*Larus brunnicephalus*), Lesser Sand-Plover (*Charadrius mongolus*) and many other species.

Emission Gap Report 2020

- The **United Nations Environment Programme (UNEP)** released its annual Emissions Gap Report 2020.
- It measures the **gap between anticipated emissions** and levels consistent with the **Paris Agreement goals** of limiting global warming this century to **well below 2°C and pursuing 1.5°C**.
- The year 2020 is on course to be one of the **warmest on record**, while wildfires, storms and droughts continue to wreak havoc.

Key Findings

- **Record high GHG emissions:** Global GHG emissions continued to grow for the third consecutive year in 2019.
- **Record carbon emission:** Fossil carbon dioxide (CO₂) emissions (from fossil fuels and carbonates) dominate total GHG emissions.
- **Forest fires increasing GHG emissions:** Since 2010, GHG emissions have grown at 1.3 per cent per year on average.
- **G20 countries account for bulk of emissions:** Over the last decade, the **top four emitters (China, United States of America, EU27+UK and India)** have contributed to 55 % of the total GHG emissions.

- There is some indication that the **growth in global GHG emissions is slowing**. However, GHG emissions are declining in Organisation of Economic Cooperation and Development (OECD) economies and increasing in non-OECD economies.
- CO₂ emissions could **decrease by about 7 per cent in 2020** (range: 2–12 per cent) compared with 2019 emission levels **due to COVID-19**.

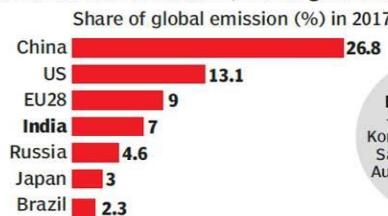
The reduction in GHG emissions in 2020 due to COVID-19 is likely to be significantly **larger than the 1.2 per cent reduction during the global financial crisis** in the late 2000s.

- Although CO₂ emissions will decrease in 2020, the resulting atmospheric concentrations of **major GHGs (CO₂, methane (CH₄) and nitrous oxide (N₂O)) continued to increase** in both 2019 and 2020.
- At the time of completing this report, **126 countries covering 51 per cent of global GHG emissions have net-zero goals** that are formally adopted, announced or under consideration. If the **United States** of America adopts a net-zero GHG target by 2050, as suggested in the Biden-Harris climate plan, the share would increase to **63 per cent**.

EMISSION GAP IN CLIMATE DISASTER

- | | |
|---|--|
| <ul style="list-style-type: none"> ► Global GHG emissions reached historic levels at 53.5 GtCO₂e (gigatonnes of carbon dioxide equivalent) ► It's an increase of 0.7 GtCO₂e compared with 2016 ► Global emissions recorded | <ul style="list-style-type: none"> increase in 2017 after three years of stabilisation ► Global emissions need to peak and decline rapidly thereafter to limit average warming to below 2 degrees C and 1.5 degree C by 2100 |
|---|--|

Where do G20 countries (78% of global emissions) stand?



Countries having less than 2% share
—Indonesia, South Korea, Canada, Mexico, Saudi Arabia, Turkey, Australia, South Africa and Argentina

Malayan Giant Squirrel

- A **first-of-its-kind study by the Zoological Survey of India (ZSI)** has projected that numbers of the **Malayan Giant Squirrel** could decline by 90 per cent in India by 2050, and if urgent steps are not taken, the species could be extinct in the country in subsequent decades.
- It is one of the **world's largest squirrel species** that has a dark upper body, pale under parts, and a long, bushy tail.
- It is currently **found** in parts of West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, and Nagaland.
- Unlike the **nocturnal flying squirrels**, giant squirrels are diurnal, but **arboreal (tree-dwelling)** and herbivorous like the flying squirrels.
- Protection Status**
 - IUCN Red List: Near Threatened.
 - CITES: Appendix II.
 - Wildlife Protection Act, 1972: Schedule I.
- India is home to **three giant squirrel species**; the other two – **Indian Giant Squirrel** and **Grizzled Giant Squirrel** – are found in peninsular India.



Kolar Leaf-Nosed Bat

- Karnataka Forest Department** with the **Bat Conservation India Trust** is formulating a conservation plan for the **Kolar Leaf-Nosed Bats**.
- The rare species, which were found only inside the **two caves of Kolar district for several years**, became locally extinct from one of the caves.



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- It is **endemic to India**. It is currently found only from **one cave in Hanumanahalli village in Kolar district, Karnataka**.
- **IUCN Red List: Critically Endangered**

Sutlej-Yamuna Link (SYL)

- Sutlej-Yamuna Link (SYL) canal issue is the focal point of a water-sharing dispute between **Punjab and Haryana**, Punjab CM said that it has the potential to disturb the **nation's security**.

Pakistan has been making continuous attempts to foment trouble and to try and revive the **separatist movement** through the banned **Sikhs for Justice organisation**. The water issue could further destabilise the State.

- Punjab has been demanding to set up a **new tribunal** for a fresh assessment of the water availability in Ravi-Beas.
- Haryana has been seeking the completion of SYL canal to get its share of river waters. It has maintained that Punjab should comply with the **2002 & 2004 Supreme Court orders in this regard**.

Important Dates, Facts and Points

- After the **partition of India in 1947** into Pakistan and India, the **Indus basin** was bisected with India gaining the upper reaches of the Indus river and its tributaries while Pakistan gained the lower reaches. The **Indus Water Treaty reached in 1960** allowed India unrestricted use of water from Sutlej, Ravi and Beas.
- Although the issue of water of **Sutlej river** was resolved through the **Bhakra Nangal project**, the issue of surplus waters of **Ravi river and Beas river** excluding the pre-Partition use remained.
- The dispute regarding sharing of river water emerged after **Punjab was reorganised in 1966**, and **the state of Haryana was created**.
- **Punjab** was **opposed** to sharing waters of the Ravi and Beas with Haryana, citing riparian principles, and arguing that it had no water to spare. However, Centre, in 1976, issued a notification allocating to Haryana 3.5 million acre feet (MAF) out of undivided Punjab's 7.2 MAF.
- **The Ravi and Beas Waters Tribunal (also known as Eridi Tribunal)** was set up to reassess availability and sharing of water. The Tribunal, in 1987, recommended an increase in the shares of Punjab and Haryana to 5 MAF and 3.83 MAF, respectively.

Sutlej Yamuna Link Canal

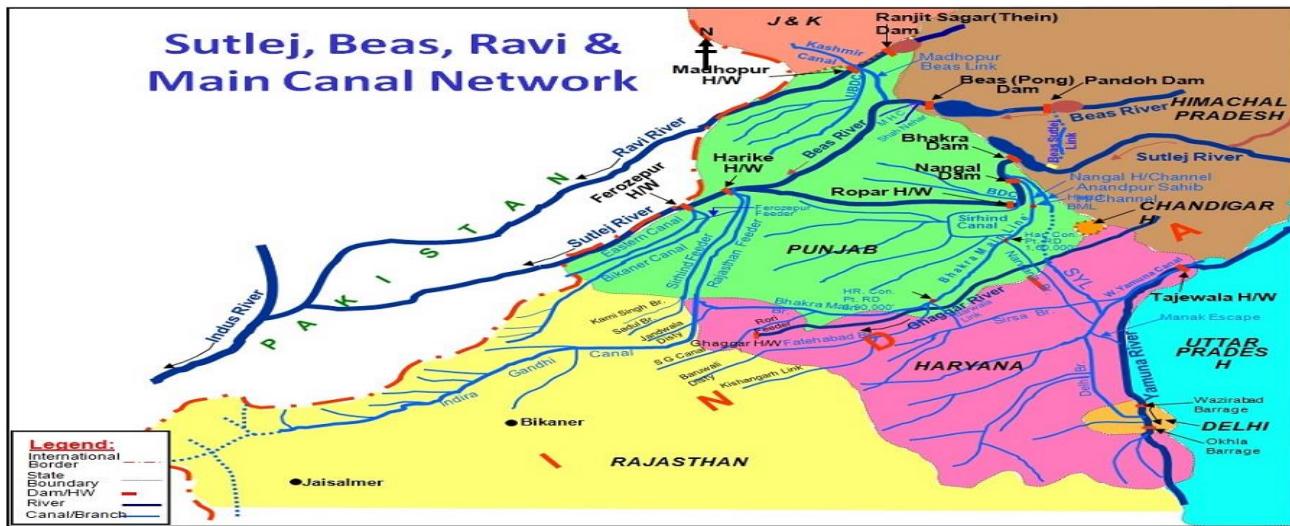
- Satluj Yamuna Link Canal, or SYL as it is popularly known, is an **under-construction** 214-kilometer (133 mi) long canal in India to connect the Sutlej and Yamuna rivers.
- It defines river water sharing between the states of **Punjab and Haryana**.

Sutlej River: Geography and History

- The Sutlej River is the **longest of the five rivers** that flow through Punjab in northern India and Pakistan.
- It is also known as **Satadree**. It is the **eastermost** tributary of the Indus River.
- The **Bhakra Dam** is built around the river Sutlej to provide irrigation and other facilities to the states of Punjab, Rajasthan and Haryana.
- The **source** of the Sutlej is west of the catchment area of **Lake Rakshastal in Tibet**, as it springs in an ephemeral stream.

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- The Upper Sutlej Valley, called **Langqên Zangbo** in Tibet, was once known as the **Garuda Valley** by the Zhangzhung, the ancient civilization of western Tibet.



'No-Go' forests

- Since 2015, of the 49 blocks cleared for coal mining, nine were in 'No-Go' areas, or regions that were once classified by the Ministry of Environment and Forests and Climate Change as containing very dense forests and hence closed to coal mining.
- In 2020, of the 41 blocks put up for auction, 21 feature in the original No-Go list, as per the Centre for Science and Environment (CSE).

Classification of Coal Mining Areas

- Unfragmented forest landscapes having **gross forest cover (GFC)** more than 30 percent and **weighted forest cover (WFC)** more than 10 percent, named as **category-A or 'No-Go' areas**.
- Fragmented forest landscapes having GFC less than **30 %** and WFC less than **10%**, named as **category-B or 'Go' areas**.
- The exercise is aimed at prioritising forest areas under the **Forest Conservation Act, 1980**.
- However, the concept has no legal standing. They are mandated neither under **Forest Conservation Rules, 2003** nor under any circular issued by the Ministry of Environment, Forest and Climate Change.

African Hunting Cheetahs

- Mysuru Zoo in Karnataka has acquired one male and two female African hunting Cheetah from **Ann Van Dyke Cheetah Centre at Johannesburg, South Africa** as part of the Animal Exchange Programme.
- Mysuru zoo is the **second zoo** in the country to house hunting cheetahs after **Hyderabad zoo** which has a pair of big cats.

Cheetah

- The cheetah is a large cat **native to Africa and central Iran**. It is the **fastest land animal**, capable of running at 80 to 128 km/h.

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- The cheetah has been classified as **Vulnerable** by the IUCN; it is listed under Appendix I of the CMS and Appendix I of CITES.
- **Four subspecies** are recognised as
 - i. **Southeast African cheetah**
 - It genetically diverged from the Asiatic cheetah 67,000–32,000 years ago.
 - As of 2016, the largest population of nearly 4,000 individuals is sparsely distributed in Angola, Botswana, Mozambique, Namibia, South Africa and Zambia.
 - ii. **Asiatic cheetah**
 - This subspecies is confined to central Iran, and is the only surviving cheetah population in Asia.
 - It is listed as Critically Endangered on the IUCN Red List.
 - It was declared extinct in India in 1952.
 - iii. **Northeast African cheetah**
 - This subspecies occurs in the northern Central African Republic, Chad, Ethiopia and South Sudan in small and heavily fragmented populations.
 - iv. **Northwest African cheetah**
 - This subspecies occurs in Algeria, Benin, Burkina Faso, Mali and Niger.
 - It is listed as Critically Endangered on the IUCN Red List.

State Pollution Control Board

- The Orissa High Court issued notice to the State government over **appointment of bureaucrats as chairman and member secretary** of the State Pollution Control Board for the past 10 years.
- As per the Section 4 of **Water (Prevention and Control of Pollution) Act, 1974, and Sec 5 of the Air (Prevention and Control of Pollution) 1981**, there is provision for appointment of full-time member secretary and nomination of full time or part time chairman by the State government.
- But, for last more than 10 years, the posts of OSPCB are filled up from the cadres of **IAS and IFS** respectively without adhering to any selection procedure”
- The same was the case in many **other States**, and a case was filed in the **National Green Tribunal, New Delhi**, since the posts require scientific and engineering or management qualification and experience. The NGT made a similar observation in its 2016 order.
- In September 2017, the Supreme Court had directed the State governments to formulate policy regarding the qualification and experience for these posts within six months.

About State Pollution Control Boards

- The Central Pollution Control Board (CPCB) of India is a **statutory organisation** under the Ministry of Environment, Forest and Climate Change (Mo.E.F.C.C.). It was established along with the State Pollution Control Board in 1974 under the **Water (Prevention and Control of pollution) Act, 1974**.
- The CPCB and SPCBs are also entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.
- CPCB has its **head office in New Delhi**, with seven zonal offices and 5 laboratories. The **Zonal offices** are located at Bengaluru, Kolkata, Shillong, Bhopal, Lucknow, Vadodara and a Project Office at Agra.

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- The members of State Pollution Control Boards are nominated by respective State Governments.
- The Board is also enforcing the following Rule and Notifications framed under Environment (Protection) Act, 1986:
 - Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
 - Environmental Impact Assessment Notification, 2006.
 - Bio-Medical Waste Management Rules, 2016.
 - Plastic Waste Management Rules, 2016.
 - The Noise Pollution (Regulation & Control) Rules, 2000.
 - Construction & Demolition Waste Management Rules, 2016
 - The Public Liability Insurance Act, 1991.
 - Fly Ash Notification, 1999 and 2008.

National Clean Air Programme (NCAP)

The **National Green Tribunal** has slammed the Ministry of Environment and Forests (MoEF) over its report on the **National Clean Air Programme (NCAP)** which proposes **20-30% reduction of air pollution by 2024**.

About National Clean Air Programme (NCAP)

- The **Ministry of Housing & Urban Affairs** launched the National Clean Air Programme (NCAP) in January 2019.
- It is a **long-term, time-bound, national level strategy** to tackle the air pollution problem across the country in a comprehensive manner with targets to **achieve 20% to 30% reduction in Particulate Matter concentrations by 2024 keeping 2017 as the base year** for the comparison of concentration.
- Under NCAP, **122 non-attainment cities** have been identified across the country based on the **Air Quality data from 2014-2018**.
- These cities are referred to as non-attainment cities as they did not meet the national ambient **air quality standards for the period of 2011-15** under the **National Air Quality Monitoring Programme**.
- It is the **first-ever effort** in the country to frame a national framework for air quality management with a time-bound reduction target.

BY 2024, POLLUTION CUT BY 30%

NATIONAL CLEAN AIR PROGRAMME (NCAP)

Cities to be covered: 102

GOAL: To meet annual average ambient air quality standards

MID-TERM (5 YEARS) TARGET: Reducing air pollution by 20-30% by 2024, taking 2017 as base year

HOW: Through city-specific air pollution abatement action plan

BUILD CAPACITY BY SETTING UP:

1 National emission inventory

2 Air Information Centre for data analysis

3 Source apportionment studies

4 Guidelines for indoor air pollution

5 Rural monitoring stations

INTERNATIONAL SUPPORT AGENCIES: World Bank, German development agency (GIZ), AFD (French funding agency), Swiss Development Corporation, Bloomberg Philanthropies

NGT Observation

- Under the **NCAP**, the target was to achieve norms in **10 years** and reduce load to the **extent of 35%** in the **first three years** with further reduction of pollution later. It meant for 10 years pollution would remain unaddressed which was too long a period of tolerating violations when clean air was *Right to Life*. Further, it was not clear what type of pollutants or all pollutants would be reduced.
- It also said that **Non-Attainment Cities (NACs)** cover cities where standards were not consecutively met for five years. It is not clear as to what the monitoring mechanism for enforcement is. There is no data on how much pollution has been reduced in the last two years. In fact, in 2019, the number of NACs has gone up from 102 to 122.

- The **NITI Aayog** launched the “**India Component**” of the **Nationally Determined Contributions (NDC)–Transport Initiative for Asia (TIA)**.
- It is a **joint programme** that is supported by the **International Climate Initiative (IKI)** of the **German Ministry for the Environment and Nature Conservation and Nuclear Safety (BMU)**.
- It is a regional initiative that aims to promote a comprehensive approach to **decarbonize transport in India, Vietnam, and China**.
- A consortium of **seven organisations** namely implements it:
 1. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
 2. International Council on Clean Transportation (ICCT)
 3. World Resources Institute (WRI)
 4. International Transport Forum (ITF)
 5. Agora Verkehrswende (AGORA)
 6. Partnership on Sustainable, Low Carbon Transport (SLoCaT) Foundation
 7. Renewable Energy Policy Network for the 21st Century e.V. (REN21)
- On behalf of the **Government of India, NITI Aayog** will be the implementing partner.
- The NDC-TIA programme has a duration of 4 years.
- This will contribute towards achieving their NDCs and increasing their ambition in the transport sector of 2025 NDCs.

Barn Owls

- The Lakshadweep Administration had embarked on the ‘**Pilot project on Biological Control of Rodents (Rats)** by using **Barn Owls (Tyto alba)** in **Kavaratti Island**’ after studies revealed the shocking extent of damage caused by rats to the island’s coconut yield and economy.
- A sample survey in Kavaratti during April and May 2019 had put the **coconut production loss due to rodent damage at 44%**.
- The report also recalls an attempt by **British** to introduce wood owls in Bitra for rodent control in **1875**.

About Barn Owls

- The **barn owl** is the most widely distributed species of owl in the world and one of the most widespread of all species of birds.
- This owl does not hoot, but utters an eerie, drawn-out screech.
- The barn owl is **nocturnal** over most of its range, but in Great Britain and some Pacific islands, it also hunts by day.
- Barn owls specialise in hunting animals on the ground and nearly all of their food consists of small mammals which they locate by sound, their hearing being very acute.
- **Protection Status: Least Concern (IUCN)**



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Association of Renewable Energy Agencies of States (AREAS)

- Union Minister of New & Renewable Energy graced the ceremony of **6th Foundation Day of AREAS on 27th August 2020** through an online platform.
- He launched AREAS website www.areas.org.in and also Telephone Directory of AREAS.
- AREAS has been formed on **MNRE (Ministry of New and Renewable energy)** initiative to interact and learn from each other's experiences and also share their **best practices and knowledge** regarding technologies and schemes/programmes.
- The AREAS got registered under **Society Registration Act 1860** on 27 August 2014.
- The **Union Minister for New & Renewable Energy** is the **Patron** of the Association and **Secretary of MNRE** is the **ex-officio** President of the Association.
- All SNAs(State Nodal Agencies) are members of the Association.

Coal Gasification and Liquefaction

- India aims for **100 million tonnes (MT) coal gasification by 2030** with investments worth over Rs. 4 lakh crores.
- For encouraging use of clean sources of fuel, the Union government has provided for a **concession of 20% on revenue share** of coal used for gasification. This will boost production of synthetic natural gas, energy fuel, urea for fertilisers and production of other chemicals.

About Coal Gasification

- Coal gasification is the **process of producing syngas**—*a mixture consisting primarily of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂), natural gas (CH₄), and water vapour (H₂O)*—from coal and water, air and/or oxygen.
- Historically, coal was gasified to produce coal gas, also known as "**town gas**". Coal gas is combustible and was used for heating and municipal lighting, before the advent of large-scale extraction of natural gas from oil wells.
- It is **cheaper**, less **polluting** and more **efficient** than conventional coal-burning.
- However, it is more **water-intensive** and there are also concerns about **water contamination**, land subsidence and disposing of waste water safely.

About Coal Liquefaction

- Coal liquefaction is a process of **converting coal into liquid hydrocarbons: liquid fuels and petrochemicals**.
- This process is often known as "**Coal to X**" or "**Carbon to X**", where X can be many different hydrocarbon-based products. The most common process chain is "**Coal to Liquid Fuels**" (CTL).
- However, liquefied coal emits twice as much CO₂ as burning oil. It also emits a large volume of SO₂.

World's Largest Solar Tree

- CSIR-CMERI has developed the **World's Largest Solar Tree**, which is installed at CSIR-CMERI Residential Colony, **Durgapur**.
- The installed capacity of the Solar Tree is above 11.5 kWp. It has the annual capacity to generate 12,000-14,000 units of Clean and Green Power.

- The Solar Tree has been designed in a manner to **ensure maximum exposure** of each Solar PV Panel to Sunlight and also creation of the least amount of shadow area beneath. Thus, potentially making these Solar Trees available for **widespread usage in Agricultural activities** such as High-Capacity Pumps, e-Tractors and e-Power Tillers.
- Each Solar Tree will cost Rs 7.5 lakhs and the interested MSMEs can align their Business Model with the **Pradhan Mantri Kisan Urja Suraksha evem Utthan Mahabhiyan (PM KUSUM) Scheme** for farmers, for developing a Renewable Energy based Energy Grid.
- The solar tree has the capability to **incorporate IOT based features**, i.e. round-the-clock CCTV surveillance in agricultural fields, real-time humidity, wind speed, rainfall prediction, soil analytics etc.
- The CSIR-CMERI developed solar powered **e-Suvidha Kiosks** may also be connected to the Solar Trees for real-time access to the vast majority of agricultural database as well as to the **eNAM i.e. National Agricultural Market** Place for instant and real-time access to an unified online market.



Central Mechanical Engineering Research Institute

- The Central Mechanical Engineering Research Institute (also known as **CSIR-CMERI Durgapur or CMERI Durgapur**) is a public engineering research and development institution in Durgapur, West Bengal, India.
- It is a constituent laboratory of the Indian **Council of Scientific and Industrial Research (CSIR)**.
- This institute is the **only national level research institute** in field of mechanical engineering in India.

Green Term Ahead Market (GTAM)

- As a first step towards **Greening the Indian short term power Market**, Government of India launched pan-India **Green Term Ahead Market (GTAM)** in electricity.
- It will lead to an increase in the **participants in the renewable energy** sector. The initiative will also help in achieving the **renewable energy (RE) capacity addition targets** of the country.
- The introduction of **GTAM platform** would lessen the **burden on RE-rich states** and incentivize them to develop RE capacity beyond their own **RPO (Renewable Purchase Obligation)**. The country's target of **175 GW RE capacity by 2022** is driving accelerated renewable penetration.
- **Key Features of GTAM:**
 1. **Transactions through GTAM will be bilateral** in nature with clear identification of corresponding buyers and sellers, there will not be any difficulty in accounting for RPO.
 2. GTAM contracts will be **segregated into Solar RPO & Non-Solar RPO as RPO** targets are also segregated.
 3. Further, within the **two segments GTAM contracts** will have
 - a. **Green Intraday Contract & Day Ahead Contingency Contract** – Bidding will take place on a 15-minute time-block wise MW basis.
 - b. **Daily & Weekly Contracts – Bidding** will take place on MWh basis.
 4. **Price discovery** will take place on a **continuous basis**.

5. Energy scheduled through GTAM contract shall be considered as deemed **RPO compliance** of the buyer.

Maharashtra To Declare 600 Acres of Aarey as Reserve Forest

Maharashtra Government announced the reservation of 600 acres of Aarey land near **Sanjay Gandhi National Park (SGNP) as forest**, claiming it as the **first instance of an extensive forest blossoming** within the limits of metropolis anywhere in the world. It was declared under **Section 4 of Indian Forest Act (IFA) 1927**

Reserved Forests And Protected Forests Of India

- A reserved forest and protected forest in India are terms denoting forests accorded a **certain degree of protection**.
- The term was **first introduced in the Indian Forest Act, 1927** in British Raj, to refer to certain forests granted protection under the **British crown** in British India, but **not associated suzerainties**.
- **After Indian independence**, the Government of India retained the status of the existing reserved and protected forests, as well as incorporating new reserved and protected forests.
- Many forests which came under the **jurisdiction of the Government of India** during the **political integration** of India were initially granted such protection.
 - **The first Reserve Forest Of India was Satpura National Park.**
- Land rights to forests declared to be Reserved forests or Protected forests are typically acquired (if not already owned) and owned by the Government of India.
- Unlike national parks of India or wildlife sanctuaries of India, reserved forests and protected forests are declared by the respective state governments.

Reserved Forests	Protected Forests
<ul style="list-style-type: none"> ● At present, reserved forests and protected forests differ in one important way: Rights to all activities like hunting, grazing, etc. in reserved forests are banned unless specific orders are issued otherwise. ● EXAMPLE: Shivpuri Forest 	<ul style="list-style-type: none"> ● Protected areas are those in which human occupation or at least the exploitation of resources is limited. ● In protected areas, rights to activities like hunting and grazing are sometimes given to communities living on the fringes of the forest, who sustain their livelihood partially or wholly from forest resources or products., i.e., all activities are permitted unless it is prohibited. ● Protected forests are of two kinds - demarcated protected forests and undemarcated protected forests, based on whether the limits of the forest have been specified by a formal notification. ● EXAMPLE: Andaman and Nicobar Island ● Typically, protected forests are often upgraded to the status of wildlife sanctuaries, which in turn may be upgraded to the status of national parks, with each category receiving a higher degree of protection and government funding. ● For example, Sariska National Park was declared a reserved forest in 1955, upgraded to the status of a wildlife sanctuary in 1958, becoming a Tiger Reserve in 1978. Sariska became a national park in 1992.

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International Union for Conservation of Nature (IUCN) Categories of Protected Areas

The IUCN, through its World Commission on Protected Areas, has put forward **six** Protected Area Management Categories. The categories are as follows:

- **Category Ia – Strict Nature Reserve:** Protected areas managed mainly for science and receives least human intervention. E.g. Urwald Rothwald in Austria
- **Category Ib – Wilderness Area:** Wilderness protection. E.g. wilderness areas in the Sami native region in Finland
- **Category II – National Park:** ecosystem protection and recreation
- **Category III – Natural Monument or Feature:** Conservation of specific natural features. E.g. cliffs, caves, forest groves. E.g. Cono de Arita in Argentina.
- **Category IV – Habitat/Species Management Area:** Conservation of specific species which require protection.
- **Category V – Protected Landscape/Seascape:** Conservation of the entire area. It permits the surrounding community to interact. Example: Great Barrier Reef in Australia
- **Category VI – Protected Area with sustainable use of natural resources:** Conservation of ecosystem and habitats together with associated cultural values and traditional natural resource management systems.

Protected Areas of India

1. National parks (IUCN Category II):

- An area, whether **within a sanctuary or not**, can be notified by the **state government to be constituted as a National Park**, by reason of its ecological, faunal, floral, geomorphological, or zoological association or importance, needed to for the purpose of protecting & propagating or developing wildlife therein or its environment.
- **No human activity is permitted** inside the national park except for the ones **permitted by the Chief Wildlife Warden** of the state under the conditions given in CHAPTER IV, WPA 1972.
- There are **101 existing national parks** in India covering an area of 40,564.00 km², which is **1.23% of the geographical area** of the country (National Wildlife Database, December, 2019).
- India's first national park was **Hailey National Park, now Jim Corbett National Park**, established in 1936.

Protected Areas of India (As on December, 2019) 

	No.	Total Area (km ²)	Coverage % of Country
National Parks (NPs)	101*	40,564.03	1.23
Wildlife Sanctuaries (WLSs)	553	119,756.97	3.64
Conservation Reserves (CRs)	86	3,858.25	0.12
Community Reserves	163	833.34	0.03
Protected Areas (PAs)	903	1,65,012.59	5.02

2. Wildlife sanctuaries (IUCN Category IV):

- Any area **other than an area comprising any reserve forest** or the territorial waters can be notified by the State Government to constitute as a sanctuary if such area is of adequate ecological, faunal, floral, geomorphological, natural. or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment.
- **Some restricted human activities are allowed** inside the Sanctuary area details of which are given in CHAPTER IV, WPA 1972.

- There are **553 existing wildlife sanctuaries** in India covering an area of 119776.00 km², which is **3.64 % of the geographical area** of the country.

3. Conservation Reserves and Community Reserves (IUCN Category V and VI respectively)

- **Conservation reserves and community reserves** in India are terms denoting protected areas of India which **typically act as buffer zones** to or **connectors and migration corridors** between established national parks, wildlife sanctuaries and reserved and protected forests of India.
- Such areas are **designated as conservation areas** if they are **uninhabited and completely owned by the Government of India** but used for subsistence by communities and community areas if part of the lands are privately owned.
- These protected area categories were first introduced in the **Wildlife (Protection) Amendment Act of 2002** – the amendment to the **Wildlife Protection Act of 1972**.
- These categories were added because of reduced protection in and around existing or proposed protected areas due to **private ownership of land, and land use**.
- **Community Reserves** e.g. Aimekhi (Nagaland), Rongma Paromgre (Meghalaya) etc.
- **Conservation Reserves** e.g. Ajas (J&K), Asan Wetland(Uttarakhand) etc.

4. Biosphere reserve (UNESCO designation roughly corresponding to IUCN Category V):

The Indian government has also established Biosphere reserves, which protect larger areas of natural habitat, and often include one or more national parks and/or preserves, along buffer zones that are open to limited economic activities. The Indian government has established 18 Biosphere Reserves of India.

5. Reserved and protected forests (IUCN Category IV or VI, depending on protection accorded)

6. Village and panchayat forests (IUCN Category VI)

These are forested lands **administered by a village or a panchayat on a sustainable basis**, with the habitat, flora and fauna being accorded some degree of protection by the managing community.

7. Private protected areas

- These are regions which are **owned by an individual or an organisation / corporation not affiliated to the government** or a communal body.
- Even though **Indian legislation does not provide protection** to such areas, some NGOs are using methods such as land trusts to help in the conservation effort, and providing limited means of protection.

8. Conservation Areas

Conservation areas are large, **well-designated geographical entities** where landscape conservation is undergoing, and usually contains different kinds of constituent protected areas, as well as privately owned land.

9. Marine Protected Areas

- A marine protected area (MPA) is essentially a **space in the ocean where human activities are more strictly regulated** than the surrounding waters - similar to parks we have on land.
- These places are given **special protections for natural or historic marine resources** by local, state, territorial, native, regional, or national authorities.
- E.g. Chorao Island (Goa), Khijadia (Gujarat) etc.

Important Facts Related to Forest

- **Forests and wildlife** are included in the **Concurrent list of the Indian Constitution** (transferred by **42nd Amendment Act of 1976**).
- **The Union government makes the policies and plans** for Wildlife Conservation. On the other hand, the **State Forest Departments are the ones implanting** those national policies and plans at the state-level.
- **National Board for Wildlife (NBWL)** puts forward a policy framework for wildlife conservation in India. The Board was constituted under **Wildlife (Protection) Act, 1972**. It is chaired by the Prime Minister.
- **Wildlife Protection Act, 1972** was amendment in 2003 and 2006
 - It provides for the protection of plants and animals in India.
 - The aim of the Act is to ensure the ecological and environmental security of India.
 - It is the principal act which contains provisions for setting up and managing national parks, sanctuaries and other protected areas.

Low Ozone Over Brahmaputra River Valley

- Scientists at the **Aryabhatta Research Institute of Observational Sciences (ARIES)**, Nainital an autonomous research institute under the Department of Science and Technology (DST) Government of India have evaluated the **near-surface ozone** in the **Brahmaputra River Valley (BRV)** and found a **relatively low concentration of Ozone over Guwahati** compared to the other urban locations in India.
- They assessed seasonal characteristics of ozone to identify the emission source of ozone and its precursors, especially **methane (CH₄) and non-methane hydrocarbons (NMHCs)**.
 - NMHCs such as Ethane, Ethene, Propane, Propene, Butane etc. play an important role in controlling ozone concentrations.
- It was found that the **mean ventilation coefficient** was greater than 6000 m²s during the day in the pre-monsoon season indicating pollutant dispersion.
 - The **ventilation coefficient**, which is the product of mixing depth and the average wind speed, is an atmospheric condition which gives an indication of the air quality and pollution potential i.e. the ability of the atmosphere to dilute and disperse the pollutants over a region.
 - The higher the coefficient, the more efficiently the atmosphere is able to dispose of the pollutants and better is the air quality.
 - Low ventilation coefficients lead to poor dispersal of pollutants causing stagnation and poor air quality leading to possible pollution related hazards.

International Day of Clean Air for Blue Skies

- The **United Nations General Assembly** adopted the Resolution to hold an **International Day of Clean Air for blue skies on December 19, 2019**, during its 74th session and invited the **United Nations Environment Programme (UNEP)** to facilitate the observance of the International Day, on September 7 every year, starting from the year 2020, in collaboration with other relevant organisations.

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- The resolution stresses the importance of an urgent need to raise public awareness at all levels and to promote and facilitate actions to improve air quality.
- The observance of this Day is open to the UN member states, UN organisations, international as well as regional organisations and the civil society.
- The **Climate and Clean Air Coalition (CCAC) worked with UNEP and the Republic of Korea to advocate for the day in the lead up to the decision.**

Climate Smart Cities Assessment Framework 2.0

- The **Ministry of Housing and Urban Affairs** has launched the Climate Smart Cities Assessment Framework (CSCAF) 2.0, along with the '**Streets for People Challenge**' under the **Smart Cities Mission**.
- It aims to provide a clear roadmap for cities towards **combating climate change while planning and implementing** their actions, including investments.
- This assessment framework was developed after a series of extensive consultative processes with more than 26 organizations and 60 experts from different thematic areas.
- The framework has **28 indicators across five categories** namely;
 - i. Energy and Green Buildings,
 - ii. Urban Planning, Green Cover & Biodiversity,
 - iii. Mobility and Air Quality,
 - iv. Water Management and
 - v. Waste Management.
- The **Climate Centre for Cities** under the **National Institute of Urban Affairs (NIUA)** is supporting MoHUA in implementation of CSCAF.

Streets for People Challenge

- The Streets for People Challenge is the response to the need for **making our cities more walkable and pedestrian friendly**.
- The Challenge will support cities across the country to develop a **unified vision of streets for people** in consultation with stakeholders and citizens.
- Adopting a **participatory approach**, cities will be guided to launch their own design competitions to gather innovative ideas from professionals for quick, innovative, and low-cost tactical solutions.
- All **cities with a population of over 5 lakh**, and capital cities, can participate.

Kharai Camel

- The **National Green Tribunal** directed the Environment Ministry and the Gujarat government to recover fine from violators responsible for destruction of mangroves in Kutch district.
- The petition claimed that the "incessant destruction activities" of the respondents have diminished the cover of sparse mangroves found at the site and destroyed the **habitat of the indigenous Kharai camels** which has affected the livelihood of villagers dependent on the mangroves.
- Kharai Camels, also known as **Swimming Camels**, their name is derived from the **local word khara, meaning saline**. During the rainy season, they swim along the **Gulf of Kutch**, an inlet of the Arabian Sea, to small forest islands and graze on mangroves and other saline-loving plants.

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- This camel is **found only in Gujarat's Bhuj area** and adapted to the extreme climate of Rann of Kutch where **shallow seas and high salinity is prevalent**.
- It can live in both coastal and dry ecosystems. It grazes on **primarily mangrove trees** and is tolerant to high saline water.
- It can **swim up to three kilometers** into the sea in search of mangroves.

Blue Flag Beaches

- On the occasion of **International Coastal Clean-Up Day**, for the **first time eight beaches** of India are recommended for the coveted **International eco-label**, the **Blue flag certification**.
- They have been awarded by an **eminent international jury**, which comprises members of the **United Nations Environment Programme (UNEP)**, **United Nations World Tourism Organization (UNWTO)**, **Foundation for Environmental Education (FEE)** and **International Union for Conservation of Nature (IUCN)**.
- Blue Flag beaches are considered the **cleanest beaches of the world**.
- The **eight beaches** are
 - i. **Shivrajpur in Gujarat,**
 - ii. **Ghoghla in Daman & Diu,**
 - iii. **Kasarkod and Padubidri beach in Karnataka,**
 - iv. **Kappad in Kerala,**
 - v. **Rushikonda in Andhra Pradesh,**
 - vi. **Golden beach of Odisha and**
 - vii. **Radhanagar beach in Andaman and Nicobar.**
- India also launched its own **eco-label "BEAMS"** by **e-hoisting the flag #IAMSAVINGMYBEACH** simultaneously at these eight beaches.
- India is the **first nation** to have been awarded Blue Flag certification for all the 8 recommended beaches in a single attempt.
- India has also been awarded the **third prize by the International Jury for pollution control in coastal regions under the "International Best Practices."**
- India is also the **first nation in the "Asia-Pacific"** region that has achieved this feat in just about 2 years.
- **Besides India, Japan, South Korea and UAE** are the only other Asian nations to have been conferred with Blue Flag beach certification for a couple of beaches. However, the countries were accorded with the honour in a time frame of about 5 to 6 years.
- With the Blue Flag Certification, India has now entered the **league of 50 "BLUE FLAG" countries**.

About Blue Flag certification

- The 'Blue Flag' is a **certification** that can be obtained by a **beach, marina, or sustainable boating tourism operator, and serves as an eco-label**.
- The certification is awarded by the **Denmark-based non-profit Foundation for Environmental Education (FEE)**, which sets stringent environmental, educational, safety-related and access-related criteria that applicants must meet and maintain.
- It is **awarded annually to beaches** and marinas in FEE member countries.

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- It was **started in France in 1985** and in areas **out of Europe in 2001**.
- The programme promotes sustainable development in **freshwater and marine areas through four main criteria**: water quality, environmental management, environmental education and safety.
- **Forty-seven countries** currently participate in the program, and 4,573 beaches, marinas, and boats have this certification. **Spain tops** the list with 566 such beaches; Greece and France follow with 515 and 395, respectively.
- There are **nearly 33 criteria** that must be **met to qualify for a Blue Flag certification**, such as the water meeting certain quality standards, having waste disposal facilities, being disabled-friendly, having first aid equipment, and no access to pets in the main areas of the beach. Some **criteria are voluntary and some compulsory**.

Beach Environment and Aesthetics Management Services (BEAMS) Program

- India has launched its own eco-label BEAMS (Beach Environment & Aesthetics Management Services) under ICZM (Integrated Coastal Zone Management) project.
- BEAMS has been prepared over two years by the Society of Integrated Coastal Management (SICOM) under MoEFCC.
- **The Objectives of BEAMS program is to**
 - Abate pollution in coastal waters,
 - Promote sustainable development of beach facilities,
 - Protect & conserve coastal ecosystems & natural resources, and
 - Seriously challenge local authorities & stakeholders to strive and maintain high standards of cleanliness, hygiene & safety
- This program promotes beach recreation in absolute harmony with nature.

Integrated Coastal Zone Management Plan

- ICZM is a process for the **management of the coast** using an **integrated approach**, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability.
- It aims to improve the **livelihood of coastal communities and conserve** the coastal ecosystem.
- The concept of **ICZM was born in 1992 during the Earth Summit of Rio de Janeiro**.
- The specifics regarding ICZM is set out in the proceedings of the summit within **Agenda 21**.
- It is a **World Bank assisted project** and is being implemented by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).

International Coastal Clean-up Day

- It is observed **every year on the third Saturday of September**. It was started in **1986 when Linda Maraniss met Kathy O'Hara** while working for Ocean Conservancy. O'Hara had just completed a **report called Plastics in the Ocean: More Than a Litter Problem**. The two of them reached out to other ocean-lovers and organized a Cleanup for Ocean Conservancy.
- It encourages people to clean beaches, remove the garbage plaguing it.

Nandankanan Zoological Park and Sloth Bear

- The death of two **sloth bears** and a **Himalayan black bear** have been reported from the **Nandankanan Zoological Park, Bhubaneswar (Odisha)**.

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- The Nandankanan Zoological Park (NZP) has revived its innovative ‘Adopt-An-Animal’ programme to mobilise resources for animals.
 - When one adopts an animal or a bird, the **contribution goes to its care**, feeding, enclosure enrichment and renovation.
 - The adoption scheme would bring **public, corporate bodies and institutions** closer to the zoo and heighten their love and passion for captive animals and birds.

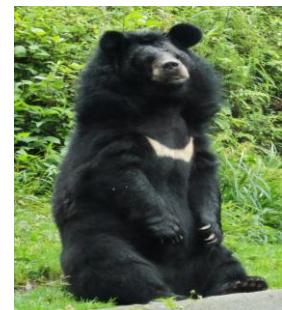
Sloth Bear

- The sloth bear is a **myrmecophagous bear** species native to the Indian subcontinent. It feeds on fruits, ants and termites.
- It has also been called "**labiated bear**" because of its long lower lip and palate used for sucking up insects.
- **Protection Status:**
 - IUCN Red List : Vulnerable
 - CITES : Appendix I
 - Wildlife Protection Act, 1972: Schedule I



Himalayan Black Bear

- The Himalayan black bear is a **subspecies of the Asian black bear** found in the Himalayas of India, Bhutan, Nepal, China, and Pakistan.
- **Protection Status:**
 - IUCN Red List : Vulnerable
 - CITES : Appendix I
 - Wildlife Protection Act, 1972 :Schedule I
- It inhabits mountainous and heavily forested areas and they are omnivorous creatures and will eat just about anything.



Nandankanan Zoological Park

- Nandankanan Zoological Park is a 437-hectare (1,080-acre) zoo and botanical garden in **Bhubaneswar, Odisha, India**.
- Established in **1960**, it was opened to the public in 1979.
- It also contains a **botanical garden** and part of it has been declared a **sanctuary**.
- Nandankanan, literally meaning “**The Garden of Heaven**”, is located near the capital city, Bhubaneswar, in the environs of the **Chandaka forest**, and includes the **Kanjia lake**.
- **Uniqueness**
 - Nandankanan is the **first zoo** in the World to breed **White tiger and Melanistic tiger**.
 - Nandankanan is the **only conservation breeding centre of Indian Pangolins** in the world.
 - Nandankanan is the **only zoological park in India to become an institutional member of World Association of Zoos and Aquarium (WAZA)**.
 - Nandankanan is the only zoo in India after which an express train Puri-New Delhi express has been named as "**Nandankanan Express**".
 - Nandankanan is the **first zoo in India where endangered Ratel** was born in captivity.

- Nandankanan is the **only zoo** in India to have an **Open-top Leopard Enclosure**.
- Nandankanan is the **second largest herony** for Open Billed Storks in Odisha.

Mass Pilot Whale Strandings

- Over **450 long-finned pilot whales** have died in Australia in what is being called the biggest stranding of whales in Australia. The whales were beached at a remote beach in **Tasmania's west coast**.
- **Stranding refers** to an aquatic animal observed in an inappropriate location, for example, an *offshore species found inshore*. Most often, stranded animals are found on a beach or in shallow water.
- Whales are known to **strand themselves** on beaches across the world and they do so singularly or in groups. While **individual strandings are mostly attributed to injury or sickness**, it is **not clear** why exactly whales beach themselves in **groups**.
- Even so, there are a **few theories** that **might explain** this behaviour.
 - One reason could be that some **whales follow schooling fish** or other prey into shallow waters, which causes the whales to become disoriented, as a result of which they get stranded.
 - Another reason could be **panic from being trapped** by a predator such as **killer whales** or sharks. Another possibility is that whales might be drawn to land by prey-rich currents.
 - Further, the **shape of the beach** and the coastline could also have a role to play. For instance, if the beach has **gently-sloping shorelines**, whales that are dependent on **echolocation** for **navigation** can be deceived.
- According to Australia's Department of Agriculture, Water and the Environment, the species that most often get stranded on Australian beaches are those that **use echolocation or sonar for navigation**, such as pilot and sperm whales.

Pilot Whale

- Pilot whales are **cetaceans** belonging to the **genus Globicephala**. The two extant species are the **long-finned pilot whale** (*G. melas*) and the **short-finned pilot whale** (*G. macrorhynchus*).
- The two are not **readily distinguishable** at sea, and analysis of the skulls is the best way to distinguish between the species. Between the two species, they range nearly worldwide, with long-finned pilot whales living in colder waters and short-finned pilot whales living in tropical and subtropical waters.
- Pilot whales are among the largest of the oceanic dolphins, exceeded in size only by the killer whale. They and other large members of the dolphin family are also known as **blackfish**.
- Pilot whales are **so named** because it was once believed that each observed group was navigated by a pilot or leader.
- Their Latin name, **Globicephala**, means '**round head**', which is one of the main identifying features of the species.
- **Protection Status:**
 - **CITES: Appendix II**
 - **IUCN: Least Concern**



Stubble Burning

- The Supreme Court - appointed **Environment Pollution (Prevention and Control) Authority** wrote to the chief secretaries of Punjab and Haryana stating that early **burning of crop residue** was taking place and urged them to address the issue "urgently".
- According to a **SAFAR (System of Air Quality and Weather Forecasting and Research under the Central government)** estimate, based on harmonising the **INSAT-3, 3D and NASA satellite**, the fire counts were around 42 on September 21, 2020.
- In 2019, about 9.8 million tonnes of the total estimated crop residue of 20 million tonnes and 1.24 million tonnes of the total 7 million tonnes were burnt in Punjab and Haryana respectively.
- Stubble Burning is a **traditional practice in Punjab and Haryana** to clean off the rice chaff to prepare the fields for winter sowing. It begins around **October and peaks in November**, coinciding with the withdrawal of **southwest monsoon**.

Effects

- The burning of stubble has both positive and negative consequences.
- **Generally helpful effects**
 - Cheaper and easier than other methods
 - Helps to combat pests and weeds
 - Can reduce nitrogen tie-up
- **Generally harmful effects**
 - **Loss of nutrients** - The burning of wheat straw reduces the **soil fertility** as heat generated by stubble burning penetrates into the soil, leading to the **loss of moisture and useful microbes**.
 - Many **gases are released** which are very **harmful**
 - Pollution from smoke
 - Increased greenhouse gases in the atmosphere, contributing to global warming

Environment Pollution (Prevention and Control) Authority

- EPCA is a **Supreme Court mandated body** and was constituted under **section 3 of the Environment (Protection) Act, 1986** for the **National Capital Region** and was notified in 1998.
- It has the **power to take action suo-moto**, or on the basis of complaints made by any individual, representative body or organization functioning in the field of environment.
- It takes all necessary steps for controlling vehicular pollution, ensuring compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.
- It also enforces **Graded Response Action Plan (GRAP) in NCR** as per the pollution levels.

Composition

EPCA has **chairman and 14 members**, some of whom are the environment secretary of the National Capital Territory of Delhi (NCT), chairperson of the New Delhi Municipal Council, transport commissioner of the NCT, the commissioners of various municipal corporations of Delhi and professors at IIT Delhi and Jawaharlal Nehru University.

System of Air Quality and Weather Forecasting and Research (SAFAR)

- It is **indigenously developed** by the **Indian Institute of Tropical Meteorology (IITM)**, Pune and is run by the **India Meteorological Department (IMD)**.

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- The **System of Air Quality and Weather Forecasting And Research (SAFAR)** is a national initiative introduced by the **Ministry of Earth Sciences (MoES)** to measure the air quality of a metropolitan city, by measuring the overall pollution level and the location-specific air quality of the city.
- The **objective** is to provide **Real-time air quality index on 24x7 basis** with colour coding along with **72-hour advance** weather forecast.
- It also aims to **increase awareness** among the general public regarding the air quality in their city so that appropriate mitigation measures and systematic action can be taken up.
- It is an **integral part of India's first Air Quality Early Warning System operational in Delhi.**

World Rhino Day

- World Rhino Day is celebrated on **September 22** every year. In 2010 the **first World Rhinoceros Day** was celebrated by the World Wildlife Fund (WWF).
- It celebrates **all five species** of rhino: Black, white, greater one-horned, Sumatran and Javan rhinos.
- Protection Status: IUCN Status
 - **Critically Endangered** - Javan Rhinos, Sumatran Rhinos and Black Rhinos
 - **Vulnerable** - One-Horned Rhinos
 - **Near Threatened** - White Rhinos

One-horned rhino

- The Indian **rhinoceros** also called the **Indian rhino, greater one-horned rhinoceros or great Indian rhinoceros**, is a rhinoceros species native to the Indian subcontinent.
- One-horned rhinoceros is the **largest** of the Asian Rhinos.
- **Assam** is home to the largest population of one-horned rhinos and included in the **Schedule – I** of Wildlife (Protection) Act, 1972.
- It is the **only large mammal species in Asia to be down-listed** from *endangered to vulnerable* in the IUCN Red list in 2008.
- India is home to the largest number of Greater One-Horned Rhinoceros in the world.
- The Environment Ministry launched the **National Rhino Conservation Strategy in 2019** to conserve the greater one-horned rhinoceros.



Robber Flies: The Assassins Of The Insect World

- Robber Flies eat fellow insects from the larvae to the adult stage in one of **Nature's most carefully crafted mechanisms**.
- They're **named for their feeding behaviour**: they 'rob' other **insects** of their lives.
- Robber fly, also called **assassin fly**, any of about 6,750 species of predatory insects, worldwide in distribution, in the **fly order, Diptera**.
- Robber flies range in length to almost 8 cm (3 inches), making them the **largest of all flies**.



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- Most are dull in colour, and their stout, often hairy, bodies resemble those of bumble bees.
- Between the **large-faceted eyes** is a **moustache of bristles**. The long legs are adapted to capture prey in flight and to hold it while eating.

Komodo Dragon

- A study conducted by Australian universities has found out that the Komodo dragon could **become extinct** in the next few decades due to climate change.
- The Komodo dragon, also known as the Komodo monitor, is a **species of lizard found in the Indonesian islands of Komodo, Rinca, Flores, and Gili Motang**.
- A member of the monitor lizard **family Varanidae**, it is the **largest extant species of lizard**, growing to a maximum length of 3 metres in rare cases and weighing up to approximately 70 kilograms, they are the **heaviest lizards on Earth**.
- They can **eat almost anything**, including invertebrates, birds, and mammals like deer, pigs, and even large water buffalo.
- **Protection Status: IUCN Vulnerable**
- They have **venom glands** loaded with toxins which have been shown to secrete anticoagulants.
- **Komodo National Park, a UNESCO World Heritage site**, is situated in the Island of Komodo (eastern Indonesia) and is the only habitat for this lizard species.
- Note: The **government of Australia**, in February 2019, officially **declared the first known extinction of a mammal (Bramble Cay melomys)** as a result of human-induced climate change.



Fridays For Future

- Students and youth under the banner of **Fridays For Future (FFF)**, a global movement demanding climate justice, **protested outside the Union Environment Ministry** in September 2020.
- The FFF is a **global climate strike movement** that started in **August 2018**, when **15-year-old Greta Thunberg** began a strike in Sweden.
- In the three weeks leading up to the **Swedish election**, she sat outside the Swedish Parliament every school day, demanding urgent action on the climate crisis that turned into a global movement.
- One of the main goals of the movement is to put moral pressure on policy-makers, to make them listen to scientists and then to take action to limit global warming.

Maharashtra Modifies Forest Rights Act

- The Maharashtra Government issued a notification modifying the **Forest Rights Act (FRA), 2006** that will **enable tribals and other traditional forest dwelling families to build houses in the neighbourhood forest areas**.
- The notification was **issued by the Governor using his powers under subparagraph (1) of paragraph 5 of the Schedule V of the Constitution**.
- The decision is likely to provide a **major relief to Scheduled Tribes and other traditional forest-dwelling families** residing in the scheduled areas of the State.

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- The move aims to **prevent the migration of forest-dwelling families** outside their native villages and provide them housing areas by extending the village site into forest land in their neighbourhood.
- The **FRA recognises rights to habitation and cultivation** on forest lands if the land were occupied before December 13, 2005.

Fifth Schedule of the Constitution

- The Fifth Schedule of the Constitution deals with the **administration and control of Scheduled Areas as well as of Scheduled Tribes** residing in any State **other than the States of Assam, Meghalaya, Tripura and Mizoram**.
- In **Article 244(1) of the Constitution**, expression Scheduled Areas means such areas as the President may by order declare to be Scheduled Areas (SA).
- **Criteria for Declaring An Area As Scheduled Area --**
 - preponderance of tribal population;
 - compactness and reasonable size of the area;
 - under-developed nature of the area; and
 - marked disparity in the economic standard of the people.
- These criteria are **not spelt out in the Constitution of India** but have become well established.

Special Provisions for Fifth Schedule Areas

- The **Governor** of each State having Scheduled Areas (SA) shall annually, or whenever so required by the President, make a **report to the President** regarding the administration of Scheduled Areas in that State.
- The **Union Government shall have executive powers** to give directions to the States as to the administration of the Scheduled Areas.
- **Para 4** of the Fifth Schedule provides for establishment of a **Tribes Advisory Council** (TAC) in any State having Scheduled Areas. If the **President so directs, there will be established a TAC** in a State having Scheduled tribes but not Scheduled Areas therein, consisting of not more than twenty members of whom, three-fourths shall be the representatives of the Scheduled Tribes in the Legislative Assembly of the State. If the number of representatives of the scheduled tribes(STs) in the Legislative Assembly of the State is less than the number of seats in the TAC to be filled by such representatives, the remaining seats shall be filled by other members of those Tribes.
- The TAC shall advise on such matters pertaining to the welfare and the advancement of the STs in the State as may be referred to them by the Governor.
- **The Governor may make rules prescribing or regulating**
 - the number of members of the Council, the mode of their appointment and the appointment of the Chairman of the Council and of the officers and servants thereof,
 - the conduct of its meetings and its procedure in general; and
 - All other incidental matters.
- The **Governor** may direct that any **particular Act of Parliament or of the Legislature of the State shall or shall not apply** to a SA or any part thereof in the State, subject to such exceptions and modifications, as specified. The Governor may make regulations for the peace and good government of any area in the State which is for the time being a SA. Such regulations may
 - prohibit or restrict the transfer of land by or among members of the Scheduled tribes in such area;

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- regulate the allotment of land to members of the STs in such area;
- regulate the carrying on of business as money-lender by persons who lend money to members of the STs in such area.
- In making such regulations, the Governor may repeal or amend any Act of Parliament or of Legislature of the State or any existing law after obtaining assent of the President.
- No regulations shall be made unless the Governor, in case a TAC exists, consults such TAC.

States having Fifth Schedule Areas

At present, **10 States** namely Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Telangana have Fifth Schedule Areas.

Six Mega Projects under Namami Gange Mission

- The Prime Minister of India has **inaugurated six mega projects in Uttarakhand** under the Namami Gange Mission.
- These **six mega projects of Sewage Treatment Plants (STP)** are constructed at Haridwar, Rishikesh, Muni ki Reti, Chorpani, and Badrinath.
- The **Jagjeetpur project** also marks completion of the **first sewerage project taken up on hybrid annuity model of PPP**.
- The Prime Minister also inaugurated “**Ganga Avalokan**”, the first museum on Ganga dedicated to **showcase the culture, biodiversity and rejuvenation activities** done in Ganga river. The museum is located at **Chandi Ghat, Haridwar**.
- A book, ‘**Rowing down the Ganges**’, co-published by **National Mission for Clean Ganga & Wildlife Institute of India** was also launched at the event. This colourful book is an attempt to merge the biodiversity and culture of the Ganga River. It **conceptualizes the story of the Ganga** as what one would see when one rows down from **Gaumukh, its origin, to Ganga Sagar, the last point before entering the sea**.
- The **logo of Jal Jeevan Mission** and ‘**Margdarshika for Gram Panchayats and Paani Samitis under Jal Jeevan Mission**’ was also unveiled by the Prime Minister.

About Namami Gange Programme

- ‘Namami Gange Programme’, is an **Integrated Conservation Mission**, approved as ‘Flagship Programme’ by the Union Government in June 2014 with budget outlay of Rs.20,000 Crore to accomplish the **twin objectives of effective abatement of pollution, conservation and rejuvenation of National River Ganga**.
- It is being operated under the **Ministry of Jal Shakti**.
- The **World Bank** has approved a five-year loan (for 2nd Phase) to the Namami Gange project worth ₹3,000 crore (\$400 million) to develop and improve infrastructure projects to abate pollution in the river basin.
- It is implemented by the **National Mission for Clean Ganga (NMCG)**, and its state counterpart organizations i.e., **State Program Management Groups (SPMGs)**.
- **National River Ganga Basin Authority (NRGBA)** was formed by the Government of India in the year 2009 under Section-3 of the Environment Protection Act, 1986. It declared the Ganga as the ‘National River’ of India.

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- National Ganga Council (NGC) was Created in October 2016 under the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016. It is Headed by the Prime Minister.
- Main Pillars of the Namami Gange Programme are:
 - Sewerage Treatment Infrastructure
 - River-Surface Cleaning
 - Afforestation
 - Industrial Effluent Monitoring
 - River-Front Development
 - Biodiversity
 - Public Awareness
 - Ganga Gram

India-Denmark Green Strategic Partnership

- India and Denmark elevated their relations to a “green strategic partnership” that will focus on expanding economic ties, green growth and cooperation on global challenges such as climate change.
- The Green Strategic Partnership is a mutually beneficial arrangement to advance political cooperation, expand economic relations and green growth, create jobs and strengthen cooperation on addressing global challenges and opportunities; with focus on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals.

Mumbai Maps Its Biodiversity

- In a first-of-its-kind attempt to visually empower Mumbai’s citizens with the resources they share the city with, a biodiversity map of the city to showcase the wildlife hotspots, mangrove forests, urban green spaces and over 90 species that can be spotted in the city has been illustrated.
- Rohan Chakravarty, popularly known for his work under the title of Green Humour, is the man behind the map “that will serve as a reminder to Mumbaikars that they must act to protect Mumbai’s biodiversity, which has been under threat due to unsustainable development”.
- This is part of a campaign Biodiversity by the Bay, initiated by the Ministry of Mumbai’s Magic, a citizen’s collective comprising Mumbaikars who wish to bring the issue of protecting biodiversity to the forefront.

Zombie Fires

- The fire regimes in the Arctic are changing rapidly, with ‘zombie fires’ becoming more frequent in addition to fires occurring in the once-frozen tundra, according to a new study by scientists from the Institute of Arctic and Alpine Research at the University of Colorado, Boulder, in the United States..
- A ‘zombie fire’ is a fire from a previous growing season that can smoulder under the ground which is made up of carbon-rich peat. When the weather warms, the fire can reignite. These are also known as holdover fires. In other words, it is a fire that continues to burn underground and then reignites on the surface after a period of time.

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- The **fires in the Arctic spreading** to areas which were **formerly fire-resistant** is a more worrying feature. The **tundra is drying up** and vegetation there like moss, grass, dwarf shrubs, etc are starting to catch fire.
 - The **tundra is a cold region of treeless level** or rolling ground found mostly north of the Arctic Circle or above the timberline on mountains.
- Wildfires on **permafrost in Siberia south of the Arctic are not uncommon**. But in 2019 and 2020, **burning occurred well above the Arctic Circle**, a region not normally known to support large wildfires.
- The reason for this **anomaly is that temperatures in winter and spring** were warmer than usual during 2019-20.
 - The Arctic region is warming up **largely due to changes in albedo- the loss of sunlight-reflecting ice and snow**, replaced by sunlight-absorbing ocean and soil, which is resulting in **heat spirals**.
 - The temperatures in Siberia rose steeply in 2020 with the region recording a severe heatwave. The melting of ice is now **accompanied by wildfires**.
- The fires and record temperatures had the **potential of turning the carbon sink into a carbon source and increasing global warming**.
- There is an urgent need to understand the nature of fires in the Arctic which are evolving and changing rapidly.

Decarbonization and Energy Transition Agenda

- NITI Aayog and **Embassy of the Netherlands** signed a **Statement of Intent (SoI)** to support the **decarbonization and energy transition agenda** for accommodating cleaner and more energy.
- Through this collaboration, NITI Aayog and the Dutch Embassy seek a **strategic partnership to create a platform that enables a comprehensive collaboration** among stakeholders and influencers, including policymakers, industry bodies, OEMs, private enterprises, and sector experts.
- The focus of the partnership is on **co-creating innovative technological solutions** by leveraging the expertise of the two entities.
- Key elements include
 - i. lowering the net carbon footprint in industrial and transport sectors
 - ii. realise the target potential of natural gas and promote bio-energy technologies
 - iii. adopt clean air technologies from monitoring to reducing actual particulates
 - iv. adopt next-generation technologies, such as hydrogen, carbon capture utilization, and storage for sectoral energy efficiency
 - v. financial frameworks to deliver and adopt climate change finance

Amazon Risks Changing from Forest to Savanna

A study, conducted on the state of **Amazon Forests under the Global Fire Emissions Database project run by NASA**, found that as much as 40% of the **Amazon** risks crossing a tipping point from **rainforest to savanna as greenhouse gas** emissions reduce the rainfall needed to sustain its unique ecosystem.

Amazon Forest

- These are large **tropical rainforests** occupying the drainage basin of the **Amazon River** and its tributaries in northern **South America** and covering an area of 6,000,000 square km.
- Comprising about **40% of Brazil's total area**, it is bounded by the **Guiana Highlands** to the north, the **Andes Mountains** to the west, the Brazilian central plateau to the south, and the Atlantic Ocean to the east.
- The **Amazon basin is shared by eight countries** (Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana and Suriname), as well as the overseas territory of French Guiana.



Ecosystem Services

- The annual economic value of **ecosystem services provided by the Delhi zoo** works out to be ₹426 crore, an assessment by the **The Energy and Resources Institute (TERI)** and commissioned by the **Central Zoo Authority** has found.
- The ‘**first-of-its-kind**’ study in India gave a “**powerful baseline assessment**” of the important ecosystem services provided by the zoo.
- An ecosystem service is **any positive benefit** that wildlife or ecosystems provide to people. These ‘**ecosystem services**’ constitute heads such as biodiversity conservation, employment generation, education and research, carbon sequestration and recreational and cultural contributions.

Yuddh Pradushan Ke Virudh

- Delhi announced a “**Yuddh Pradushan Ke Virudh**” (**war against pollution**) campaign, with a **seven-point action** plan ranging from measures to control dust and mitigate hot spots, to a mobile application for complaints to a “war room” for monitoring.
- The campaign will include release of a **Green Delhi app**, creation of a war room to monitor progress, processing liquid solutions for farms in order to curb stubble burning, and hotspot-specific action plans.

Tree Transplantation Policy

- The Delhi Government approved the ‘**Tree Transplantation Policy**’ for the preservation of trees in the Capital.
- A minimum of **80% of trees** affected by a development or construction project will be transplanted and as much 80% of the transplanted trees must survive after transplantation.
- Delhi is the **first State** in the country where this policy has been passed. Along with retaining the policy of **planting 10 saplings for every one tree** that is cut, we can transplant trees additionally. The process involves uprooting a tree from a particular spot, lifting it, and planting it at another spot.

Red Light On, Gaadi Off

- The Delhi Government launched an initiative - **Red Light On, Gaadi Off** — to tackle the **problem of rising air pollution in the Capital**.
- The initiative has been launched under the “**Yuddh, Pradushan Ke Viruddh**” campaign of the government.

Bio-Decomposer Solution

- The Delhi government started **spraying “bio-decomposer”** in the fields to decompose straw and stubble left in the fields after harvesting. The **solution turns the straw and stubble into manure** and is seen by the government as a solution to avoid burning them.
- It was developed by **Pusa Institute**, is made into a solution through a week-long process.
- Pusa Decomposer is a **mix of seven fungi** that produce enzymes to digest cellulose, lignin and pectin in paddy straw.
- The fungi thrive at **30-32 degree Celsius**, which is the temperature prevailing when paddy is harvested and wheat is sown.
- When applied on fields, it dissolves the stem of **stubble, converts it into compost, fertility of land increases and less fertiliser is used**.
- The solution will help in the **disposal of stubble**, without the involvement of stubble burning.
- There are two kinds of **waste after harvesting**:
 - One is the straw left behind after threshing and taking out the grain.
 - And the second is the stubble which is left attached to the ground, along with the root system, after harvesting.
- The burning of both of them is broadly termed as stubble burning.
- Delhi government will provide the solution to farmers **free of cost** and spray it in farms.

Green Delhi App

- **Delhi Government** launched the ‘**Green Delhi**’ mobile application using which citizens can bring pollution causing activities to the Government’s notice.
- The app **enables citizens to register complaints**, report pollution sources and violations of anti-pollution norms; and thus **and ensure timely action** in the government’s fight against pollution.
- **Citizens can take photos, videos and audio** of local causes of pollution such as garbage burning, industrial pollution and construction dust among others and upload on the app.
- A ‘green war room’ has been set up at the Delhi Secretariat to monitor the status of complaints.

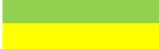
Wildlife Week-2020

- The **Indira Gandhi Zoological Park (IGZP)** conducted various **online competitions** including elocution, essay writing, poster making, quiz and photography from September 23 to 27 as part of the Wildlife Week from October 2.
- Wildlife Week is **annually celebrated across India between 2nd to 8th October** with an aim to protect and preserve the flora and fauna of India.
- The **first Wildlife Week was observed in 1957**.

- Theme for 2020: RoaR (Roar and Revive) – Exploring Human-Animal Relationships.

Air Quality Index

- The **National Air Quality Index (AQI)** was launched in New Delhi on September 17, **2014**, under the **Swachh Bharat Abhiyan** with outline ‘**One Number – One Color -One Description**’ for the common man to judge the air quality within his vicinity.
- The Central Pollution Control Board along with State Pollution Control Boards has been operating **National Air Monitoring Program (NAMP) covering 240 cities** of the country having more than 342 monitoring stations.
- The measurement of air quality is based on **eight pollutants**, namely: Particulate Matter (PM10), Particulate Matter (PM2.5), Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂), Carbon Monoxide (CO), Ozone (O₃), Ammonia (NH₃), and Lead (Pb).
- AQI has **six categories** of air quality. These are: Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe.
- It has been **developed by the CPCB in consultation with IIT-Kanpur** and an expert group comprising medical and air-quality professionals.

AQI	Remark	Color Code	Possible Health Impacts
0-50	Good		Minimal impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart diseases
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Affects healthy people and seriously impacts those with existing diseases

Abortelphusa Namdaphaensis

- It is a **newly discovered freshwater species of crab** on the edge of a small stream in Namdapha Tiger Reserve.
- The **genus (Abortelphusa)** is named after the **Abor Hills**, the **species (Namdaphaensis)** is named after **Namdapha**.
- Of the 125 freshwater crabs in India, the north-east accounts for 37. Arunachal Pradesh has 15 and Assam has 21.



Namdapha National Park

- Namdapha National Park is the fourth largest national park of India in the state of **Arunachal Pradesh**.
- With more than 1,000 floral and about 1,400 faunal species, it is a **biodiversity hotspot in the Eastern Himalayas**.
- The national park **harbours the northernmost lowland evergreen rainforests in the world at 27°N latitude**.
- It also harbours **extensive dipterocarp forests**, comprising the northwestern parts of the Mizoram-Manipur-Kachin rain forests ecoregion.

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- Namdapha (named a National Park in 1983) is known for its rich biodiversity, and believed to be the **rare area that harbours four large cats**: tigers, snow leopards, clouded leopards and leopards.
- Its name was a combination of two Singpho words "nam" means water and "dapha" means origin (river which originates from Dapha Bum glaciers.)
- This is the **eastern most tiger reserve** in India with its borders shared with Myanmar. This park is named after the **Namdapha river flowing through it**.

Graded Response Action Plan

- The Environment Pollution (Prevention & Control) Authority (EPCA) has directed Delhi and neighbouring States to implement air pollution control measures under **very poor and severe category air quality** of the **Graded Response Action Plan (GRAP)** from 15th October 2020.
- The Graded Response Action Plan was formulated in 2016 and notified in 2017 for Delhi and the National Capital Region (NCR).
- The plan was prepared by EPCA and approved by the Supreme Court in 2016.
- These are **institutionalized measures** to be taken when air quality deteriorates, hence works only as an emergency measure.
- GRAP includes the measures which will be taken by different government agencies to prevent worsening of **Air Quality of Delhi-NCR** and prevent PM10 and PM2.5 levels to go beyond the '**moderate**' national Air Quality Index (AQI) category.
- If air quality reaches the **severe+** stage, GRAP talks about shutting down schools and implementing the odd-even road-space rationing scheme.
- The plan requires action and coordination among **13 different agencies** in Delhi, Uttar Pradesh, Haryana and Rajasthan (NCR areas).

CATEGORY	ACTION PLAN
 Moderate to Poor PM2.5-61-120 µg/m³ PM10-101-350 µg/m³	<ul style="list-style-type: none"> ▶ Stop garbage burning, impose heavy fines ▶ Enforce pollution regulations in all industries ▶ Do periodic mechanised road sweeping ▶ Stop plying of visibly polluting vehicles ▶ Enforce SC order on diversion, ban on crackers ▶ Ensure fly ash ponds are watered every alternate day from Mar – May ▶ Use apps to inform people and register complaints 
 Very Poor PM2.5-121-250µg/m³ PM10-351-430µg/m³	<ul style="list-style-type: none"> ▶ Stop use of diesel gensets ▶ Enhance parking fee by 3-4 times ▶ Increase bus and Metro services ▶ Stop use of coal/firewood in hotels and restaurants ▶ RWAs to provide electric heaters to security staff to stop bonfires ▶ Issue media alerts and advisories 
 Severe PM2.5-250 µg/m³ PM10-430µg/m³	<ul style="list-style-type: none"> ▶ Close hot mix plants, stone crushers ▶ Shut down Badarpur power plant and maximise generation from natural gas-based plants ▶ Intensify public transport ▶ Mechanised cleaning of road and sprinkling of water 
 Emergency PM2.5-300µg/m³ PM10-500 µg/m³ (persist for 48 hours or more)	<ul style="list-style-type: none"> ▶ Stop entry of trucks except those carrying essential commodities ▶ Stop construction ▶ Introduce odd-even scheme without exemptions ▶ Task Force to decide on additional steps  

Commission To Manage NCR Air Quality

- The President signed the '**Commission for Air Quality Management in National Capital Region and Adjoining Areas Ordinance 2020**' for a Commission to manage air quality in the NCR.
- The Ordinance sets up a **statutory authority - the Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas**.
- Through the Ordinance, the Centre has also **dissolved the Environment Pollution (Prevention and Control) Authority (EPCA) for the NCR**.
 - EPCA was **not a statutory body** but drew legitimacy from the Supreme Court, which has been looking at cases of air pollution as part of the judgment in **M C Mehta vs Union of India (1988)**.
 - It also had **no state representatives**, just two permanent members.
- The body will be **chaired by a government official** of the rank of Secretary or Chief Secretary, and will **include the Secretary** Ministry of Environment, Forests and Climate Change and five other

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Secretary/Chief Secretary level officials as **ex-officio members**. It will have members from **several Ministries** as well as representatives from the stakeholder **States**.

- The **chairperson** will hold the post for **three years or until s/he attains the age of 70** years.
- The Commission is to have **exclusive jurisdiction** over the NCR, including areas in Haryana, Punjab, Uttar Pradesh and Rajasthan, in matters of air pollution, and will be working along with CPCB and ISRO, apart from the respective state governments.
- In matters of air pollution and air quality management, the Commission will **supersede all existing bodies** such as the CPCB, and even the state governments of Haryana, Punjab, Rajasthan, and Uttar Pradesh.
- It will have the powers to issue directions to the states. It will also **coordinate efforts of state governments** to curb air pollution, and will lay down the parameters of air quality for the region.
- If its directions are contravened, the Commission will have the **power to impose a fine** of up to Rs. 1 crore and imprisonment of up to 5 years.

National Butterfly

- A **citizen poll to identify the national butterfly** concluded with **three species** garnering the highest number of votes. They are
 1. **Krishna Peacock (Papilio krishna)**
 2. **Indian Jezebel (Delias eucharis)**
 3. **Orange Oakleaf (Kallima inachus)**
- They have **unique features** such as **ability to camouflage** as a dead leaf, exhibit iridescence to stave off predators, and aid farmers in getting rid of pests.
- The nationwide poll was organised by the **National Butterfly Campaign Consortium**, a collective of 50 butterfly experts and enthusiasts.
- While the organisers will submit the list of the top-three to the Ministry of Environment, Forests and Climate Change, the onus is on the Centre to choose one among them.
- **Krishna Peacock**, a flagship species for biodiversity and conservation , is generally found in large numbers in the **Himalayas**. Possessing a peculiarly large swallowtail, its iridescent green scales diffract light to coat itself in radiance.
- Blessed with a **vibrant colour pattern**, including vermillion (haldi – kumkum) , the **Indian Jezebel** (or Common Jezebel) is known to deter its predators with its flashy wing colours. Regarded as soldiers of farmers, they also prey on parasites that infest fruit-bearing plants. **Widely distributed**, the species can be spotted in gardens and other lightly wooded areas.
- **Orange Oakleaf** is commonly known as ‘**dead leaf**’ for its ability to camouflage as a dry autumn leaf while striking a stationary pose with its wings closed.
 - The **masquerade** enables the species to prevent it from being devoured by birds in the moist forests of northern **Western Ghats, central, northern and northeastern parts** of India where they are generally found.
 - Besides, the Oakleaf is also known to **exhibit polyphenism** as it assumes specific colour and size during dry and wet seasons.



Animal and Plant Discoveries 2019

- The Ministry of Environment, Forest and Climate Change released the publication of the Zoological Survey of India (ZSI) and the Botanical Survey of India (BSI) named **Animal Discoveries 2019** and **Plant Discoveries 2019**.
- This is the **13th publication** in the series (Since 2007).
- Animal Discoveries 2019 lists **368 faunal species** as **new to science** with details of about 360 new species, four subspecies and four fossil species, as well as 116 species recorded for the first time from India.
- **Plant Discoveries 2019** lists **180 new plant species** and **73 new records discovered from the country**.
 - 28% of all plant discoveries were made from the **Western Ghats**; followed by the eastern Himalayas (21%); the east coast (11%); and eastern plains (10%), the west coast has contributed 7% of the total discoveries, while the western Himalayas have contributed 6% of the discoveries.
 - **Maximum** (flora) discoveries were made from the **State of Kerala**, followed by Maharashtra, Tamil Nadu and Arunachal Pradesh.
- **Important species in the latest editions:-**
 - **Cnemaspis anandani**, a rock dwelling gecko endemic to the Western Ghats;
 - **Sphaerotheca magadha**, a burrowing frog discovered in the farm fields of Jharkhand;
 - **Enoplotrupes (Enoplotrupes) tawangensis**, a dung beetle from Tawang;
 - **Ginger Amomum nagamiense**, a wild ginger variety discovered from the forest behind Kohima Zoo in Nagaland; and
 - **Pteris subiriana**, a wild fern found not just in Kerala but also in Tamil Nadu and Maharashtra.

Earthshot Prize

- Britain's Prince William, the Duke of Cambridge, launched a new **50-million pound Earthshot Prize**, aimed at **funding the most innovative solutions** to some of the world's most pressing environmental challenges.
- It contains **five prizes worth 1 million pounds each** will be awarded each year for the next 10 years, providing at least **50 solutions to the world's greatest environmental problems by 2030**.
- The Earthshot Prize is centred around **five “Earthshots”**, simple but ambitious goals for our planet, which if achieved by 2030 will improve life for us all, for generations to come. These include -

- 1. Protect and restore nature;
- 2. Clean our air;
- 3. Revive our oceans;
- 4. Build a waste-free world; and
- 5. Fix our climate.
- Prizes **could be awarded to a wide range of individuals**, teams or collaborations – scientists, activists, economists, community projects, leaders, governments, banks, businesses, cities, and countries – anyone whose workable solutions make a substantial contribution to achieving the Earthshots.

Furry Puss Caterpillars and Murder Hornets

- A vicious **predatory insect** popularly dubbed the ‘**murder hornet**’ was first spotted in the US state of Washington.
- The **furry puss caterpillar**, named after the **far less vicious house cat**, is essentially a southern flannel moth in its larva stage. According to experts, after metamorphosis, the insect no longer poses a threat.
 - Closely resembling a **wig or toupee**, the caterpillar is widely regarded as one of the **most poisonous** of its kind in the United States.
 - Touching or accidentally brushing against the hairy coat of these insects could cause a painful reaction and trigger symptoms such as fever, muscle cramps or swollen glands.
- Murder Hornet are **native to East Asia and Japan**, these predators are infamous for **ruthlessly ripping apart honeybees** and decimating their hives. However, they also pose a threat to human beings.
 - Their potent stingers deliver venom that has killed hundreds of people across the world.

Advanced High-resolution Air Quality Early Warning System

- Ministry of Earth Sciences launched the Air Quality forecast model System for Integrated modelling of Atmospheric composition (**SILAM**) and a very high resolution city scale model **ENFUSER** (ENvironmental information FUSion SERvice) for Delhi.
- SILAM and ENFUSER have been developed in technical collaboration with **Finnish Meteorological Institute (FMI)**.
- The speciality of the ENFUSER is the **high utilization of measurement data** such as air quality observations, a detailed description of the road network, buildings, land-use information, high resolution satellite images, ground elevation and population data.
- The **ENFUSER natively taps** into the operative IMD’s regional **SILAM access point**. The ENFUSER results are being evaluated with the satellite measurements and observations, and a model is found to capture the hotspots over Delhi very well.
- The SILAM models have been extensively validated against observations over Indian region.
- Air Quality forecast model WRF-Chem has also been updated with high-resolution land use land cover information to improve the air quality forecast.

Wildlife Institute of India (WII)

- A recommendation by the **Finance Ministry to divest Wildlife Institute of India (WII)** of its status as an autonomous body has triggered anxiety among scientists at the organisation.
 - **Indian Institute of Forest Management**, and **the Indian Plywood Industries Research and Training Institute** also have been recommended to be disengaged.
- The Wildlife Institute of India (WII), **an autonomous institution** under the **Ministry of Environment, Forests and Climate Change (MoEF)**, Government of India, was established in 1982.
 - **Autonomous Bodies** are set up whenever it is felt that certain functions need to be discharged outside the governmental set up with some amount of independence and flexibility without day-to-day interference of the Governmental machinery.
- WII carries out **wildlife research** in areas of study like Biodiversity, Endangered Species, Wildlife Policy, Wildlife Management, Wildlife Forensics, Spatial Modeling, Ecodevelopment, Ecotoxicology, Habitat Ecology and Climate Change.
- The **national tiger census or the All India Tiger Estimation**, is done by WII along with NTCA and state forest departments.
- The **training** of the direct recruits of the **India Forest Service Officers** and also those who are recruited as the State Forest Officers is done here itself.
- The institute is based in **Dehradun, Uttarakhand**, close to **Rajaji National Park**.

Indian Institute of Forest Management (IIFM)

- IIFM, **founded 1982**, is an **autonomous, public institute** of sectoral management located in **Bhopal, Madhya Pradesh**
- It was **established by the Ministry of Environment, Forest and Climate Change**, Government of India with **financial assistance from the Swedish International Development Cooperation Agency (SIDA)** and course assistance from the **Indian Institute of Management Ahmedabad**.
- The institute's objective is to fulfill the growing need for the **managerial human resource in the area of Forest, Environment, and Natural resources Management** and allied sectors.
- The institute is headed by a director selected and appointed by the Ministry of Environment, Forest and Climate Change, Government of India.

Indian Plywood Industries Research and Training Institute

- IPIRTI is an **autonomous body under the Ministry of Environment & Forest Govt. of India**.
- **Minister** in charge of the portfolio of Environment Forests as its **President** and the **Secretary** of the Ministry as its **Chairman**.
- The Institute, which was **started** as a co-operative Research Association of the Plywood Industry and the CSIR in **1962** and has **headquarters at Bangalore**.
- It is an internationally recognized center of expertise with an exhaustive source of data and information in the area of **wood science and technology** with particular reference to wood based panels.
- It is also recognized (since 1999) as a **nodal centre** by Forest Research Institute and University, DehraDun for pursuing a Research programme for award of **Ph.D. degree**.

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Kaleshwaram Lift Irrigation Project (KLIP)

- The **National Green Tribunal (NGT)** has held that **environmental clearance (EC)** to **Kaleshwaram Lift Irrigation Project (KLIP)** was granted **ex post facto**, after completion of substantial work, by the Ministry of Environment, Forests and Climate Change (MoEF&CC) “**in violation of law**”.
- It has also observed that **accountability needs to be fixed** and remedial measures be taken. For that purpose, it has directed the MoEF&CC to **constitute a seven-member expert committee** to go into the matter in light of the observations in the present case.
- The expert committee could **assess the extent of damage** caused in going ahead with the project without EC – the period from **2008 to 2017** — and identify the necessary restoration measures.

About Kaleshwaram Lift Irrigation Project

- KLIP is a multi-purpose irrigation project on the **Godavari River** in **Kaleshwaram**, Bhupalpally, Telangana, India.
- Currently the **world's largest multi-stage lift irrigation project**, its farthest upstream influence is at the **confluence of the Pranhita and Godavari rivers**.
 - The **Pranhita** River is itself a **confluence of various smaller tributaries** including the **Wardha, Painganga, and Wainganga** rivers which combine to form the **seventh-largest drainage basin** on the subcontinent.
- Originally called **Pranhita-Chevella project** in erstwhile Andhra Pradesh, it was redesigned, extended and renamed as Kaleshwaram project in Telangana in 2014.
- The Telangana government has requested many times the Centre to treat Kaleshwaram Lift Irrigation Project (KLIP) as a **National Project**. But the centre has not granted it yet.
 - National Projects are provided **Central grants of 90%** of the estimated cost for their completion in a time bound manner.

State of Global Air 2020

- A new global study, **State of Global Air 2020** has been released by the **Health Effects Institute (HEI)** in collaboration with the **Institute for Health Metrics and Evaluation (IHME)**, with expert input from the **University of British Columbia**.
- It is the **first-ever comprehensive analysis of air pollution's global impact on newborns** and found that high particulate matter contributed to the deaths of more than 116,000 Indian infants who did not survive their first month.
- More than **half of these deaths** were associated with outdoor PM2.5 and others were linked to use of solid fuels such as charcoal, wood, and animal dung for cooking.
- **Long-term exposure to outdoor and household** air pollution contributed to over 1.67 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases, and neonatal diseases, in India in 2019.
- **In infants**, most deaths were related to complications from **low birth weight and preterm birth**. Overall, air pollution is now the biggest risk factor for death among others.
- **India faced the highest per capita pollution exposure** — or 83.2 µg/cubic metre — in the world, followed by **Nepal** at 83.1 µg/cubic metre and **Niger** at 80.1.
- The government has claimed that **average pollution levels in India are declining over the past three years** but these have been marginal, particularly in the Indo-Gangetic plains which see extremely high particulate matter pollution especially during winter.

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- There is clear **evidence linking air pollution and increased heart and lung disease**. This newest evidence suggests an especially high risk for infants born in South Asia and sub-Saharan Africa.

First National Protocol to Enumerate Snow Leopard Population

- **International Snow Leopard Day** is being observed on **23 October**, the day of the adoption of the **Bishkek Declaration**.
- The Ministry for Environment, Forest and Climate Change (MoEFCC) launched the **First National Protocol on Snow Leopard Population Assessment in India**, on the occasion of International Snow Leopard Day in 2019.
 - It is the **first of its kind**, has been developed by scientific experts in association with the **Snow Leopard States/UTs** namely, *Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh*.
 - The occasion also marked the inaugural session of the 4th steering committee meeting of the **Global Snow Leopard & Ecosystem Protection (GSLEP) Program**.

Global Snow Leopard and Ecosystem Protection Program

- The GSLEP is a **world-first joint initiative** that aims to conserve the endangered snow leopard within the broader context of also **conserving valuable high mountain ecosystems**.
- GSLEP unites all **12 range country** governments, non-governmental and inter-governmental organisations, local communities, and the private sector around this aim.
- The snow leopard countries are *India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan*.
- In 2013, the 12 snow leopard range countries and partners signed the **Bishkek Declaration** and agreed to the goal of the GSLEP for the **7 years through 2020**.
- The snow leopard range countries agree, with support from stakeholder and interested organisations, to work together to identify and secure at least 20 snow leopard landscapes across the cat's range by 2020 or, in short – “**Secure 20 by 2020**.”
- **Secure snow leopard landscapes** are defined as those that contain *at least 100 breeding age snow leopards* conserved with the involvement of local communities, support adequate and secure prey populations, and have functional connectivity to other snow leopard landscapes, some of which cross international boundaries.
- The **GSLEP Program (2019)** was organized by the Ministry of Environment, Forest and Climate Change at **New Delhi**.
- Currently, the Steering Committee meeting of GSLEP is chaired by **Nepal** and co-chaired by **Kyrgyzstan**.

Snow Leopard

- The snow leopard, also known as the **ounce**, is a large cat native to the mountain ranges of **Central and South Asia**.
- **Protection Status**
 - **IUCN Red List: Vulnerable**
 - **CITES and CMS: Appendix I**
 - **Wildlife Protection Act, 1972: Schedule I**

Initiatives By India

- The snow leopard inhabits the higher Himalayan and trans-Himalayan landscape in the **five states** of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh. This area contributes to about 5% of the global snow leopard range.
- **Project Snow Leopard (PSL):** It was launched in 2009 to promotes an inclusive and participatory approach to conservation that fully involves local communities.
- **SECURE Himalaya: Global Environment Facility (GEF)-United Nations Development Programme (UNDP)** funded the project on conservation of high altitude biodiversity and reducing the dependency of local communities on the natural ecosystem.
- Snow Leopard is in the **list of 21 critically endangered species** for the recovery programme of the Ministry of Environment Forest & Climate Change.
- **HimalSanrakshak:** It is a community volunteer programme, to protect snow leopards, launched on 23rd October 2020.
- **Snow Leopard conservation breeding** programme is undertaken at Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal.
- **Snow Leopard capital of the world: Hemis, Ladakh.**

Himalayan Brown Bear

- A recent **study on the Himalayan brown bear** has predicted a **significant reduction** in suitable habitat and biological corridors of the species in the climate change scenario, prompting scientists to suggest adaptive spatial planning of protected area network in the western Himalayas for conserving the species.
- The Himalayan brown bear, also known as Himalayan red bear, **isabelline bear** or **Dzu-Teh.** is **one of the largest carnivores in the highlands of Himalayas.**
- It occupies the **higher reaches of the Himalayas** in remote, mountainous areas of Pakistan and India, in small and isolated populations, and is extremely rare in many of its ranges.
- **Protection Status:**
 - **IUCN Red List- Critically endangered.**
 - **CITES - Appendix I**
 - **Indian Wildlife (Protection) Act of 1972 - Schedule 1**

**Travancore Tortoise**

- The Travancore tortoise is a **large forest tortoise** growing up to 330 millimetres (13 in) in length.
- **Protection Status:**
 - **IUCN Red list - vulnerable;**
 - **Indian Wildlife (Protection) Act: Schedule IV.**
- **Distribution:** Restricted to the **Western Ghats**, in the Indian states of Kerala, Karnataka and Tamil Nadu.



Tarballs

- Nearly 28 % of particles collected from the air samples from a research station in the **Himalaya-Tibetan Plateau** were tarballs, a recent study has found.
- Tarballs are **small light-absorbing, carbonaceous particles** formed due to burning of biomass or fossil fuels that deposit on snow and ice.
- The percentage of the tarballs **increased on days of higher levels of pollution** and could contribute to **hastening** of glacial melt and **global warming**.
- The **median sizes** of externally mixed tarballs and internally mixed tarballs were 213 and 348 nanometre respectively
- Primary brown carbon (**BrC**) **co-emitted with black carbon (BC)** from biomass burning is an important **light-absorbing** carbonaceous aerosol. The black carbon from the **Indo-Gangetic Plain** can reach the Himalaya region and influence glacial melting and climatic change.

2nd National Water Awards

- Department of Water Resources, River Development and Ganga Rejuvenation, **Ministry of Jal Shakti**, organised the 2nd National Water Awards (NWAs) for the year 2019 on 11th & 12th Nov' 2020.
- The NWAs were **launched in 2007 for the first time** along with the **Ground Water Augmentation Awards** and the winners in different categories are given a citation, trophy and cash prize.
- These focus on the good work and efforts made by **individuals and organisations** across the country, and the government's vision for the path to '**Jal Samridh Bharat**'.
- The awards are given in several categories such as 'Best State', 'Best District', 'Best School', 'Best Newspaper', 'Best NGO', 'Best Industry', etc. with sub-categories also.

Minks

- An analysis of outbreaks of the **novel coronavirus on 16 mink farms** in the Netherlands has revealed that the COVID-19 virus is **capable of transmission between humans to minks**, as well as from these mammals to people.
- Mink are **dark-colored, semiaquatic, carnivorous mammals** of the genera Neovison and Mustela, and part of the family Mustelidae, which also includes weasels, otters and ferrets.
- There are **two extant species** referred to as "mink": the **American mink** and the **European mink**.
- The European mink is listed by the IUCN as **Critically Endangered**.



Haiderpur Wetland

- The forest department in **Uttar Pradesh** is working along with conservation organisations to eventually make the Haiderpur wetland in **Muzaffarnagar district a Ramsar site**.
- Fed by the **Ganga and Solani rivers**, the wetland came into **existence in 1984** after the construction of the **Madhya Ganga Barrage** on the former. It is spread over 1,214 hectares.
- It is located within the boundaries of the **Hastinapur Wildlife Sanctuary**.
- It is an important stopover destination for **winter migratory birds** like the Greylag goose and the Bar-headed goose.

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- The wetland has been identified under Namami Gange, a flagship programme of the Government of India launched in 2014, as a model wetland along the Ganga.

Willow Warbler

- Willow Warbler one of the **longest migrating small birds**, has been sighted for the first time in the country at Punchakkari, Kerala.
- While the bird **weighs around 10 g**, its **long wing feathers** that help fly long distances makes it peculiar.
- Usually seen in **European and the Palearctic** regions, the birds migrate to sub-Saharan Africa during early winter.
- **Palearctic ecozone** is one the Earth's 8 ecozones and covers **Asia north of the Himalayas, with parts of western Asia and most of East Asia and Africa** north of the Sahara.
- **IUCN Red List: Least Concern.**



Deemed Forests

- Karnataka state government announced to declassify 6.64 lakh hectares of the 9.94 lakh hectares of **deemed forests in the state (nearly 67%)** and hand it over to **Revenue authorities**.
- The **issue** of deemed forests is a contentious one in Karnataka, with legislators across party lines often alleging that large amounts of **agriculture and non-forest land** are "**unscientifically classified as such**".
- While the concept of deemed forests has **not been clearly defined** in any law including the Forest Conservation Act of 1980, the **Supreme Court in the case of T N Godavarman Thirumalpad (1996)** accepted a wide definition of forests under the Act.
- "The word 'forest' must be understood according to its dictionary meaning. This description covers all statutorily **recognised forests, whether designated as reserved**, protected or otherwise for the purpose of **Section 2 (1) of the Forest Conservation Act, 1980**.
- An expert committee constituted by the Karnataka government after the Supreme Court order **identified 'deemed forests' as**
 - Thickly wooded areas of the Revenue Department not handed over to the Forest Department;
 - Thickly wooded areas recommended to be handed over to the Forest Department;
 - Thickly wooded land distributed to grantees but not cultivated; and
 - Thickly wooded plantations of the Forest Department

Global Renewable Energy Investment Meeting and Expo (RE-Invest 2020)

- Prime Minister of India inaugurated the **3rd Global Renewable Energy Investment Meeting and Expo (RE-Invest 2020)**.
- The summit is **organised** by the **Ministry of New and Renewable Energy** and was held from 26 – 28 November 2020.
- **Theme:** Innovations for Sustainable Energy Transition

Blue Tide

- **Bioluminescence or light-emitting tide** made an appearance on **Juhu beach** in Mumbai and Devgad, Velas and Murud along the state's coastline.
- The phenomenon is called '**blue tide**', and appears when **luminescent marine life** make the sea appear a deep shade of blue.
- **Bioluminescence** is the property of a living organism to produce and emit light. Waves disturb these **unicellular microorganisms** and make them release blue light.
- The spectacle occurs when **phytoplankton (microscopic marine plants)**, commonly known as **dinoflagellates**, produce light through chemical reactions in **proteins**.
- **Animals, plants, fungi and bacteria**, algae, jellyfish, worms, crustaceans, sea stars, fish and sharks show bioluminescence.
- Luminescence is generally **higher in deep-living** and planktonic organisms than in shallow species.
- It is an **antipredatory response**. Bioluminescence is assumed to **startle predators**, causing them to hesitate, in a form of **predator intimidation**. Another explanation is that bioluminescence helps these organisms **gather together and make colonies**.
- While bioluminescence is **not common in India**, there are **several tourist** places across the world which are famous for the phenomenon. The **Blue Grotto in Malta (Italy)** is one of nine caves near the **island of Filfa** that produces a phosphorescent glow.
- While **smaller blooms may be harmless**, slow-moving **larger blooms may have an impact on deep-sea fishing**.
- According to marine experts, the phenomenon is an indicator of **climate change**. Factors such as the pattern of the wind and the temperature of the ocean also determine the occurrence of bioluminescent waves.
- Some experts said it is an ecological indicator of **degraded water quality**. The phytoplankton shows up where seawater has low dissolved oxygen and high presence of Nitrogen. The bioluminescence could have been caused by heavy rain, fertilizers run off, discharge of sewage into the ocean.

GEOGRAPHY AND DISASTER MANAGEMENT

Cyclone Nisarga

- **Severe Cyclonic Storm Nisarga** was the **strongest tropical cyclone to strike the Indian state Maharashtra** in the month of June since 1891. It was also the first **cyclone impact to Mumbai** since **Cyclone Phyan of 2009**.
- Nisarga originated as a **depression in the Arabian Sea** and moved generally northward.
- Nisarga was the **second cyclone to strike the Indian subcontinent** within two weeks, after **Cyclone Amphan**, the **first super cyclonic storm to have formed in the Bay of Bengal** in the 21st century, devastated the state of West Bengal in May 2020.
- The name '**Nisarga**' has been suggested by **Bangladesh**.
- Cyclones formed in the **Bay of Bengal** are stronger than those on the **Arabian Sea** side. The relatively **cold waters of the Arabian Sea** discourage the kind of very strong cyclones that are formed on the Bay of Bengal side.

Kohala Hydropower Project

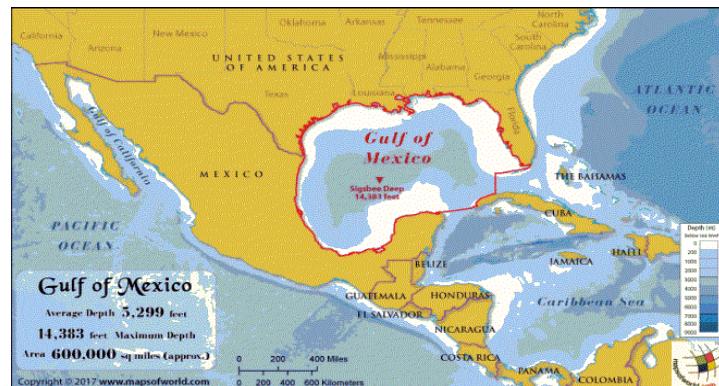
- China under the **multi-billion-dollar CPEC (China-Pakistan Economic Corridor)** will set up a **1,124-megawatt** power project in **Pakistan-occupied Kashmir** despite India's objection to it.
- The project will be built on the **Jhelum River** and aims at annually providing more than **five billion units** of clean and **low-cost electricity** for consumers in Pakistan.

Tropical Storm Cristobal

Tropical Storm Cristobal formed in the southern **Gulf of Mexico in June 2020**, threatening to bring deadly flooding in parts of **southern Mexico and Central America**.

Gulf of Mexico

- The Gulf of Mexico is an **ocean basin and a marginal sea of the Atlantic Ocean**, largely surrounded by the **North American continent**.
- It is **bounded on the northeast**, north and northwest by the **Gulf Coast of the United States**, on the southwest and south by Mexico, and on the southeast by Cuba.



Amery Ice Shelf

- The **National Centre for Polar and Ocean Research (NCPOR)** predicts that there would be a **24% increase in the expansion of Amery Ice Shelf (AIS)** boundaries by 2021 and another 24% expansion by 2026 from its 2016 positions.

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- Ice shelves are **permanent floating sheets** of ice that connect to a landmass.
- The AIS is **one of the largest glacier drainage basins** in the world, located on the **east coast of Antarctica**, at about **70°S Latitude, 70°E Longitude**.
- The AIS **dynamics and mass balance help in understanding the changes** in the global climate scenario.
- NCPOR carried out this study based on the satellite **data collected from 2001 to 2016**.
- The data were collected **during the austral (relating to the southern hemisphere) summer months of January to March** to understand the advancement of AIS extension and the influence of ocean atmospheric forcing in East Antarctica.
- The NCOPOR scientists observed a **spatio-temporal change** in the **ice shelf** as reflected by the extension of the **Pridze and Mackenzie** and the **extension** of a 200-km stretch between **Mackenzie Bay (68.5°S Latitude; 70.2°E Longitude)** and the **Sandefjord Bay (69.65°S Latitude; 74.3°E Longitude)**, which is a **part of the AIS**.

Presena Glacier

- A team of conservationists has begun the process of **laying vast tarpaulin sheets** to cover over 100,000 sq metres of the **Presena glacier** in **Northern Italy** to prevent it from melting due to global warming. The **six-week** process is repeated every year once the ski season is over and summer begins in full force.
- The conservation project was **first** undertaken in **2008** — at which time only 30,000 sq metres of the glacier was covered.
- The process of removing the protective tarps will begin in September and will take six months.
- Glacier is situated between the Lombardy and Trentino Alto Adige regions (altitude around 2,700-3,000 metres) in **Northern Italy**, the glacier is part of the **Presanella mountain (Alps) group**.
- **Pink snow** was also observed, in July 2020, on parts of the **Presena glacier** believed to be caused by a plant that makes the **ice darker**, causing it to melt faster.
- The plant, known as **Ancylonema nordenskioeldii**, is present in Greenland's so-called **Dark Zone**, where the ice is also melting.
- Normally **ice reflects more than 80% of the sun's radiation back** into the atmosphere, but as algae appear, they darken the ice so that it absorbs the heat and melts more quickly.

Adamello-Presanella Alps

- The Adamello-Presanella Alps Alpine group is a mountain range in the **Southern Limestone Alps** mountain group of the Eastern Alps. It is located in **northern Italy**, in the provinces of Trentino and Brescia. The name stems from its highest peaks: **Adamello** and **Presanella**.

Athirapally Hydel Electric Project

- The **Kerala government** has proposed **163-megawatt (MW)** Athirappilly **HydroElectric Project (AHEP)** on the **Chalakudy river** in **Thrissur district**.
- **Chalakudy River** originates in the Anamalai region of Tamil Nadu, its major tributaries are **Parambikulam, Sholayar, Kuriyarkutti, Karapara and Anakayam** in Kerala.
- The famous waterfalls on this river are **Athirappilly Falls and Vazhachal Falls**. It merges with the Periyar River in Ernakulam district.

- There are already five dams for power and one for irrigation and it will be the seventh along the 145 km course of the Chalakudy river.

Mont Blanc

- Mont Blanc (meaning "White Mountain") is the **second-highest** mountain in Europe after **Mount Elbrus**. It is the highest mountain in the Alps and Western Europe.
- It rises 4,808 m (15,774 ft) above sea level and is ranked 11th in the world in topographic prominence.
- The mountain stands in a range called the **Graian Alps**, between the regions of Aosta Valley, Italy, and Savoie and Haute-Savoie, France.



Earthquake In India

- Frequent tremors of the earthquake had occurred in Delhi-NCR and nearby regions in June-July.
- An earthquake is the shaking of the surface of the Earth resulting from a sudden release of energy in the Earth's lithosphere that creates seismic waves.

Measurement of Earthquake

- The instrument which is sensitive to the seismic waves and helps to measure the intensity of the earthquake is called **Seismograph**.
- There are different scales that are used to measure the intensity of earthquakes namely: **Rossi-Forel Scale, Mercalli Scale, and Richter Scale**.
- The **magnitude scale is known as the Richter scale**. The magnitude relates to the energy released during the earthquake, which is expressed in absolute numbers, 0-10.
- The **intensity scale or Mercalli scale** considers the visible damage caused by the event. The range of intensity scale is from 1-12.
- The lines joining the regions of same seismic intensity are called **Isoseismal** lines and the lines joining the places which experience the tremors of the earthquake at the same time are known as **Homoseismal** lines.

Earthquake (Seismic) Zones in India

- There are **four seismic zones (II, III, IV, and V)** in India based on scientific inputs relating to seismicity, earthquakes occurred in the past and tectonic setup of the region.
- Previously, earthquake zones were divided into five zones with respect to the severity of the earthquakes but the **Bureau of Indian Standards (BIS)** grouped the country into four seismic zones by unifying the first two zones.
- Earthquake zone V is the most vulnerable to earthquakes, where historically some of the country's most powerful shocks have occurred. It has magnitudes in excess of 7.0.

Great Oxidation Event

- The **Great Oxidation Event (GOE)**, sometimes also called the **Great Oxygenation Event, Oxygen Catastrophe, Oxygen Crisis, Oxygen Holocaust, or Oxygen Revolution**, was a time period when

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the Earth's atmosphere and the shallow ocean experienced a rise in oxygen, approximately 2.4 billion years ago (2.4 Ga) to 2.1–2.0 Ga during the **Paleoproterozoic** era.

- Geological, isotopic, and chemical evidence suggests that biologically produced **molecular oxygen (dioxygen, O₂)** started to accumulate in Earth's atmosphere and changed Earth's atmosphere **from a weakly reducing atmosphere to an oxidizing atmosphere**, causing many existing species on Earth to die out.
- The **cyanobacteria** producing the oxygen caused the event which enabled the subsequent development of multicellular forms.[6]

Disaster Management Act

- The **nationwide lockdown** was imposed to combat the COVID-19 pandemic under the **Disaster Management Act, 2005**, invoked for the **first time** in the country since the legislation was drafted after the tsunami in 2004.
- COVID-19 is the **first pan India biological disaster** being handled by the legal and constitutional institutions of the country.
- Under the Act, the **States** and **district** authorities can frame their own rules based on broad guidelines issued by the Union Home Ministry.
- The legal basis of the DM Act is **Entry 23, Concurrent List** of the Constitution "**Social security and social insurance**".
- **Entry 29, Concurrent List** "Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting men, animals or plants," can also be used for specific law making.
- The Act calls for the establishment of **National Disaster Management Authority (NDMA)**, with the **Prime Minister** of India as chairperson.

Neradi Barrage over Vamsadhara River

- The **Andhra Pradesh** Government planned to build the **Neradi bridge** across the **Vamsadhara river** but disputed due to Odisha's concern.
- Earlier, **The Vamsadhara Water Dispute Tribunal** directed Andhra Pradesh and Odisha to carry out a joint survey for **identifying 106 acres of land** in Odisha for the construction of Neradi barrage across the river

Vamsadhara River

- River Vamsadhara is an important east flowing river between Rushikulya and Godavari, in Odisha and Andhra Pradesh states.
- It originates in Odisha and ends in the Bay of Bengal at Kalingapatnam(Andhra Pradesh).
- Mahendratanaya River is a major tributary.

Decommissioning Request of the Ithai Barrage

- The **Manipur** government is seeking a review of the **Loktak Hydropower project** and removal of the **Ithai Barrage**.
- It was constructed in **1983** to act as an **artificial reservoir** to maintain sufficient water volume in Loktak lake for the continuous generation of hydropower.

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- The dam has **affected** the hydrology of the lake and caused harm to the **ecology** and economy of the region.

Operation Meghdoot

- On April 13, the **Indian Army** observed the **36th Siachen Day**, remembering the gallant martyrs of Siachen to **commemorate** the courage and fortitude displayed by troops of the Indian Army in securing the **highest and coldest battlefield in the world**.
- On April 13, 1984, the Indian Army launched "**Operation Meghdoot**" to secure **Bilafond La** and other passes on the **Saltoro Ridgeline** from Pakistani aggression.
- The conflict began when Pakistan allowed Japanese expedition to **scale Rimo I (an important peak in the region)** in 1984.
- Siachen lies in the Karakoram Range in North-West India. Siachen Glacier is 76.4 km long and covers about 10,000 sq km of uninhabited terrain. The Siachen Glacier's melting waters are the main source of the **Nubra River** in the Indian region of Ladakh, which drains into the **Shyok River**.

Project Chetak

The **Border Roads Organisation (BRO)** has constructed a **permanent bridge** on **river Ravi** under **Project Chetak**, which connects **Kasowal enclave** in **Punjab** to the rest of the country.

About Ravi river

- The Ravi was known as **Parushani** or **Iravati** to Indians in Vedic times and **Hydraotes** to the **Ancient Greeks**.
- It **originates** in the **Himalayas** in the Chamba district of **Himachal Pradesh** following a north-westerly course.
- It turns to the south-west, near Dalhousie, and then cuts a gorge in the **Dhaola Dhar range** entering the Punjab plain near Madhopur.
- It then flows along the **Indo-Pak border** for some distance before entering Pakistan and **joining** the **Chenab River**.

Nag River

- The **Bombay High Court** observed that the **Nag river** has become extremely polluted due to industrialisation and urbanisation.
- **Nagpur** (Maharashtra) city derives its name from the **Nag river** which flows through it.
- It Forms a part of the **Kanhan-Pench** river system, and originates in **Lava hills near wadi**.
- **Pili river** is its major tributary and it ends with confluence of **Kanhan River**.

Bihad Area in Gwalior—Chambal Region

- The Centre, in collaboration with the **World Bank**, has decided to convert a large area of ravines in **Gwalior-Chambal belt of Madhya Pradesh into arable land**.
- More than **3 lakh hectares of rugged land** is not cultivable and if this area is improved, then this will help in the integrated development of the Bihad area.

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- The project will not only help in improving **agricultural development** and **environment** but will also **create employment opportunities** and lead to substantive development of the region.
- The **Chambal Expressway** will also be built and will pass through this area.
- The **Chambal-Gwalior** ravines that consist of sharp, steep, mud hillocks stretch across **three States — Madhya Pradesh, Rajasthan and Uttar Pradesh**. Bihad areas of Chambal-Gwalior belt is a unique geographical feature having gullies up to 15-20 feet deep.

Ravine

- A ravine is a **landform** that is narrower than a canyon and is often the product of **streambank erosion**. They are typically classified as larger in scale than gullies, although smaller than valleys.
- It is generally a **fluvial slope** landform of relatively steep (cross-sectional) sides, on the order of twenty to seventy percent in gradient.

Kutch Mainland Fault (KMF)

- A recent study has suggested that the **Kutch Mainland Fault (KMF)**, which has been dormant for the last 1,000-odd years, has been accumulating stress within and could trigger an earthquake.
- KMF is the major **east-west** trending fault. The fault line extends for over 150 km from Lakhpat to Bhachau (Gujrat).
- The study also gives evidence that there were **four major earthquakes on KMF between 5600 and 1000 BP (before present)**, a time scale used by geologists to define events that happened before the origin of radiocarbon dating technology in the 1950s.
- The fragile crust of Kutch holds **four major active faults** which frequently liberate energy in the form of earthquakes.
- The devastating **January 26, 2001 earthquake** had occurred from the **South Wagad fault system (at the Kachchh Rift Basin)**.

Hajigak Mines

- In 2011, a consortium of seven Indian companies led by **Steel Authority of India Limited** had also successfully bid for mining rights at **Hajigak mines in Afghanistan** that contain large reserves of iron ore.
- Hajigak Mine is the best known and **largest iron oxide deposit** in Afghanistan, located near the **Hajigak Pass**, with its area divided between **Maidan Wardak** and **Bamyan provinces**. It has the biggest untapped iron ore deposits of Asia.



Azad Pattan Hydel Power Project

- Azad Pattan and Kohala Hydropower Projects are the two projects that will be built **on Jhelum River in PoK (Pakistan Occupied Kashmir)** Pakistan and China.
- These are among **five hydropower schemes on the Jhelum**. Upstream from **Azad Pattan** are the **Mahl, Kohala, and Chakothi** Hattian projects; **Karot** is downstream. Like Kohala and Azad Pattan, Karot also is being developed under the CPEC framework.

China–Pakistan Economic Corridor (CPEC)

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- CPEC is a collection of **infrastructure projects** that are under construction throughout Pakistan since 2013.
- It is a part of the Belt and Road Initiative
- On 13 November 2016, CPEC became **partly operational** when Chinese cargo was transported overland to **Gwadar Port** for onward maritime shipment to Africa and West Asia, while some major power projects were commissioned by late 2017.



Belt and Road Initiative

- The **Belt and Road Initiative** (BRI, or B&R), formerly known as **One Belt One Road (OBOR)**, is a **global infrastructure** development strategy adopted by the **Chinese government** in 2013 to invest in nearly **70 countries** and international organizations.
- It is considered a centerpiece of Chinese Communist Party general secretary **Xi Jinping's foreign policy**, he originally announced the strategy during official visits to **Indonesia** and **Kazakhstan** in 2013.
- "Belt" refers to the **overland routes** for **road** and **rail** transportation, called "**the Silk Road Economic Belt**"; whereas "road" refers to the **sea routes**, or the 21st Century **Maritime Silk Road**. It was **incorporated** into the **Constitution** of the People's Republic of China in 2017.
- The project has a **target completion date of 2049**, which coincides with the 100th anniversary of the People's Republic of China.

Agatti Island

- Agatti Island is a **7.6 km long island**, situated on a **coral atoll** called **Agatti atoll** in the Union Territory of Lakshadweep, India.
- It is situated at a distance of **459 km (248 nautical miles)** from Kochi (Kerala) and is located to the west of Kavaratti Island (capital of Lakshadweep).
- Fishing is the most important industry of Agatti and it receives surplus fish. Next to fishing, coir (coconut fibre) and copra (dried meat or kernel of the coconut) are the main industries.



Kerala Landslide

- At least 18 persons were killed and 52 others are missing after a series of landslides at the **Nayamakkad tea estate** at Pettimudy, near Rajamala in Idukki **district, Kerala**.
- Four **layams (housing lines of tea garden workers)** were also buried.

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- The **Nayamakkad estate** is located about 30 km from Munnar, adjacent to the **Eravikulam National Park (ENP)**, and can be accessed through the national park.
- The term **landslide or less frequently, landslip**, refers to several forms of mass wasting that include a wide range of ground movements, such as rock falls, deep-seated slope failures, mudflows, and debris flows.
- Landslides are a type of **mass wasting** (a geomorphic process) which denotes any down-slope movement of soil and rock under the direct influence of **gravity**.
- The **National Institute of Disaster Management (NIDM)** (under the **Ministry of Home Affairs**) organized the **1st International Conference on “Landslides Risk Reduction and Resilience”** on 28th November, 2019 in New Delhi.

Hurricane Hanna

- Hurricane Hanna made landfall in **Texas (U.S.)** on July 25, 2020.
- Hanna reached wind speeds of up to 90 mph. The hurricane is expected to produce heavy rains across portions of southern Texas and northeastern **Mexico**, which will result in “**life-threatening**” flash flooding and isolated minor to moderate river flooding.
- It has been categorised as a **Category 1 storm on the Saffir–Simpson hurricane wind scale (SSHWS)**.
- Tropical cyclones or hurricanes use **warm, moist air as fuel** and therefore form over warm ocean waters near the equator. When the warm, moist air rises upward from the surface of the ocean, it creates an area of **low air pressure below**. When this happens, the air from the surrounding areas, which has higher pressure, enters this space, eventually rising when it becomes warm and moist too.

Naming of Cyclones

- Since 1953, Atlantic tropical storms have been named according to lists by the **National Hurricane Center (NHC)**.
- In 1978, it was decided that the NHC will **use alternating men and women’s names**, on the lines of the practice adopted by Australia’s bureau of meteorology three years earlier in 1975.
- These names are maintained and updated by an international committee of the **World Meteorological Organisation (WTO)**. The WTO represents over 120 countries and uses **predetermined** lists of names for each ocean basin of the world.
- There are **six such lists of names with 21 names** each (each starting with one alphabet except Q, U, X, Y and Z because names beginning with these letters are in short supply) that are **used in rotation**, which is to say that the list of names attributed to Atlantic tropical storms in 2019 will also be used in 2025.
- However, names of storms that caused **particular damage and deaths are retired** and in case there are more storms than names in the list, NHC names them using the Greek alphabet. Some of the retired names include **Erika (2015), Irma (2017) and Florence (2018) among several others**.
- Further, the only time that a storm may be renamed is when it dissipates to a tropical disturbance and reforms.
- Adopting names for tropical storms makes it easier for people to remember, as opposed to numbers and technical terms. Apart from the general public, it also helps the scientific community, the media, disaster managers etc.

Saffir–Simpson scale

- The **Saffir–Simpson hurricane wind scale (SSHWS)**, formerly the **Saffir–Simpson hurricane scale (SSHS)**, classifies hurricanes – Western Hemisphere tropical cyclones – that exceed the intensities of tropical depressions and tropical storms – into **five categories** distinguished by the intensities of their sustained **winds**.
- The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	119-153 km/h	Very dangerous winds will produce some damage
2	154-177 km/h	Extremely dangerous winds will cause extensive damage
3(major)	178-208 km/h	Devastating damage will occur
4(major)	209-251 km/h	Catastrophic damage will occur
5(major)	252 km/h or higher	Catastrophic damage will occur

Tuting-Tidding Suture Zone (TTSZ)

- The **Tuting-Tidding Suture Zone (TTSZ)** is a **major part of the Eastern Himalaya**, where the Himalaya takes a sharp southward bend and connects with the **Indo-Burma Range**.
- This part of the **Arunachal Himalaya** has gained significant importance in recent times due to the growing need of constructing roads and hydropower projects, making the need for understanding the pattern of seismicity in this region critical.

Tsunami Ready

- The **Odisha State Disaster Management Authority (OSDMA)**, Odisha has now implemented the **Tsunami Ready programme** in two villages viz.,
 - Venkatraipur in Ganjam District,
 - Noliasahi in Jagatsingpur District.
- With this recognition, **India is the first country to implement Tsunami Ready** in the Indian Ocean Region and **Odisha is the first state**.
- Tsunami Ready is a community **performance-based** programme initiated by the **Intergovernmental Oceanographic Commission (IOC) of UNESCO** to promote tsunami preparedness through active collaboration of public, community leaders, and national and local emergency management agencies.
- The main **objective** of this programme is to
 - Improve coastal community's preparedness for tsunami emergencies,**
 - Minimize the loss of life and property
 - Ensure a structural and systematic approach in building community **preparedness**

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- Fulfilment of the **guidelines ensures communities** have a strong end-to-end tsunami early warning and mitigation system with a particular focus on community awareness and preparedness to respond.

Indian National Centre for Ocean Information Services (INCOIS)

- INCOIS is an **autonomous organization**, established in 1999, of the Government of India, under the Ministry of Earth Sciences, located in Hyderabad.
- It is a unit of the **Earth System Science Organization (ESSO)**.
- ESSO- INCOIS is **mandated to provide the best possible ocean information** and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research.
- The **Indian Tsunami Early Warning Centre (ITEWC)**, INCOIS is the nodal agency to provide tsunami advisories to India.
- INCOIS is also providing **tsunami advisories to Indian Ocean region (25 countries)** as a Tsunami Service Provider as the responsibility assigned by **IOC-UNESCO**.
- ITEWC at INCOIS also conducts **IOWave Tsunami mock exercises biannually**.
- To implement and monitor the implementation of Tsunami Ready and IOWave Exercises in India, **Ministry of Earth Sciences established a National Board under the chairmanship of Director, Indian National Centre for Ocean Information Centre (INCOIS)** with members drawn from Ministry of Earth Sciences (MoES), National Disaster Management Authority (NDMA), Ministry of Home Affairs (MHA), Odisha State Disaster Management Authority (OSDMA), Andaman & Nicobar Islands Directorate of Disaster Management (DDM) and INCOIS.

Intergovernmental Oceanographic Commission (IOC)

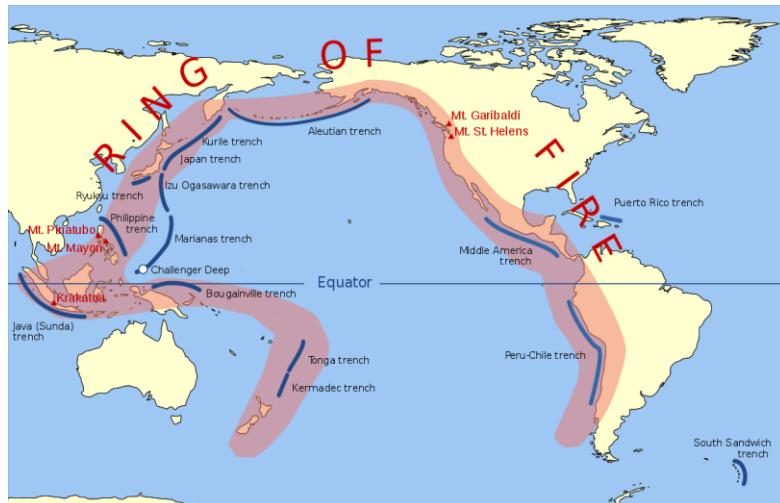
- The **Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO)**, established in 1960 as a body with functional autonomy within UNESCO, is the **only competent organization for marine science within the UN system**.
- It provides a focus with regard to ocean science, observations and data exchange, and services such as global tsunami warning systems.
- It is recognized through the **United Nations Convention on the Law of the Sea (UNCLOS)** as the competent international organization in the fields of Marine Scientific Research and Transfer of Marine Technology.
- Established in 1960, Headquarters at Paris, France and currently has 149 Member States.
- **India is among 40 Founding Members.**

Mount Sinabung

- Rumbling **Mount Sinabung on Indonesia's Sumatra island** erupted on 10 August 2020, sending a column of volcanic materials as high as 5,000 metres (16,400 feet) into the sky.
- The volcano, one of **two currently erupting in Indonesia**, was **dormant for four centuries before** exploding in 2010, killing two people. Another eruption in 2014 killed 16 people, while seven died in a 2016 eruption.
- Sinabung is among more than **120 active volcanoes in Indonesia**, which is prone to seismic upheaval due to its location on the **Pacific “Ring of Fire”**, an arc of volcanoes and fault lines encircling the **Pacific Basin**.

Ring of Fire

- The **Ring of Fire** (also known as the **Rim of Fire or the Circum-Pacific belt**) is a major area in the basin of the **Pacific Ocean** where many earthquakes and volcanic eruptions occur.
- In a large 40,000 km **horseshoe shape**, it is associated with a nearly continuous series of oceanic trenches, volcanic arcs, and volcanic belts and plate movements.
- It has 452 volcanoes (more than 75% of the world's active and dormant volcanoes).
- About 90% of the world's **earthquakes** and about 81% of the world's largest earthquakes occur along the Ring of Fire.
- It traces boundaries between **several tectonic plates**—including the Pacific, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.



Mahatma Gandhi Setu

- Union Minister Of Road Transport And Highways inaugurated the **rehabilitated western flank of Mahatma Gandhi Setu**. It is being rehabilitated by replacing the old superstructure, except pillars, with steel deck superstructure.
- Mahatma Gandhi Setu (also called Gandhi Setu or Ganga Setu) is the '**lifeline**' bridge of Bihar connecting north and south Bihar over river Ganga
- Its length is 5,750 metres and it is the third-longest river bridge in India.

Longest Bridges Above Water In India

Name	River/Water Body	Spanning (m)	Completed /Opened	Traffic	State
Bhupen Hazarika Setu	Lohit River	9,150	2017	Road	Assam
Dibang River Bridge	Dibang River	6200	2018	Road	Arunachal Pradesh
Mahatma Gandhi Setu	Ganges	5750	1982	Road	Bihar
Bandra-Worli Sea Link	Mahim bay	5,600	2009	Road	Maharashtra
Bogibeel Bridge	Brahmaputra River	4,940	2018	Rail-cum-road	Assam

IFLOWS-Mumbai

- Maharashtra launched an Integrated Flood Warning System called 'IFLOWS-Mumbai'.
- A joint initiative between the Ministry of Earth Sciences (MoES) and Brihanmumbai Municipal Corporation (BMC), the warning system will be able to relay alerts of possible flood-prone areas anywhere between six to 72 hours in advance.
- Mumbai is only the second city in the country after Chennai to get this system. Similar systems are being developed for Bengaluru and Kolkata.
- The primary source for the system is the amount of rainfall, but with Mumbai being a coastal city, the system also factors in tidal waves and storm tides for its flood assessments.

Teesta River Dispute

- With the India-Bangladesh water-sharing deal stuck, Dhaka has begun to discuss a Chinese loan to manage the river. Bangladesh is discussing an almost \$1 billion loan from China for a comprehensive management and restoration project on the Teesta river.
- The Teesta river originates in Sikkim and flows through West Bengal as well as Bangladesh. India claims a share of 55 percent of the river's water. Bangladesh wants a higher share than it gets now. Currently, its share is lower than that of India's.
- Of the river's catchment - an area of land where water collects - 83 % is in India and 17 % is in Bangladesh.
- When we need a certain quantity of water to maintain our Kolkata Port and fulfil the need of farmers, water is released from Teesta and Farakka barrages to Bangladesh sacrificing the state's interest.
- Hydropower on the Teesta is another point of conflict. There are at least 26 projects on the river mostly in Sikkim, aimed at producing some 50,000MW.
- West Bengal proposed sharing the waters of other rivers, like the Torsa River. As north Bengal is completely dependent on the Teesta, rivers like the Torsa, which are closer to the border of India and Bangladesh, are good options. The Torsa, in fact, has connectivity with Bangladesh's Padma river.

About Teesta River-

- Teesta River is a 315 km long river that rises in the eastern Himalayas from the Pauhunri (or Teesta Kangse) glacier, flows through the Indian states of Sikkim and West Bengal through Bangladesh and enters the Bay of Bengal.
- It joins the Jamuna River at Fulchhari in Bangladesh.
- The confluence of Teesta and Rangeet, known as Triveni, is a splendor to look at, the mixing of the muddy emerald green waters of Teesta and the crystal-clear deep waters of Rangeet.
- Tributaries-
 - Left- Dik Chhu, Rangpo River, Lang Lang Chu, Lachung River, Rani Khola
 - Right- Ranghap Chhu, Rangeet, Ringyong Chhu
- The Tista Barrage is a dam that helps to provide irrigation for the plains between the upper Padma and the Jamuna.

Guwahati Gets India's Longest Ropeway Over Brahmaputra River

- The passenger ropeway project connects North Guwahati to Guwahati City traversing over the 1.8 KM stretch on the mighty Brahmaputra river.

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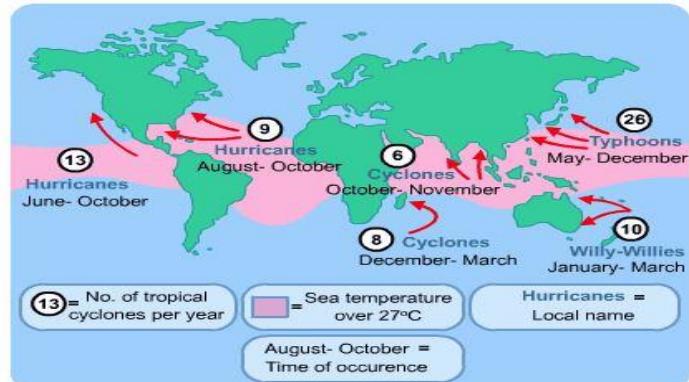
- Built at a **cost of Rs.56 crore**, it will bring down the travelling time between north Guwahati and the central part of the city to eight minutes.
- The ropeway is a **Twin Track, Single Haul, Bi-Cable Double reversible Jig Back** system with 2 Cabins each Capacity of 30 + 1 (Passengers + Operators), Ropeway Capacity of 250 PPH (Persons Per Hour).
- The ropeway is a convenient and **non-polluting means of transport**, as well as a source of **environmentally friendly tourism**.

About Brahmaputra River

- It is called **Yarlung Tsangpo** in Tibet, **Siang/Dihang River** in Arunachal Pradesh and **Luit, Dilao** in Assam, is a **trans-boundary river** which flows through Tibet, India and Bangladesh.
- It is the **9th largest river** in the world by discharge and the **15th longest**.
- Its **source** is at **Angsi Glacier, Manasarovar**, Tibet.
- In the vast Ganges Delta, it **merges with the Padma**, the popular name of the river Ganges in Bangladesh, and finally, **after merging with Padma**, it becomes the **Meghna** and from here, it flows as Meghna river before **emptying into the Bay of Bengal**.
- It is a classic example of a **braided river** and is highly susceptible to **channel migration and avulsion**.
- **Kangchenjunga (8,586 m)** is the **highest point** within the **Brahmaputra basin**.
- **Namcha Barwa** stands inside the Great Bend of the **Yarlung Tsangpo River** as the river enters its notable **gorge across the Himalaya**, emerging as the **Siang** and becoming the **Brahmaputra**.

• Tributaries

- **Left-** Lhasa River, Nyang River, Parlung Zangbo, Lohit River, Dhansiri River, Kolong River
- **Right-** Kameng River, Manas River, Beki River, Raidak River, Jaldhaka River, Teesta River, Subansiri River



Hurricane Laura

Hurricane Laura, a **Category 4 storm**, made landfall in **southwestern Louisiana** in August 2020 with **wind speeds** reaching up to **250 km (150 miles) an hour**.

What Are Hurricanes And How Do They Form

- Tropical cyclones or hurricanes use **warm, moist air as fuel**, and therefore form over **warm ocean waters near the equator**.
- As NASA describes it, when the **warm, moist air rises upward** from the surface of the ocean, it creates an area of **low air pressure** below.
- When this happens, the air from the **surrounding areas** rushes to **fill this place**, eventually rising when it **becomes warm and moist** too.
- When the warm air rises and cools off, the moisture **forms clouds**.

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- This system of clouds and **winds continues to grow and spin**, fuelled by the ocean's heat and the water that **evaporates** from its surface.
- As such storm systems **rotate faster and faster**, an **eye forms** in the **centre**.
- Storms that form towards the north of the equator **rotate counter clockwise**, while those that form to the **south spin clockwise** because of the rotation of the Earth.

Difference Between a Hurricane and a Tropical Storm

- There is **no difference**. Depending on **where they occur**, **Hurricanes** may be called **typhoons or cyclones**.
- As per NASA, the scientific name for all these kinds of storms is **tropical cyclones**.
- The tropical cyclones that form **over the Atlantic Ocean or the eastern Pacific Ocean** are called **hurricanes** and the ones that form in the **Northwest Pacific** are called **typhoons**.
- Tropical storms that form in the **Bay of Bengal or the Arabian Sea** are called **cyclones**.

Government Nod for Pampa Sand Removal

The high-level meeting chaired by Devaswom Minister on **Sabarimala pilgrimage** decided to **remove the fresh sand deposits** in **Pampa river**.

Pamba River

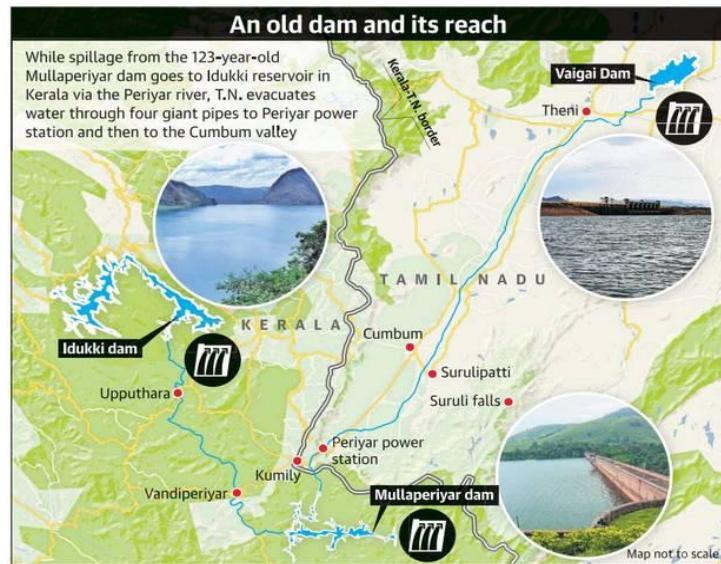
- **The Pamba River (also called Pampa river)** is the third-longest river in the Indian state of **Kerala** after Periyar and Bharathappuzha.
- The river is also known as **Dakshina Bhageerathi**. During ancient times it was called **River Baris**.
- The Pamba **originates** at **Pulachimalai hill** in the Peerumedu plateau in the **Western Ghats**.
- The river basin is bounded on the **east by the Western Ghats** and on the **west by the Arabian Sea**.
- **Sabarimala temple** dedicated to Lord Ayyappa is located **on the banks of** the river **Pamba**.

Periyar River

- Periyar (meaning: **big river**) originates at **Sivagiri Hills, Sundaramala, Western Ghats, Tamil Nadu** a catchment area of 5,398 square kilometres of which **5,284 square kilometres** is in Kerala and **114 square kilometres** is in **Tamil Nadu**.
- **The source of the river lies** in the remote forests of the **Periyar Tiger Reserve**.
- **Twenty-five percent** of **Kerala's industries** are along the **banks of** river Periyar.
- The **Mullaperiyar dam** is constructed at the **confluence of the Periyar and Mullayar** to create the **Periyar Thekkady lake** and reservoir, as well as the **Periyar National Park**.

Mullaperiyar Dam

- It is a **masonry gravity dam** on the **Periyar River** in the Indian state of Kerala on the **Cardamom Hills** of the Western Ghats.



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- It was constructed between 1887 and 1895 by John Pennycuick and also reached an agreement to divert water eastwards to the Madras Presidency area (present-day Tamil Nadu).
- Interstate dispute- The control and safety of the dam and the validity and fairness of the lease agreement have been points of dispute between Kerala and Tamil Nadu states.
- The Supreme Court judgment in 2006, allowed Tamil Nadu to raise the level of the dam to 142 feet after strengthening it.
- Mullaperiyar dam was declared an 'endangered' scheduled dam by the Kerala Government under the disputed Kerala Irrigation and Water Conservation (Amendment) Act, 2006.
- SC struck down the Act 2006 and ruled that Tamil Nadu can increase the water level to 142 feet.

Doklam and Naku La

- India and China were engaged in a months-long standoff in Doklam in 2017. Also, Naku La is one of the face-off sites between India and China.
- China is developing two air defence positions that may cover the 2017 Doklam stand-off area and Naku La in Sikkim.

Doklam

- Doklam, Zhoglam, or Donglang is an area with a plateau and a valley, lying between China's Chumbi Valley to the north, Bhutan's Haa Valley to the east and India's Sikkim state's Nathang Valley to the west.
- It has been depicted as part of Bhutan in the Bhutanese maps since 1961, but it is also claimed by China.



Naku La

Sikkim's Naku La sector, a pass located at an altitude of 19,000 feet which is located ahead of Cho Lhamu (source of River Teesta) or Muguthang.

Nathu La

- It is a mountain pass in the Himalayas in East Sikkim district. It connects the Indian state of Sikkim with China's Tibet Autonomous Region.
- Nathu La is one of the three open trading border posts between China and India; the others are Shipkila in Himachal Pradesh and Lipulekh (or Lipulech) at the trisection point of Uttarakhand-India, Nepal and China.
- Only citizens of India can visit the pass, and then only after obtaining a permit in Gangtok.
- On the Chinese side, the pass leads to the Chumbi Valley of the Tibetan Plateau.

Ladakh's Pangong Tso's south bank

Pangong Lake has been among the most contentious sectors in the military standoff in eastern Ladakh between Indian and Chinese security forces.

What is Pangong Lake

- Made popular by the Hindi film 3 Idiots, Pangong Tso is an endorheic lake (landlocked) that is partly in India's Ladakh region and partly in Tibet.

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- The name reflects the mixed heritage of the lake: **Pangong** in Ladakhi means **extensive concavity**, the word **Tso** is Tibetan for **lake**.
- Situated at an **elevation of about 4,270 m**, it is a nearly **135-km long, narrow lake** — 6 km at its widest point — and shaped like a **boomerang**. Its total area is over 600 sq km.
- The **Karakoram Mountain range**, which crosses Tajikistan, Afghanistan, Pakistan, China and India, with heights of over 6,000 metres including **K2**, the world's second-highest peak, **ends at the north bank of Pangong Tso**.
- Its southern bank **too has high broken mountains sloping towards Spangur Lake** in the south.
- The lake's water, while crystal clear, is **brackish, making it undrinkable**. The lake **freeses during the winter**, allowing some vehicular movement on it as well.
- Nearly **two-thirds** of the lake is **controlled by China**, with just about **45 km under Indian control**.



Pangong Tso South Bank-Importance

- The area, known as **Chushul approach**, is one of the few sectors that can be used as **launchpads for an offensive, because of the plains**. Terrain on the southern bank close to the lake is flatter than the northern bank, and **amenable to limited mechanised warfare** in the Chushul sector.
- Further to the south-east of the Pangong Tso is **Spangur Gap** between the mountains, which can be used by Chinese to advance towards Leh in a warlike situation. This area can also be exploited by the enemy to get access to strategically important **Durbuk- Shyok-Daulat Beg Oldi (DSDBO) road**.

Chushul

- This place is **famous for the Indian Army** who fought to the 'last man, last round' at **Rezang La (Chushul)** on 18 November 1962.
- **Chushul** is about 10 miles **south of the Pangong Lake**. It is in the valley of the **Chushul River (or Tsaka chu)**, which **rises** near the **Tsaka La** and flows north for about 30 miles before entering the **Pangong Lake on its south bank near Thakung**.
- Near Chushul, the river flows through a flat plain of some 10 square miles in extent, leading to **growth of grass and fuelwood**.
- Chushul had an **airstrip**, which supported **military operations** during **Sino-Indian War** and **2020 China-India skirmishes**.

Galwan River

- The Galwan River flows from the **disputed Aksai Chin region** to the **Ladakh region of India**.
- It **originates** near the **caravan campsite Samzungling** on the **eastern side of the Karakoram range** and flows west to join the **Shyok River**.
- To the south of the Galwan river, the **Karakoram range divides** into **two branches**, one that lies between the **Kugrang and Changlung rivers** (both tributaries of Chang Chenmo), and the other to the **east of Changlung**.

Baltic Nations

- **Indo-Baltic Trade Council** formed for enhanced cooperation **between India and the Baltic region** by providing opportunities to examine future areas for **cooperation**.

- The Baltic states is a **geopolitical term**, typically used to group the **three sovereign states** on the **eastern coast of the Baltic Sea**: Estonia, Latvia, and Lithuania.
- The three countries **do not form an official union** but engage in **intergovernmental and parliamentary cooperation**.
- All three countries are **members of NATO, the eurozone, the OECD, and the European Union**.
- All three are classified as **high-income economies** by the **World Bank** and maintain a **very high Human Development Index**.
- A multitude of **rivers**, notably the **Neman and Western Dvina**, empty northwestward **into the Baltic Sea**.
- The Latvian and Lithuanian peoples speak **languages** belonging to the Baltic branch of the **Indo-European linguistic family** and are commonly known as **Balts**.



What Counts as 'Act of God'

- Amid disruptions caused by **Covid-19**, the Finance Minister referred to an **Act of God** while businesses are looking at a legal provision, **force majeure**, to cut losses.
- **The force majeure or "Act of God" clause** has its origins in the **Napoleonic Code**.
- **The law of contracts** is built around a fundamental norm that the parties must perform the contract. **A force majeure clause** is one such **exception** that releases the party of its obligations to an extent when events beyond their control take place and leave them unable to perform their part of the contract.
- Generally, an "**Act of God**" is understood to include only **natural unforeseen circumstances**, whereas **force majeure** is wider in its ambit and includes **both naturally occurring events and events that occur due to human intervention**.
- War, riots, **natural disasters**, strikes, the introduction of new government policy imposing an embargo, boycotts, **outbreak of epidemics** and such situations are general circumstances.

Krishna-Godavari (KG) Basin, An Excellent Source Of Fuel Methane

- For alternate sources of **clean energy**, there is good news from the **Krishna-Godavari (KG) basin**. The **methane hydrate deposit** in this basin is a rich source that will ensure **adequate supplies of methane**, a natural gas.
- It is estimated that **one cubic meter** of methane hydrate contains **160-180 cubic meters of methane**. Even the lowest estimate of **methane present in the methane hydrates in the KG Basin** is twice that of all fossil fuel reserves available **worldwide**.
- In a recent study conducted by researchers at the **Agharkar Research Institute (ARI)**, an autonomous institute of the Department of Science and Technology, have found that the methane hydrate deposits located in the Krishna-Godavari (KG) basin are of **biogenic origin**.
- **Methane hydrate** is formed when **hydrogen-bonded water** and **methane gas** come into **contact** at **high pressures and low temperatures in oceans**.

- The massive methane hydrate deposits of biogenic origin in the Krishna-Godavari (KG) basin and near the coast of Andaman and Mahanadi make it necessary to study.

Astronomers Spy Phosphine On Venus, A Potential Sign Of Life

- An international team of astronomers presented evidence that the **cloud tops of Venus contain traces of phosphine — a toxic, rancid gas** that is produced by **microbial life (and some industrial processes) on Earth**.
- The detected presence of phosphine on Venus does convey the **possibility of life** there.

Why Is Phosphine Gas Considered A Biomarker Of Life

- A molecule of **phosphine gas consists** of a **phosphorus atom** surrounded by **three hydrogen atoms**, just like ammonia consists of a nitrogen atom surrounded by three hydrogen atoms.
- **On Earth**, this molecule is produced **by industrial processes**. It is also produced by some **anaerobic bacteria**, which live in oxygen-sparse environments such as sewers, landfills, or even animal guts.
- It is the **biochemical processes** that form a source of the gas — **the anaerobic bacteria** — hence it is considered a **biomarker in astronomy**.

Has Phosphine Been Found On Other Planets

- It has been seen on **Jupiter and Saturn**.

Venus is considered to be a hostile planet. How can life survive there?

- **The surface temperature of Venus, at about 470 degrees Celsius, is too hot to harbour life** as we know it. It is **hot enough to melt lead**. It is **hotter than Mercury which is closest to the sun**.
- This is because Venus has experienced a **runaway greenhouse effect** which traps all heat that falls on it. But high up in its atmosphere, **there are clouds** which **can provide a cooler home for microbial life**.
- Even there, the atmosphere is teeming with **sulphuric acid vapour** which makes it **extremely hostile**, thereby **reducing the chance of finding life forms**.

Have Space Missions Been Sent To Venus

- There have been several space missions to study Venus, and some of the recent dedicated missions are the **European Space Agency's Venus Express** and **JAXA's Akatsuki**.
- Many space missions have flown by Venus: for example, **NASA's Parker Solar Probe used the gravity of Venus** to achieve **gravity-assisted boosts** to its velocity on its journey to the Sun.
- **The Indian Venus mission is being developed**. Though formally unnamed, it is referred to as **Shukrayaan-1**.

Climate Change: Warmth Shatters Section Of Greenland Ice Shelf

- A big chunk of ice has broken away from the **Arctic's largest remaining ice shelf** - 79N, or **Nioghalvfjerdsfjorden** - in **north-east Greenland**.
- **Nioghalvfjerdsfjorden** is roughly **80km long by 20km wide** and is the **floating front end** of the Northeast Greenland Ice Stream - where it flows off the land into the ocean to become buoyant.
- At its leading edge, the **79N glacier splits in two**, with a minor offshoot turning directly north. It's this offshoot, or tributary, called **Spalte Glacier**, that has now disintegrated.
- Satellite pictures recorded a large number of **melt ponds** that sit on top of the **shelf ice**.

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- The presence of such liquid water is often **problematic for ice platforms**. The water pushes down on the **fissures, driving them** through to the base of the shelf in a process known as **hydrofracturing**. This weakens an ice shelf.
- **The fast pace of melting** in Greenland was **underlined in a study** that analysed data from the **US-German Grace-FO satellites**.

Tidal Disruption Events (TDE)

- When a star passes too close to a **supermassive black hole**, tidal forces tear it apart, producing a bright flare of radiation as material from the **star falls into the black hole**.
- **Stars are disrupted** when the **black hole's tidal gravity exceeds the star's self-gravity**, and this phenomenon is called **tidal disruption events (TDE)**.
- **Supermassive black holes** govern the **movement of stars** orbiting within their gravitational potential, and their **tidal forces** can **disrupt or rip apart the stars** that come to their vicinity.

World's Longest High-Altitude Shinkun La Tunnel

- World's Longest High-Altitude **Shinkun La Tunnel** (13.5 Km long) is along with its approach roads in **UT of Ladakh and Lahaul-Spiti district of Himachal Pradesh**.
- On completion of this tunnel, the **Manali - Kargil** highway will **remain open throughout the year**.

Shinkun La Tunnel

- The 13.5 Km long tunnel under the **Shingo La pass** will enable **all-weather road** connectivity **between Manali and Nimu** via Shingo La and Padum.
- The tunnel will provide all-weather road connectivity between **Himachal Pradesh and Jammu and Kashmir** in **Zanskar valley**.
- **With the construction of the tunnel**, inhabitants of around 15-odd villages of **Zaskar Valley** in **Jammu and Kashmir** will be relieved since the **valley remains cut off due to heavy snowfall during the winter**.
- This pass may be considered as an **entry point to Lugnak Valley in Zanskar**.

Atal Tunnel, World's Longest Highway Tunnel

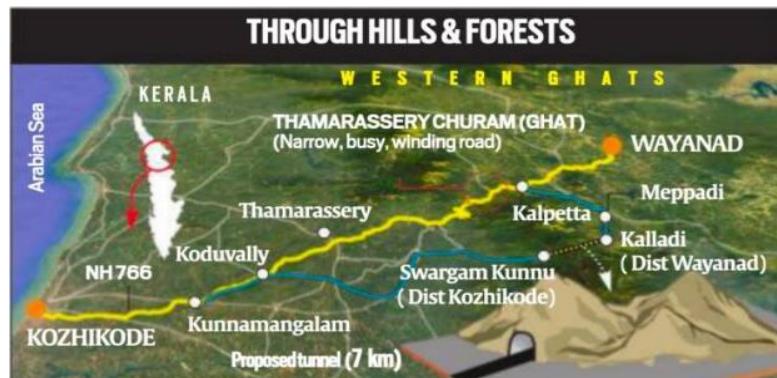
- The construction of the Atal Tunnel **connecting Manali with Leh**, which is the world's longest highway tunnel **above 10,000 feet**, has been **completed**.
- Atal Tunnel (also known as **Rohtang Tunnel**) is a highway tunnel built under the **Rohtang Pass** in the **eastern Pir Panjal Range** of the Himalayas on the **Leh-Manali Highway** in **Himachal Pradesh**.
- The tunnel reduces the travel time and overall distance between **Manali and Keylong on the way to Leh**.
- The project was announced by the then Prime Minister **Atal Bihari Vajpayee on 3 June 2000**. The work was entrusted to the **Border Road Organisation** on 6 May 2002.
- It is a **horseshoe-shaped** single-tube, **double-lane** tunnel.
- It is also the country's **first tunnel** to have an **escape tunnel** within the main tunnel because of the **topography**.

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- This is also the first tunnel to deploy the **Rowa flyer technology**, which allows engineers to work at inverted levels.
- The **9-km** Atal Tunnel is constructed at an estimated **cost of Rs.3,500 crore**.
- Atal Tunnel in **Lahaul Spiti's Rohtang** will shorten the distance **between Manali and Leh by 46 kms** and drive time by around seven hours.
- Atal Tunnel will be not only important from the **strategic point of view** but also give a boost to **tourism in Lahaul-Spiti**, creating employment opportunities.

Kozhikode-Wayanad Tunnel Road

- The **7-km tunnel**, being described as the **third-longest in the country**, is part of an 8-km road cutting through sensitive forests and hills of the **Western Ghats**.
- Its endpoints are at **Maripuzha** in Thiruvambady village panchayat (Kozhikode) and **Kalladi** in Meppadi panchayat (**Wayanad**).
- At present, Wayanad plateau is linked to the rest of Kerala via four roads, all with hilly sections, the longest being the 13-km **Thamarassery Ghat Road** along the **Kozhikode-Mysuru NH 766**.



Western Ghats

- The Western Ghats is a **mountain range** that covers an area of **1,60,000 square kilometres** in a stretch of 1,600 kilometres **parallel to the western coast of the Indian peninsula**, traversing the states of **Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat**.
- It is sometimes called the **Great Escarpment of India**.
- It is a **UNESCO World Heritage Site** and is one of the eight **hot-spots** of biological diversity in the world.
- According to UNESCO, the **Western Ghats are older than the Himalayas**. They influence **Indian monsoon** weather patterns by intercepting the rain-laden monsoon winds.
- The range **runs north to south** along the western edge of the **Deccan Plateau**, and separates the plateau from a narrow coastal plain, **called Konkan**, along the Arabian Sea.
- A total of **thirty-nine areas** in the Western Ghats, including national parks, wildlife sanctuaries and reserve forests, were **designated as world heritage sites in 2012 – twenty in Kerala, ten in Karnataka, six in Tamil Nadu and four in Maharashtra**.
- The range **starts near** the Songadh town of **Gujarat**, **south of the Tapti river**, ending at **Marunthuvazh Malai**, at Swamithope near the southern tip of India in **Tamil Nadu**.
- **Major gaps** in the range are the **Goa Gap**, between the Maharashtra and Karnataka sections, and the **Palghat Gap** on the Tamil Nadu and Kerala border between the Nilgiri Hills and the Anaimalai Hills.
- The **Western Ghats meet the Eastern Ghats** at the **Nilgiri mountains** in northwestern Tamil Nadu.
- The **Nilgiris** connect the **Biligiriranga Hills** in southeastern Karnataka with the **Shevaroys and Tirumala hills**.

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- In the southern part of the range is **Anamudi**, the highest peak in the Western Ghats. **Ooty** is called the **Queen of the Western ghats**.
- **Silent Valley in Kerala** is among the last tracts of virgin **tropical evergreen forest in India**.
- The **Gadgil Committee** and its successor, the **Kasturirangan Committee**, recommended suggestions to **protect the Western Ghats**.
- **The Gadgil report** was criticised as being **too environment-friendly** and the **Kasturirangan report** was labelled as being **anti-environmental**.
- In **2006**, India applied to the **UNESCO Man and the Biosphere Programme (MAB)** for the Western Ghats to be listed as a **protected World Heritage Site**.

Climate Change Spurs Doubling Of Disasters Since 2000: UN

- The **UN Office for Disaster Risk Reduction** said 7,348 major disaster events had occurred between 2000 and 2019, claiming 1.23 lives, **affecting 4.2 billion people** and costing the **global economy some \$2.97 trillion**.
- The figure far outstrips the 4,212 major **natural disasters recorded between 1980 and 1999**, the UN office said in a new report entitled "**The Human Cost of Disasters 2000-2019**"

The Human Cost of Disasters 2000-2019

- **Highest No of Disaster:** **Asia**, followed by **Americas** and **Africa**.
- Worldwide, **floods are the most common type of disaster**, accounting for **44% of total events** considered in this report. **India** is the **second most affected country by floods after China**.
- In the past two decades, **earthquakes and tsunamis** were the **deadliest forms of disasters** accounting for **58%** of total deaths.
- **The deadliest single disaster** in the past 20 years was the **2004 Indian Ocean tsunami**, with 2,26,400 deaths occurred.
- **Drought** affects **Africa more than any other continent (some 40% of the global total)**.
- **China and India** typically **dominate** the list of countries by impacts in absolute numbers, largely due to their **massive populations**. Together, the two nations account for over **2.8 billion** disaster-affected people between 2000-2019, approximately **70% of the global total**.
- **Low-income countries** account for **23%** of total disaster deaths despite accounting for less than **10% of the world's population**.
- For **Dominica**, a country that featured on all the top 10 lists for relative disaster impacts, over **99%** of those affected or killed by disasters were from **storms only**.

Centre for Research on the Epidemiology of Disasters (CRED)

- It is one of the leading agencies for the **study of public health during mass emergencies**, including the structural and socio-economic impacts of **natural-hazard-related**, technological disasters and human conflicts.
- CRED was **founded in 1973** at the **School of Public Health of UCLouvain, Belgium**.
- **CRED's Emergency Events Database (EMDAT)** contains the world's **most comprehensive data** on the occurrence and effects of more than 24,000 technological and natural hazard-related disasters from 1900 to the present day.

- It was established in **1999** and serves as the focal point in the United Nations System for the coordination of disaster risk reduction.
- It supports the implementation of the **Sendai Framework for Disaster Risk Reduction 2015–2030**, which maps out a broad people-centered approach towards achieving a substantial **reduction in disaster losses from natural and man-made hazards** and a shift in emphasis from disaster management to disaster risk management.
- **Sendai Framework for Disaster Risk Reduction (2015–2030)**
 - ✓ It is an international document that was adopted by the United Nations member states in March 2015 at the World Conference on **Disaster Risk Reduction held in Sendai, Japan**, and **endorsed** by the **UN General Assembly** in June 2015.
 - ✓ It is the **successor agreement to the Hyogo Framework for Action (2005–2015)**, which had been the most encompassing international accord to date on disaster risk reduction.
 - ✓ The Sendai Framework sets **four specific priorities** for action:
 - Understanding **disaster risk**;
 - Strengthening disaster **risk governance** to manage disaster risk;
 - **Investing** in disaster risk reduction for resilience;
 - Enhancing **disaster preparedness** for effective response, and to "**Building Back Better**" in recovery, rehabilitation and reconstruction.
 - ✓ **Seven global targets** have been agreed-
 - i) Substantially reduce global disaster **mortality by 2030**, aiming to **lower average per 100,000 global mortality** between 2020-2030 compared to 2005-2015;
 - ii) Substantially **reduce the number of affected people** globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015;
 - iii) **Reduce direct disaster economic loss** in relation to global gross domestic product by 2030;
 - iv) Substantially **reduce disaster damage to critical infrastructure** and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
 - v) Substantially increase the number of countries with national and local **disaster risk reduction strategies by 2020**;
 - vi) Substantially enhance international cooperation to developing countries through adequate and **sustainable support** to complement their **national actions for implementation** of the framework **by 2030**;
 - vii) Substantially increase the availability of and access to **multi-hazard early warning systems** and disaster risk information and **assessments to the people by 2030**.

Construction of Zojila Tunnel To Begin

- The tunnel will provide all-weather connectivity **between Srinagar valley and Leh (Ladakh plateau)** on **NH-1** and will bring about an all-round economic and socio-cultural integration of Jammu & Kashmir.
- Zojila tunnel is a **14.2 km long road** tunnel under **Zoji La pass** in the Himalayas between **Sonmarg** and **Drass town** in Kargil district of the Indian Union Territory of Ladakh.

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- The tunnel along with 6.5 km long **Z-Morh Tunnel**, (which is 22 km before Zoji La tunnel towards Srinagar) will ensure year-long road connectivity between **Srinagar and Kargil** which currently remains closed for about seven months due to heavy snowfall on the Zoji La pass which is situated at an altitude of 3,528 m on **Srinagar-Kargil-Leh highway**.

Z-Morh Tunnel

- It is a currently **under-construction 6.5 km** long road tunnel that will provide connection throughout all weather conditions **between Srinagar and Kargil in the Union Territory of Ladakh, India**.
- It is so named for the **Z-shaped stretch of road** between **Sonamarg and Gagangir** that the tunnel will replace.

Formation of State Water Grid to Overcome Flood crisis

- **Union Ministry for Road Transport, Highways** took initiative for **preparation of a detailed project report (DPR)** for **formation of the State Water Grid to overcome the recurring flood crisis in Maharashtra**.
- This would help the government to ensure the availability of the **water in drought-prone areas and save the resources to manage the flood crisis**.
- State is to take up the ambitious project of **formation of the State Water Grid on the lines of the National Power Grid and Highway Grid**.
- The idea is to **divert the flood water from one river basin to the other river basin** in the drought-prone area of the state. The areas with shortage of the water, scanty rainfall can get relief by the Grid.

National Water Grid

- The National Water Grid is a **large-scale engineering proposal** for the **management of water resources in India** by the **interlinking of the Indian rivers** through networks of **reservoirs and canals**.
- The idea was given by **Dr. K L Rao** in 1972 to the **inter-linking of rivers** for irrigation cum hydro project.
- The idea was to **interlinking the Perennial River** to the **non-perennial** because perennial rivers witness devastating floods whereas peninsular states suffer from severe droughts.
- In 1980, Government of India formulated the **prospective plan** for water resource development and set up the **National Water Development Agency (NWDA)** in July 1982. After long years of consideration, this idea was **revived again in 2003** but the process of interlinking is very slow till date.

India Launched Flash Flood Guidance Services For South Asian Countries

- India has launched **first-of-its-kind Flash Flood Guidance services** for **South Asian countries — India, Bangladesh, Bhutan, Nepal and Sri Lanka** — to issue impact-based **forecasting of floods**.
- India Meteorological Department has highly advanced capabilities with respect to computing power, **Numerical Weather Prediction**, vast observational network (**ground, air and space-based**), and an internationally acclaimed Weather Forecasting System.
- Therefore, the **World Meteorological Organization** has entrusted India with the responsibility of Regional Centre of South Asia Flash Flood Guidance System for **coordination, development and its implementation**.

World Meteorological Organization

- It is a specialized agency of the **United Nations** responsible for promoting **international cooperation** on atmospheric science, **climatology, hydrology and geophysics**.
- **The World Meteorological Convention of 1947** formally **established** the World Meteorological Organisation.
- The Convention entered into **force on 23 March 1950**, and the following year the WMO began operations as an intergovernmental organization within the UN system.
- The WMO has a membership of **193 member states and territories**.

India Meteorological Department

- It is an agency of **Ministry of Earth Sciences** of the Government of India. It is the **principal agency** responsible for **meteorological observations, weather forecasting and seismology**.
- IMD is **headquartered in Delhi** and operates hundreds of **observation stations across India**.
- IMD is also **one of the six Regional Specialised Meteorological Centres** of the World Meteorological Organisation.
- It has the responsibility for **forecasting, naming and distribution** of warnings for **tropical cyclones** in the **Northern Indian Ocean region**, including the **Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf**.
- The IMD launched **System of Aerosol Monitoring and Research (SAMAR)** in January **2016** to study the concentration of **Black carbon, radiative properties of aerosols**, environmental visibility and their climatological impacts. It would contain a network of 16 aethalometers, 12 sky radiometers and 12 nephelometers.

Girnar Ropeway

- Girnar ropeway, **Asia's longest ropeway**, is a ropeway on **Mount Girnar** in Junagadh district, Gujarat.
- The ropeway is located within the **Girnar Wildlife Sanctuary and National Park**.
- **Girnar or Girnar** is one of the most ancient and important places of worship for **Jainism**. Girnar, where **22nd Tirthankar Neminath Bhagwan** attained **Diksha, Kevalgyan And Moksh Kalyanak**.

Mansar Lake Development Plan

- Government inaugurates Mansar Lake Development Plan in **Jammu** to attract 20 lakh tourists every year.
- **Mansar Lake** is situated 62 km from Jammu.
- **Surinsar-Mansar Lakes** were designated as **Ramsar Convention** in November 2005. Mansar is primarily fed by surface run-off and partially by mineralised water through paddy fields. The lake supports **CITES and IUCN red-listed Lissuemys punctuata, Aspideretes gangeticus and Mansariella lacustris**.

La Nina is back

- **The La Nina weather phenomenon** is back in the **central and eastern equatorial Pacific Ocean** after nearly a **decade's** absence, the World Meteorological Organization (WMO) said in its latest Global Seasonal update.

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- La Nina will result in **sea surface temperatures** between two and three degrees Celsius **cooler than average**.
- **However, 2020** is on track to be **one of the warmest years on record** and 2016-2020 is expected to be the warmest five-year period on record.
- **La Nina** could last into **2021**, affecting **temperatures, precipitation and storm patterns** in many parts of the world, according to WMO.
 - The **Horn of Africa and Central Asia** will see below average rainfall due to La Nina.
 - Southeast Asia, some **Pacific Islands** and the northern region of South America are expected to receive **above-average rainfall**.

La Nina and El Nino

- **El Niño and La Niña** are **opposite phases** of what is known as the **El Niño-Southern Oscillation (ENSO) cycle**.
- **The ENSO cycle** is a scientific term that describes the **fluctuations in temperature** between the ocean and atmosphere in the **east-central Equatorial Pacific** (approximately between the International Date Line and 120 degrees West).
- **La Nina** is sometimes referred to as the **cold phase of ENSO** and **El Nino** as the **warm phase of ENSO**.
- **El Niño-**
 - El Niño means **The Little Boy or Christ Child** in Spanish. El Niño was originally recognized by fishermen off the coast of South America in the 1600s, with the appearance of **unusually warm water in the Pacific Ocean**.
 - **Wetter-than-average conditions** are likely over portions of the **U.S. Gulf Coast and Florida**, while **drier-than-average** conditions can be expected in the **Ohio Valley and the Pacific Northwest**.
- **La Niña**
 - La Niña means **The Little Girl in Spanish**. La Niña is also sometimes called **El Viejo, anti-El Niño, or simply "a cold event"**
 - La Niña episodes represent periods of **below-average sea surface temperatures** across the **east-central Equatorial Pacific**.
 - Global climate La Niña impacts tend to be opposite those of El Niño impacts.
 - In the tropics, ocean temperature variations in La Niña also tend to be opposite those of El Niño.
 - **During a La Niña year, winter temperatures are warmer** than normal in the Southeast and **cooler than normal** in the Northwest.

World Wide Fund for Nature Report on Water Scarcity

- **A hundred cities worldwide**, including 30 in India, face the risk of '**severe water scarcity**' by **2050**, according to a recent report by the **World Wide Fund for Nature (WWF)**.
- The cities would face a '**grave water risk**' by **2050** due to a dramatic increase in their **population percentage** to **51 per cent by 2050**, from **17 per cent in 2020**,
- **More than half** of the identified cities are from **China and India**.

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- WWF also launched an **online tool called the WWF Water Risk Filter** to help cities imagine future water risks and plan a better and sustainable future facilitating climate and water resilience. WWF Water Risk Filter aims to “help evaluate and inform **long-term resilience planning and strategy**.”
- The report suggests that the **Smart Cities initiative in India** could aid an integrated **urban water management framework**.

Luhri Stage-I Hydro Power Project

- The Cabinet Committee on Economic Affairs has approved the investment of Rs.1810.56 crore for **210 MW Luhri Stage-I Hydro Electric Project** located **on river Satluj** which is situated in **Shimla & Kullu districts of Himachal Pradesh**.
- This project will generate **758.20 million units of electricity** annually.
- This project is being **implemented by Satluj Jal Vidyut Nigam Limited (SJVN)** on **Build-Own-Operate-Maintain (BOOM)** basis with active support from Government of India and State Government.

National Monsoon Mission

- According to the **National Council of Applied Economic Research report**, India's investment of nearly **1,000 Crores** in the National Monsoon Mission and High-Performance Computing (HPC) facilities would provide **benefits worth rupees 50 thousand Crores** to nearly 1.07 Crore below poverty line (BPL) agricultural households and 53 Lakh BPL fisher-folk households in the country.
- The National Monsoon Mission was launched by the **Ministry of Earth Science in 2012** with an aim to **develop a state-of-the-art**, dynamic **monsoon prediction system** for short, medium, and long-range forecasts.
- The augmentation of the National Monsoon Mission with High-performance Computing facilities has **helped** the country in achieving a **paradigm shift in weather and climate modelling for operational weather forecasts**.
- The successful development of a **Global Ensemble Forecast System** for short and medium-range prediction at 12 kilometres and its **operationalization in 2018** was made possible due to National Monsoon Mission and augmentation of the High-performance **computing facilities from 1PetaFlop to 10PetaFlop**.
- India is the **fourth country** in the world to have a High-Performance Computing facility **dedicated to weather and climate research**, after Japan, the United States and the United Kingdom.
- Under the project, Pune-based **Indian Institute of Tropical Meteorology** will work on improving **long-range and seasonal scale forecasts** while the National Centre for Medium-Range Weather Forecasting in Noida, will spearhead efforts to improve **medium-range scale (up to 15 days) forecast of rainfall**.

Indian Institute of Tropical Meteorology

- It is a **scientific institution based in Pune, India** for expanding **research in tropical Indian Ocean** (formerly on tropical meteorology), of the tropics in general with special reference to **monsoon meteorology, and air-sea interaction of Indian monsoon**.
- **Founded in 1962**, the Institute has been put under the control of the **Ministry of Earth Sciences (MoES) from 2006**.

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- Prathyush is a **supercomputer** designed and developed by IITM, Pune. Pratyush is one of the **fastest supercomputers** in India, with a maximum speed of 6.8 petaflops.

Indonesian Volcano Mount Ili Lewotolok Erupts

- The 5,423-meter mountain is one of the three currently erupting in Indonesia along with **Merapi** on Java island and **Sinabung** on Sumatra island.
- There are more than **120 active volcanoes in Indonesia** prone to seismic upheaval due to its location on the **Pacific “Ring of Fire,”** an arc of volcanoes and fault lines around the Pacific Ocean.

Volcano

- A **volcano** is a **rupture** in the crust of a planetary-mass object, such as Earth, that allows **hot lava, volcanic ash, and gases** to escape from a **magma chamber** below the surface.
- On Earth, volcanoes are most often found where **tectonic plates** are **diverging or converging**, and most are found underwater.
- **Divergent plate boundaries**-At the **mid-oceanic ridges**, two **tectonic plates** diverge from one another as hot mantle rock creeps upwards beneath the thinned oceanic crust. The decrease of pressure in the rising mantle rock leads to **adiabatic expansion and** the partial melting of the rock, **causing volcanism and creating new oceanic crust.**
- **Convergent plate boundaries-Subduction zones** are places where two plates, usually an **oceanic plate and a continental plate, collide**. The **oceanic plate subducts** (dives beneath the continental plate), forming a **deep ocean trench just offshore.**
- **Hotspots**- Hotspots are volcanic areas thought to be formed by **mantle plumes**, which are hypothesized to be columns of **hot material rising from the core-mantle boundary.**
- **Continental rifting**-Sustained **upwelling of hot mantle rock** can develop under the **interior of a continent** and lead to rifting.
- **Ring of Fire- Circum-Pacific belt** is a region around much of the rim of the **Pacific Ocean** where many volcanic eruptions and earthquakes occur. The Ring of Fire is a **horseshoe-shaped belt** about 40,000 km long. It is a direct **result of plate tectonics.**

Strategic Significance of Lungro La Pass

- The **Defence Ministry** is taking control of over 200 acre of strategic grazing grounds **near Lungro La pass**, which was one of the flashpoints during the **Sumdorong Chu incident in 1986.**
- The Lungro La pass is vital as it opens up **access routes to Tawang** and dominates the **Sumdorong Chu valley.**
- **Sumdorong Chu** is a **river** flowing in the **Tawang district** of the state of **Arunachal Pradesh, India.** It flows northeast from the confluence site of **Namka Chu and Nyamjang Chu.**

How Mount Everest Got 3 Feet Higher

- **Nepal and China** jointly certified the elevation of **Mount Everest** at 8,848.86 metres **above sea level** — 86 cm higher than what was **recognised since 1954.**
- This was determined by the **Survey of India in 1954**, using **instruments like theodolites and chains**, with GPS still decades away. The elevation of 8,848 m came to be accepted in all references worldwide — except by China.

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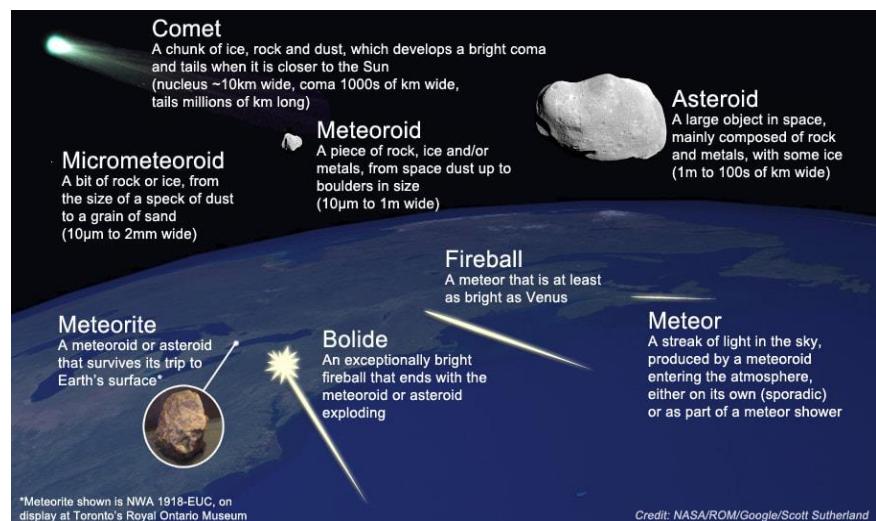
- The mountain's height changes due to the movement of tectonic plates. As the Indian plate slips under the Eurasian plate, it uplifts the Himalayas. The plate's movement can lift it up, while earthquakes in the region tend to bring it down.
- When measured from the Earth's core, Ecuador's Mount Chimborazo happens to be the world's highest mountain being 2,072 meters or 6,800 feet higher than Everest. This happens because the Earth bulges at the equator and so the mountains along it are farther from the core.
- When measured from the foot of the mountain, Hawaii's Mauna Kea happens to be the tallest. However, most of the mountain lies under the sea.

Why 2020 Might Be The Best Geminid Meteor Shower Of All-Time

- The Geminids meteor showers are unique because their origin does not lie in a comet, but what is believed to be an asteroid or an extinct comet.
- The Geminids emerge from 3200 Phaethon, which meteor scientists consider to be an asteroid.
- Discovered on October 11, 1983, the asteroid is over 5 km in diameter and was named after the Greek myth of Phaethon, the son of Sun god Helios.
- According to NASA, the Geminids rate will be better this year because the shower's peak overlaps with a nearly new moon, which means there will be darker skies and no moonlight to wash out the fainter meteors.
- While the meteors peaked on the night of December 13, 2020, to the dawn of December 14, some meteor activity may still be visible in the days before and after this peak.
- NASA says that Geminids travel at a speed of 78,000 mph or 35 km/s, about 40 times faster than a speeding bullet.
- Meteors are best visible on a cloudless night and when the Moon is not extremely bright. Chances of a successful viewing are higher from locations far away from the lights of cities.

What are Meteor Showers

- Meteors are bits of rock and ice that are ejected from comets as they manoeuvre around their orbits around the sun.
- When a meteor reaches the Earth, it is called a meteorite and a series of meteorites, when encountered at once, is termed a meteor shower.
- According to NASA, over 30 meteor showers occur annually and are observable from the Earth.
- As meteors fall towards the Earth, the resistance makes the space rocks extremely hot and, as meteorites pass through the atmosphere, they leave behind streaks of glowing gas that are visible to the observers and not the rock itself.



Dip in Delhi's Temperature

- The dip in Delhi's Temperature was five degrees below the **normal** temperature for this time of the year, according to the **India Meteorological Department**.
- In winters, whenever an **active Western Disturbance** passes through the **western Himalayan region**, it leads to a dip in temperatures **across northwest India**.
- A **Western Disturbance**, labelled as an **extra-tropical storm** originating in the **Mediterranean**, is an area of **low pressure** that brings sudden showers, snow and fog in northwest India.
- **Snowfall** in the **western Himalayan range** means cold, north-westerly winds blowing over Delhi from the direction of this **high altitude area**, and clearing of **cloud cover** with the passing of Western Disturbance, and **leads to a fall** in temperatures.
- A rapid decline in minimum temperature in Delhi was noted from 14.4 degrees Celsius to 4.1 degree Celsius.
- The lack of cloud cover also leads to **higher radiation** from the Earth's surface into the atmosphere at night time, **which also cools the ground**.
- Under the influence of an active **La Niña** climate pattern, temperatures across the globe have been dipping.
- A **cold day** is when the **maximum temperature dips 4.5 degrees Celsius** below normal temperature — which has been set based on climatological **data of 30 years** between 1981 and 2010.
- **The cold wave** is when the **minimum temperature dips to 10 degrees Celsius** or less and the departure from normal temperature is 4.5 degrees Celsius or lower.

India And Bangladesh Restore Haldibari – Chilahati Rail Link

- The link was restored through a **collaboration between Indian Railways and Bangladesh Railways**, following the announcement of the project in 2017.
- The line is intended to **improve freight and passenger connections** between Bengal and the Assam and West Bengal regions, and will aid the growth of trade and economic development in the region.
- The link was **closed** following the **1965 conflict** between India and Bangladesh (then East Pakistan).
- Another rail link, between **Agartala, India, and Akhaura, Bangladesh**, is scheduled to open by the **end of 2021**. The **Mahishashan – Shahbazar line** is also planned to **reopen**.

Coalition for Disaster Resilient Infrastructure (CDRI)

- The **1st anniversary** of the launch by the Prime Minister of India, Narendra Modi, of the **Coalition for Disaster Resilient Infrastructure (CDRI)** was marked by a webinar on "The Future of Infrastructure Resilience in the Context of Global Pandemics".
- The **CDRI** is an international coalition of countries, **United Nations (UN) agencies**, multilateral development banks, the private sector, and academic institutions, that **aims to promote disaster-resilient infrastructure**.
- It was **launched by the Indian Prime Minister** Narendra Modi at the **2019 UN Climate Action Summit** in September 2019.

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- The National Disaster Management Authority **Headquarters** at Safdarjung Enclave, **New Delhi** was decided as the site for the **interim secretariat** of the CDRI
- It was first proposed during the **2016 Asian Ministerial Conference on Disaster Risk Reduction** held at Vigyan Bhavan, **New Delhi**.
- **As of January 2021**, the CDRI comprises **19 member countries** and four "knowledge and development partners.
- The CDRI is the **second major coalition** launched by India outside of the UN, the first being the **International Solar Alliance**.
- The Government of India also pledged **financial support of Rs. 480 crore** towards the **CDRI corpus**.
- It also specified that the financial resources required for **research purposes** will be met through the existing budget of the Ministry of AYUSH's **National Medicinal Plants Board**.

Why IMD Has Advised People Not To Drink Alcohol During The Cold Wave

- **Indian Meteorological Department** urged residents of India's northernmost states to protect themselves from the **biting cold** by **avoiding alcohol**.
- The department also urged people to **limit outdoor activities**, **moisturise their skin** regularly with oil or cream, **eat vitamin-C rich fruits** and vegetables and drink warm fluids to **Maintain immunity**.
- **Alcohol** can **decrease the core temperature** of the body and increase the **risk of hypothermia** during cold exposure.
- **Hypothermia** is a severe medical condition where the **body loses heat before it can generate it**, resulting in a dangerously low body temperature. While normal body temperature lies at around 37 degrees Celsius, the body temperature of a person suffering from **hypothermia drops to below 35 degrees Celsius**.
- **Common signs** include **shivering**, slow rate of breathing, slurred speech, cold skin and **fatigue**.
- **Alcohol is a vasodilator**, which means that it causes blood vessels to relax and dilate or open. So after consuming alcohol, the **volume of blood brought** to the skin's surface increases, making people **feel warmer** as a result. This is also what causes an intoxicated person to look flushed.
- As the body begins to believe that **it is warm**, **people** also **start to sweat** — a reaction that automatically reduces overall body temperature.
- Drinking copious amounts of alcohol may **affect bodies ability to detect the cold properly**, which is in place to protect people from **frostbite** and **hypothermia**.

Meteorological Centre at Leh opened

- **MetCenterLeh** will be the **highest meteorological centre in India** located at a height of **3500m**.
- The Centre will be a world-class facility for **high altitude meteorology** and will cater to the various kinds of weather and climate needs of the people and the **administration of Ladakh**.
- It will provide **forecasts** for important **tourist places** like Nubra, Changthang, Pangong Lake, Zanskar, Kargil, Drass, Dha-Baima (Aryan valley), Khalsi among others.
- **Ladakh** region has lofty mountains with high slopes and no vegetation and a lot of loose soil and debris making the **region vulnerable** to various kinds of **natural hazards** like Cloud burst, Flash Floods, **Avalanches** and Glacial Lake Outbursts, etc.

VAJIRAM & RAVI **Centre Examining Options Of Zero Liquid Discharge**

- The Centre is examining various options of moving forward on the **country's Zero Liquid Discharge (ZLD) policy** to ensure that **investment in emerging sectors** such as semiconductors is not hampered while the environment continues to be protected.
- ZLD is a **water treatment process** to recirculate all the water back to the process with **zero liquid waste**. Government regulations demand fool-proof operations of the **wastewater treatment plants** for the purpose. It is a treatment process designed to **remove all the liquid waste** from a system.

State of Food and Agriculture Report, 2020

- The **Food and Agriculture Organization** of the United Nations released the report with the **theme** “overcoming water challenges in agriculture”.
- **3.2 billion people** live in agricultural areas with **high to very high water shortages** or scarcity, of whom **1.2 billion people** live in **severely water-constrained** agricultural areas.
- **Rising competition for water** and the effects of climate change are leading to **tensions and conflicts** among stakeholders.
- Estimates for **Sustainable Development Goal (SDG) Indicator 6.4.2 on water stress**, together with persistent water shortages in rainfed agriculture, suggest that ensuring sustainable management of water for all remains a challenge.
- **Water accounting and auditing**, which are rarely done, should therefore be the starting point of any effective strategy for addressing water **shortages and scarcity**.
- Policies & regulations play a central role in boosting the implementation of technologies & innovations.

Groundwater Extraction Norms Tightened

- The government has made it **harder for industries to extract groundwater** and asked the States to “review” policies that allow subsidised and free electricity to farmers as well bring in a “**suitable water pricing policy**” to reduce reliance on groundwater extraction.
- According to the new rules made public, “**no new major industries**” would be given NOCs in **over-exploited assessment blocks**.
- Based on groundwater levels, areas across the country are split into **three categories: Over-exploited, Critical and Semi critical**. The first refers to groundwater being extracted more than what's recharged, **critical**—where the groundwater is taken out is **90-100% of what's recharged**—and **semi-critical** where extraction rate is **70%-90%**.
- Places with lower extraction rates are deemed ‘safe’ blocks. Of the Central Groundwater Board, 6,584 groundwater assessment units across the country, **1034 are over-exploited**, 253 are critical and 681 are semi-critical.
- Expansion of the existing industries involving an increase in quantum of groundwater extraction in over-exploited assessment units shall not be permitted. **NOC** shall **not** be granted to **new packaged water industries in overexploited areas**. A previous version of the notification permitted extraction by packaged drinking water companies in the over-exploited areas.
- **All residential apartments/ group housing societies/ Government water supply agencies in urban areas** would be **required to pay groundwater abstraction charges**.
- **The latest guidelines** also impose heavy fines for not complying with NOC requirements.

SOCIAL ISSUES**PM SVANidhi**

- A special Micro-Credit Facility Scheme, **PM Street Vendor's AtmaNirbharNidhi (PM SVANidhi)**, has been launched by the **Ministry of Housing and Urban Affairs** for providing affordable loans to street vendors.
- This scheme will go a long way in enabling them to resume work and earn livelihoods.
- **Beneficiary:** Vendors, hawkers, thelewalias, rehriwala, theliphadwala etc. selling different goods and services in different areas/ contexts.
- **Features:**
 - The vendors can **avail a working capital loan of up to Rs. 10,000**, which is repayable in monthly instalments in the **tenure of one year**.
 - On timely/ early repayment of the loan, an interest subsidy @ 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on six monthly basis. There will be **no penalty on early repayment of loan**.
 - The scheme provides for **escalation of the credit limit** on timely/ early repayment of loans to help the vendor achieve his ambition of going up on the economic ladder.
 - It is for the first time that **MFIs/ NBFCs/ SHG Banks have been allowed** in a scheme for the urban poor due to their ground level presence and proximity to the urban poor including the street vendors.
 - To ensure effective delivery and transparency, a digital platform with web portal/ mobile app is being developed to administer the scheme with end-to-end solution. The IT platform will also help in integrating the vendors into the formal financial system. This platform will integrate the web portal/ mobile app **with UdyamiMitra portal of SIDBI** for credit management and **PAiSA portal of MoHUA** to administer interest subsidy automatically.
- The scheme **incentivises digital transactions** by the street vendors through monthly cash back.

SWADES

- The Government of India has launched a new initiative **SWADES (Skilled Workers Arrival Database for Employment Support)** to conduct a **skill mapping exercise** of the returning citizens under the **Vande Bharat Mission**.
- This is a joint initiative of the **Ministry of Skill Development & Entrepreneurship**, the **Ministry of Civil Aviation** and the **Ministry of External Affairs** which aims to create a database of qualified citizens based on their skill sets and experience to tap into and fulfil demand of Indian and foreign companies.
- The returning citizens are required to fill up an **online SWADES Skills Card**. The card will facilitate a strategic framework to provide the returning citizens with suitable employment opportunities through discussions with key stakeholders including State Governments, Industry Associations and Employers.
- **National Skill Development Corporation (NSDC)** is supporting the implementation of the project.

Sahakar Mitra

- **Sahakar Mitra: Scheme on Internship Programme (SIP)** was launched by the **Union Minister for Agriculture & Farmers' Welfare** emphasizing the importance of **local for vocal**.
- It is an initiative of the **National Cooperative Development Corporation (NCDC)** to provide the young professionals an opportunity of practical exposure and learning from the working of NCDC and cooperatives as a paid intern.
- Sahakar Mitra would also provide an opportunity to professionals from academic institutions to develop leadership and entrepreneurial roles through cooperatives as Farmers Producers Organizations (FPO).
- Under the scheme, professional graduates in disciplines such as **Agriculture and allied areas, IT etc.** will be eligible for internship. Professionals who are pursuing or have completed their MBA degrees in Agri-business, Cooperation, Finance, International Trade, Forestry, Rural Development, Project Management etc. will also be eligible.
- **NCDC has earmarked funds** for Sahakar Mitra paid internship program under which each intern will get financial support over a 4 months internship period.

National Cooperative Development Corporation

- It is a **statutory Corporation** set up under an Act of Indian Parliament on 13 March **1963** under the **Ministry of Agriculture & Farmers Welfare**.
- **Functions:** Planning, promoting and financing programmes for production, processing, marketing, storage, export and import of agricultural produce, food stuffs, certain other notified commodities.

World Day Against Child Labour

- World Day Against Child Labour 2020, published by a **joint ILO-UNICEF paper** focuses on the impact of crisis on child labour.
- This year, the World Day is conducted as a virtual campaign and is being organized jointly with the Global March Against Child Labour and the International Partnership for Cooperation on Child Labour in Agriculture (IPCCLA)
- **Findings:** The crisis can push millions of vulnerable children into child labour. Already, there are an estimated 152 million children in child labour, 72 million of which are in hazardous work.
- **Target 8.7** of the UN Sustainable Development Goals calls for an **end to child labour** in all its forms **by 2025**.

Garib Kalyan Rojgar Abhiyan

- The Government of India launched a massive **rural public works scheme 'Garib Kalyan Rojgar Abhiyaan'** to empower and provide livelihood opportunities to the returnee **migrant workers** and **rural citizens**.
- It will run for 125 days, for 116 districts in the six States namely Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand, and Odisha and nearly 25 schemes of the government will be brought together under the 'Garib Kalyan Rojgar Abhiyan'
- It aims to provide employment to the **migrant workers** on one hand and create infrastructure in the rural regions of the country on the other hand.
- It will be implemented through the **Common Service Centres and Krishi Vigyan Kendras**.

Global Trends Report

The **United Nations High Commissioner for Refugees (UNHCR)** released its **annual Global Trends report** to count and track the numbers of refugees, internally displaced people, and other disadvantaged people

Findings

- Mainly 5 countries: Syria, Venezuela, Afghanistan, South Sudan and Myanmar account for two-thirds of people displaced across borders.
- Around 80 million people were displaced at the end of 2019. Main reasons behind the displacements were Conflict, Persecution, Violence, Human rights violations etc.
- Forced displacement has almost doubled since 2010.
- More than eight of every 10 refugees (85 per cent) are from developing countries compared to developed countries.

End Violence Partnership

- It aims to end all forms of violence against children by 2030
- It is a public-private partnership that unites governments, United Nations agencies, civil society, faith groups, the private sector, philanthropic foundations, academics etc.
- It charters progress in 155 countries against the “**INSPIRE**” framework, a set of seven strategies for preventing and responding to violence against children.

Animal Husbandry Infrastructure Development Fund

- Cabinet Committee on Economic Affairs, chaired by Prime Minister, has approved setting up of **Animal Husbandry Infrastructure Development Fund (AHIDF)** worth Rs. **15000 crores**.
- The eligible beneficiaries under the Scheme would be **Farmer Producer Organizations (FPOs)**, MSMEs, Section 8 Companies, Private Companies, and individual entrepreneur with minimum 10% margin money contribution by them
- The balance 90% would be the loan component to be made available by scheduled banks.
- The Government of India will provide 3% interest subvention to eligible beneficiaries. There will be a 2 years moratorium period for principal loan amount and 6 years repayment period thereafter.
- Government of India would also set up a **Credit Guarantee Fund** of Rs. 750 crores to be managed by NABARD.

World Drug Report 2020

- Released by the **United Nations Office of Drugs and Crimes (UNODC)** on the occasion of **International Day Against Drug Abuse and Illicit Trafficking** (26 June, Theme 2020: Better Knowledge for Better Care).
- **Findings: India** is one of the major hubs of illicit drug trade for prescription drugs like **tramadol**, and designer drugs like **methamphetamine**.
- India comes in **vulnerable** regions in the world due to the **Golden Crescent (Iran-Afghanistan-Pakistan)** in the west and the **Golden Triangle (South-East Asia)** in the east.

- Launched by the **Ministry of Social Justice and Empowerment** on the occasion of “International Day Against Drug Abuse and Illicit Trafficking”.
- Launched for **272 Most Affected Districts** from drug abuse with an aim to: Reach out to Children and Youth for awareness about the ill effect of drug use; Increase community participation and public cooperation; set up De-addiction centres.
- It provides **financial assistance to NGOs** across the country and 24x7 National Toll-Free drug de-addiction helpline number.
- Ministry has also prepared a **National Action Plan for Drug Demand Reduction** for the period **2018-2025** which aims at reduction of adverse consequences of drug
- **Ministry of Social Justice and Empowerment** is the **nodal Ministry for drug demand** reduction which coordinates and monitors all aspects of drug abuse prevention which include assessment of the extent of the problem, preventive action, treatment and rehabilitation of addicts, dissemination of information and public awareness.

State of World Population Report 2020

- Released by the **United Nations Population Fund (UNFPA)**, the world organisation's sexual and reproductive health agency
- **Findings:** India accounts for 45.8 million of the world's 142.6 million “missing females” over the past 50 years
- Citing data by experts, it said that **China and India together** account for about **90-95 per cent** of the estimated 1.2 million to 1.5 million **missing female births** annually worldwide due to gender-biased (prenatal) sex selection.
- This report identified 19 harmful practices against women out of which 3 are most widespread and persistent: son preference, child marriage and Female genital mutilation (FGM)

The Sample Registration System – Statistical Report

- Released by the **Registrar General and Census Commissioner of India**
- **The Sample Registration System (SRS)** is the **largest demographic survey** in the country mandated to provide **annual estimates of fertility** as well as **mortality** indicators at the **state and national level**. It became fully operational during 1969-70
- **Findings: Infant mortality rate** for the country has come down to **32 in 2018** from **40 in 2013**, i.e an annual decline rate of about 1.6 point
- Despite this decline, one in every 31 infants at the national level one in every 28 infants in rural areas and one in every 43 infants in urban areas still die within one year of life
- **Madhya Pradesh** paints a worrisome picture with the **highest IMR at 48** and **Kerala** has the **lowest IMR of 7**
- **Sex ratio at birth (SRB)** for the country has gone up by three points to **899 girls per 1000 boys** in 2016-18(average) from 896 in 2015-17
- **Chhattisgarh** has the **highest SRB (958)** while **Uttarakhand** has the **lowest 840**.
- **Total fertility rate (TFR)** declined from 5.2 to 4.5 during 1971 to 1981 and from 3.6 to **2.2** during 1991 to **2018**

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- Bihar has reported the **highest TFR (3.2)** while **Delhi and West Bengal** have reported the **lowest TFR (1.5)**
- The **Maternal Mortality ratio (MMR)** has declined to **113 in 2016-18** from 122 in 2015-17 and 130 in 2014-16.
- **MMR of Assam (215) is the highest and lowest in Kerala (43)**
- The **SDG target 3.1** of the United Nations **aims** to reduce the **global maternal mortality ratio** to **less than 70 per 1,00,000 live births**.

Disabled Are Entitled To Same Benefits Of SC/ST Quota

- The Supreme Court, in a significant decision, confirmed that persons suffering from disabilities are also socially backward and entitled to the same benefits of relaxation as Scheduled Caste/Scheduled Tribe candidates **in public employment and education**.
- The judgement upheld a 2012 judgment of the Delhi High Court in Anamol Bhandari (minor) through his father/Natural Guardian v. Delhi Technological University in a significant decision.
- **Constitutional Provisions for SCs and STs:**
 - **Article 15 (4)** - Empowers the State to make special provisions for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes.
 - **Article 16 (4A)** – Empowers the state to make provisions for reservation in matters of promotion to any class or classes of posts in the services under the State in favor of SC/STs which in the opinion of the State, are not adequately represented in the services under the State.
 - **Article 46** – The State shall promote with special care the educational and economic interests of the weaker sections of the people and in particular of the Scheduled Castes and the Scheduled Tribes and shall protect them from social injustice and all forms of exploitation.

Extension of Pradhan Mantri Ujjwala Yojana (PMUY)

- The earlier announced **Pradhan Mantri Garib Kalyan Yojana (PMGKY)** package included **providing women of 83 million below poverty line (BPL) families with free cooking gas cylinders for three months under the Ujjwala scheme**
- The petroleum ministry approved for time extension by **three months up to September 2020** for the Ujjwala beneficiaries to avail the free cylinders.

Govt Notifies Draft Rules For Code On Wages

- **The Labour and Employment Ministry** has notified the draft Code on Wages (Central) Rules under the **Code on Wages, 2019**, which would **fix a national floor minimum wage** based on **minimum living standard** including food, clothing, housing and any other factors prescribed by the government.
- Centre has reduced **normal working hours** in a day to **eight hours** from nine proposed in the earlier version released last November.
- **Net intake of 2,700 calories per day**, 66 meters cloth per year per standard working class family, housing rent expenditure as 10 percent of food and clothing expenditure, three adult consumption units are some of the factors that would determine the fixation of the national minimum wage.

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- The draft rules state that the Centre shall constitute a **technical committee** which would advise on the **skill categories**, while an advisory board may recommend the minimum wage.

Start-up Village Entrepreneurship Programme (SVEP)

- The **SVEP** is a **sub-scheme** under the Centre's **Deendayal Antyodaya Yojana-National Rural Livelihoods Mission** to help the rural poor, including members of women SHGs and their families, set up **enterprises at the village level in non-agricultural sectors**.
- **Kerala leads the ranking**, followed by M.P. and Bihar.
- **Uttarakhand, Mizoram, Manipur, and Assam** have not established any enterprise under the scheme

Mukhyamantri Matru Pushti Uphaar

- In an effort to combat infant and maternal mortality and malnutrition, Tripura government announced **Mukhyamantri Matru Pushti Uphaar**, an ambitious scheme to provide nutrition kits to pregnant and lactating women.
- The state scheme will be in addition to the Pradhan Mantri Matru Bandana Yojana.

Indira Rasoi Yojana

A new kitchen scheme, '**Indira Rasoi Yojna (Indira Kitchen Scheme)**', named after former Prime Minister Indira Gandhi, launched in **Rajasthan** for providing **nutritious food** to the **poor** and needy twice a day on concessional rates.

Mukhyamantri SHRAMIK (Shahri Rozgar Manjuri For Kamgar)

- The **Jharkhand government** launched an employment guarantee scheme, **Mukhyamantri SHRAMIK**, for the **urban unskilled workers** to enhance livelihood security for the urban poor. Jharkhand is the **second state** in the country to launch an employment guarantee scheme for the urban poor after Kerala. **Kerala** government runs **Ayyankali Urban Employment Guarantee Scheme (AUEGS)** for guaranteed employment.
- The scheme will be on similar **lines of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**.
- The scheme will ensure the 100 days of paid work for unskilled labour in urban areas. It will also provide an unemployment allowance to those who will not get work under the scheme within 15 days.

Tribal Cooperative Marketing Development Federation of India (TRIFED)

- **TRIFED** has collaborated with **UNICEF** for developing a **digital communication strategy**.
- This communication strategy is for **promoting a digital campaign for Self Help Groups (SHGs)** in order to ensure tribal gatherers carry on their work safely.
- The programme highlights the importance of social distancing.
- According to the plan, SHGs are to be promoted as **Van Dhan Social Distancing Awareness cum Livelihood Centres**.
- These Centres will educate the communities about **social distancing, personal hygiene and also about adopting cashless practices**.

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- UNICEF will help TRIFED in creating **Digital Multimedia Content, social media campaigns, Vanya Radio and webinars.**

Godhan Nyay Yojana

- It is launched by the **Chhattisgarh government** and under it the **government will procure cow dung at Rs 2 per kilogram from livestock owners** and use it to prepare **organic fertilizers**.
- It aims to give a boost to the **rural economy** and to create employment opportunities in rural areas.
- Implementation of **Suraaji Gaon Yojana** has already started in villages under which construction of more than 5,000 **cowsheds** has been constructed.

Special Window for Affordable and Mid Income Housing (SWAMIH) Fund

- It was formed in 2019 **to complete construction of stalled, RERA-registered affordable and mid-income category housing projects** which are stuck due to paucity of funds.
- cabinet approved a **Rs.25,000 crore special window** to provide **funding to housing projects** that are stuck with the aim of reviving the real estate sector.
- The **Investment Manager** of the Fund is **SBICAP**, a wholly-owned subsidiary of State Bank of India.
- The **sponsor** of the Fund is the **Secretary, Department of Economic Affairs, Ministry of Finance** on behalf of the Government of India.
- The approval, under the SWAMIH Investment Fund I, **will enable the completion of nearly 60,000 homes across India**.
- These projects are spread across **both large cities** such as National Capital Region (NCR), Mumbai Metropolitan Region (MMR), Bengaluru, Chennai, Pune **as well as Tier 2 locations** including Karnal, Panipat, Lucknow, Surat, Dehradun, Kota, Nagpur, Jaipur, Nashik, Vizag, Chandigarh among others.

Operation Muskaan

It is a special drive being taken by the police **to trace the missing children in Andhra Pradesh**, reuniting many children who separated from their parents.

Samarth Programme

- The Samarth programme was **launched in 2019 by Flipkart, e-commerce major** and had partnered with five NGOs **to bring India's artisans, weavers and handicrafts producers onto its platform** by providing support for onboarding, cataloguing, account management, dedicated seller support and warehousing support.
- Flipkart **also supports MSMEs through Walmart Vriddhi**, a supplier development programme that aims to empower 50,000 MSMEs.

Women Entrepreneurship and Empowerment Initiative

- This initiative has been founded by **IIT Delhi** and is being supported by the **Department of Science and Technology (DST)**.
- This initiative aims at helping women ranging from **college going students to middle-aged housewives to embrace entrepreneurship** as a viable and fulfilling career option.

- **MSME ministry** approved a unique **employment generation program** proposed by **Khadi and Village Industries Commission (KVIC)** to make India **Aatmanirbhar** in Agarbatti production.
- KVIC will provide a **25% subsidy on the cost of the machines** and will recover the remaining 75% of the cost from the artisans in instalments every month.

Parivar Pehchan Patra

It is an **8-digit unique identification number** meant for each family to enable smooth and automatic delivery of several citizen-centric services launched by the **Haryana state government**.

Economically Weaker Sections (EWS) Quota

- The Supreme Court referred petitions challenging the Constitution amendment introducing **10% quota in jobs and admissions for Economically Weaker Sections (EWS)** to a five-judge bench.
- The petitions challenged the constitutional validity of **The Constitution (One Hundred and Third Amendment) Act, 2019**, by which a clause (6) was introduced in Articles 15 and 16.
- **Article 15 (6)** empowers states to make **special provision for advancement of any EWS** other than those mentioned in clauses (4) and (5) and to make a special provision on their **admission to educational institutions** —including aided or unaided private ones — other than minority educational institutions referred to in Article 30 (1). This will be in addition to existing reservations and subject to a maximum of 10% of total seats in each category.
- **Article 16(6)** empowers the state to make any **provision for reservation of appointments or posts in favour of any EWS** other than classes mentioned in clause (4), in addition to the existing reservation and subject to a maximum of 10% of posts in each category.
- The petitioners contended that the amendments run contrary to the dictum in the majority judgment in the **1992 case Indra Sawhney & Ors. V. Union of India**, that a **backward class cannot be determined only and exclusively with reference to economic criterion**. They also argued that **reservation in unaided institutions violates the fundamental right under Article 19(1)(g) of the Constitution**.

SC's Verdict On Hindu Women's Inheritance Rights

- The Supreme Court ruled that a **Hindu woman's right to be a joint heir to the ancestral property is by birth** and does not depend on whether her father was alive or not when the law was enacted in 2005.
- The **Hindu Succession (Amendment) Act, 2005** gave Hindu women the right to be coparceners or joint legal heirs in the same way a male heir does. However, questions were raised in multiple cases on whether the law applied retrospectively, and if the rights of women depended on the living status of the father through whom they would inherit.
- **Hindu Succession Act, 1956:**
 - The **Mitakshara school of Hindu law** codified as the Hindu Succession Act, 1956 governed succession and inheritance of property but **only recognised males as legal heirs**.
 - The law applied to everyone who is not a Muslim, Christian, Parsi or Jew by religion. **Buddhists, Sikhs, Jains and followers of Arya Samaj, Brahmo Samaj are also considered Hindus** for the purposes of this law.

- **Hindu Succession (Amendment) Act, 2005:**
 - Women were **recognised as coparceners or joint legal heirs** for partition arising from 2005.
 - Section 6 of the Act was amended to make a daughter of a coparcener also a coparcener **by birth "in her own right in the same manner as the son"**.
 - The law also gave the daughter the **same rights and liabilities** "in the coparcenary property as she would have had if she had been a son".
 - The law **applies to ancestral property and to intestate succession in personal property** — where succession happens as per law and not through a will.

Invalid Pension

- The Central Government has decided to **allow Invalid Pension to Armed Forces Personnel with less than 10 years of qualifying service**.
- Invalid pension is granted to the Armed Forces Personnel who is **invalided** out of service on account of a **disability which is accepted as Neither Attributable to Nor Aggravated (NANA) by Military Service**.
- The benefit of this decision will be available to those Armed Forces Personnel who were in service on or after **04.01.2019**.
- By this decision, Armed Forces Personnel whose service is less than ten years and became or become invalided out of service on account of **any bodily or mental infirmity** which is NANA by Military service and which permanently incapacitated or incapacitates them from military service as well as civil re-employment, will be benefited.

Achieving Zero Hunger By 2030 In Doubt, UN Report Warns

- The **report was jointly produced by the Food and Agriculture Organization** of the United Nations, the **International Fund for Agriculture**, the **United Nations Children's Fund**, the **UN World Food Programme** and the **World Health Organization**.
- Achieving the Sustainable Development Goal of '**Zero Hunger**' that it had mandated **by 2030**, will be very difficult, a United Nations report says.
- COVID-19 **pandemic** and the **recession** triggered by it **will cause** another **83 million people** and possibly as many as 132 million, to **go hungry in 2020**.
- The **greatest number of undernourished** people were **in Asia (381 million)**. Africa came second (250 million), followed by Latin America and the Caribbean (48 million).
- On the basis of current trends, **by 2030, Africa would be home to** more than **half of the world's chronically hungry**.
- A **healthy diet cost** far more than **\$ 1.90 per day**, the international poverty threshold, according to the report.
- Three billion people globally were unable to afford a healthy diet.

Global Multidimensional Poverty Index (MPI) 2020

- This index has been released **jointly by the Oxford Poverty and Human Development Initiative (OPHI)** and **United Nations Development Programme**.

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- Theme of the report: “Charting pathways out of multidimensional poverty: Achieving the SDGs”.
- Three key parameters: **health, education and standard of living**, comprising 10 indicators.
- **Findings:** India had the biggest reduction in the number of **multidimensional Poor** people estimated at over **270 million** during the **2005-15 period**.
- About **84 % of multidimensionally poor** people live in **Sub-Saharan Africa and South Asia**.

India Joins 'Alliance for Poverty Eradication' at UN as Founding Member

The alliance aims to focus on efforts to boost the global economy in the aftermath of the COVID-19 pandemic and to serve as a forum for Member States to raise awareness about the **danger that poverty poses to world peace**, human rights and sustainable development.

International Religious Freedom Alliance

- The U.S announced the launch of a **27-nation International Religious Freedom Alliance**, which will try to adopt a collective approach in protecting and preserving religious freedom across the world.
- Among the prominent countries to join the alliance are **Brazil, the United Kingdom, Israel, Ukraine, the Netherlands and Greece**.

TRIFED's Virtual Office

- The **Tribal Cooperative Marketing Development Federation of India (TRIFED)** has launched its own Virtual office on its 33rd Foundation Day, August 6, 2020.
- The TRIFED Virtual office network will help the team of TRIFED warriors work with their partners across the country on mission-mode towards bringing the tribal people closer to mainstream development.
- An **Employee Engagement and Work Distribution Matrix** with Dashboard Links has also been launched to gauge the level of employee engagement and streamline their efforts.
- These organizational initiatives are a part of TRIFED's ambitious all-encompassing digitization drive to promote tribal commerce.

TRIFED

- Registered under the then **Multi-State Cooperative Societies Act 1984**, TRIFED came into existence in **1987 as the national nodal agency** under the aegis of **Ministry of Tribal Affairs**.
- It works towards the socio-economic development of the tribal people from all states.
- Initiatives:
- TRIFED started the procurement and marketing of tribal art and craft items through its first retail outlet called **TRIBES INDIA in 1999** to promote the economic welfare of their communities across India.
- In its endeavour **to promote tribal development**, Trifed's '**Van Dhan Yojana**' seeks to shift tribal economy **from supply of raw materials to value-added processing** of these materials
- The government has launched "**Tech for Tribal**" project aimed at transforming over 5 crore tribal entrepreneurs by organising tribal entrepreneurship and skill development programmes.

- It is published by **UNESCO**.
- Theme: “**Inclusion and education: All means all**”.
- The 2020 Report assesses progress towards **Sustainable Development Goal 4** (SDG 4) on education and its ten targets.
- The Report is motivated by the explicit reference to inclusion in the 2015 **Incheon Declaration**.
- The GEM Report launched a **new online monitoring tool, Scoping Progress in Education, (SCOPE)** telling the story behind SDG 4 data using the latest in online publishing and data-visualization technologies.
- A complementary new online platform, Profiles Enhancing Education Reviews, (PEER) prepared by the GEM Report has been launched describing countries' laws and policies on inclusion and education.

Incheon Declaration

- It is a declaration on education adopted at **World Education Forum** in Incheon, South Korea in 2015.
- It is the logical continuation of the **Education For All (EFA) movement** and the Millennium Development Goals on Education.

Digital Learning Platform “Skills Build Reignite”

- **Directorate General of Training (DGT)**, under the aegis of the Ministry of Skill Development & Entrepreneurship (**MSDE**) and **IBM Partnership** Unveils Free Digital Learning Platform “Skills Build Reignite”
- Created to address the current **skills gap** in the country (According to the India Skill Report (2019), **only 45.6% of the youth** graduating from educational institutions are **employable**. This reflects the massive shortage of skilled workforce in the country.)
- Also announces a ten-week duration Skills Build Innovation Camp for students, providing hands on project experience, enhanced learning, and increased employability
- **SkillsBuild Innovation Camp**- It is a **10-week program** which supports **100 hours** of structured learning to learners who are interested in gaining hands-on project experience to enhance learning and are intent on building their network and enhancing their employability.

Project ‘Strengthening Teaching-Learning and Results for States Program (STARS)

- The **World Bank** has announced an **assistance of \$500 million** for the **STARS project** that aims to **improve the quality and governance of school education** in **Six States**- Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, and Rajasthan.
- Around 25 crore **students** (between the age of 6 and 17) in 15 lakh schools and over 1 crore **teachers** will **benefit** from the programme.
- STARS will also help **improve learning assessment systems**, strengthen classroom instruction and remediation, facilitate school-to-work transition, and strengthen governance and decentralised management
- The STARS programme builds on the long partnership between India and the World Bank (**since 1994**), for strengthening public school education and to support the country's goal of providing '**Education for All**'

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- The project will **focus** directly on the delivery of education services at the **State, district, and sub-district levels**
- It will give **special attention to** students from **vulnerable sections** – with over 52 per cent (as a weighted average) of children in the government-run schools in the six project States

QS World University Rankings 2021

- The **Quacquarelli Symonds (QS) World University rankings** were released recently.
- The **total number of Indian institutions** in the top 1,000 global list **has fallen** from 24 to 21, despite the Centre's flagship **Institutes of Eminence scheme**.
- **Indian Institute of Technology (IIT) Bombay, Indian Institute of Science (IISc) Bangalore, and IIT Delhi** have featured in the top 200 list. However, all three have dropped in their rankings compared to the last year. Only the newer **IITs in Guwahati and Hyderabad** were **able to show improvement**.
- Indian institutions got **zero scores on ratio of international faculty and students**. India also **scored poorly on faculty-student ratio**. This is because **India counts only full-time faculty**, whereas American universities include even **PhD students who are teaching or research assistants**. However, Indian higher education institutions **perform strongly in research quality**.

India Rankings 2020

- “India Rankings 2020” for Higher Educational Institutions was recently released by the **Ministry of Human Resource & Development**.
- According to the **National Institutional Ranking Framework (NIRF)**, the **Indian Institute of Technology (IIT)-Madras** is the country’s best in the field of higher education. The Indian Institute of Science (IISc), Bengaluru, stands at the second place, followed by IIT-Delhi.
- Under the **university’s category**, the **IISc** topped the list, followed by Jawaharlal Nehru University and Banaras Hindu University.
- Dental institutions have been included for the first time in “India Rankings” bringing the total tally to 10 categories/subject domains.
- The National Institutional Ranking Framework (NIRF) was **launched in 2015** to rank higher educational institutions in the country based on objective criteria to **promote competitive excellence in the higher educational institutions**.
- **Key Parameters:** Teaching, Learning and Resources (TLR), Research and Professional Practice (RP), Graduation Outcomes (GO), Outreach and Inclusivity (OI), and Perception (PR)

PRAGYATA Guidelines for Digital Education

- PRAGYATA guidelines for digital education has been released by the **Ministry of Human Resource Development**.
- These guidelines, prepared by the **National Council of Educational Research and Training (NCERT)**, are only **advisory in nature**, and State governments have been asked to build on them and formulate their own rules, based on local needs.
- The PRAGYATA guidelines include **eight steps of online/ digital learning** that is, Plan- Review- Arrange- Guide- Yak(talk)- Assign- Track- Appreciate.

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- The Guidelines also emphasize the need to **unify all efforts related to digital/ online/on-air education**, benefitting school going children across the country. The initiative includes DIKSHA, SWAYAM Prabha, SWAYAM MOOCs, Radio Vahini, Shiksha Vaani, Special content for children with special needs and ITPAL.
- **Indian Institute of Technology (IIT) Madras** launched **World's first-ever Online B.Sc. Degree in Programming and Data Science**.

Play Little, Study Little Scheme

- The Tripura government started a scheme called '**Ektu Khelo, Ektu Padho**' which means '**Play little, Study little**', as uncertainty prevailing over reopening of schools due to COVID-19 pandemic.
- The students would be getting **audio and video contents** on learning activities, projects along with fun and gaming activities via **SMS** or **WhatsApp** services.

Global Education Coalition

- UNESCO has launched the **Global Education Coalition** to **support countries** in scaling up their best **distance learning practices** and reaching children and youth who are most at risk.
- It ties with international organizations, civil society and private sector partners in a broad Coalition to ensure **#LearningNeverStops**.
- The **Coalition aims to** help countries in **mobilizing resources** and **implementing** innovative and context-appropriate solutions to provide education remotely, leveraging hi-tech, low-tech and no-tech approaches and seek **equitable solutions** and **universal access**.

Prime Minister's Research Fellows (PMRF) Scheme

- The Prime Minister's Research Fellows (PMRF) Scheme, **announced in the 2018-19 Budget**, is aimed at **improving the quality of research in various higher educational institutions** in the country.
- The institutes which can offer PMRF include all the **IITs, all the IISERs, Indian Institute of Science, Bengaluru** and some of the top Central Universities/NITs that offer science and/or technology degrees.
- **Recent Modification:**
 - The HRD Ministry announced amendments in the Prime Minister's Research Fellowship (PMRF) scheme including reduction in the required GATE score and introduction of a lateral entry option to attract more students.
 - The move was aimed at boosting research in academic institutions across the country.
 - Now, the **students from any recognised institute/ university** (other than IISc/ IITs/IISERs/IEST/CF IIITs) **are eligible**.
 - The **requirement of GATE Score is also reduced to 650 from 750** apart from minimum CGPA of 8 or equivalent.
 - There will be two channels of entries, one direct entry and lateral entry. In lateral entry, the students, who are pursuing PhD in PMRF granting institutions (like IITs and NITs) can also apply to become fellow under the scheme as per new guidelines.

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- The HRD Ministry is creating a dedicated '**Research and Innovation Division**' to be headed by a director who will be coordinating research work of various institutions coming under the HRD Ministry.

National Test Abhyas

- An **Artificial Intelligence powered mobile app** was launched by the Ministry of Human Resource and development (MHRD).
- It aims to **enable candidates to take mock tests** for upcoming exams such as JEE Main, NEET under the National Testing Agency purview, during lockdown.

National Testing Agency (NTA)

It is an **autonomous** self-sustained testing organization established in **2017** to **conduct entrance examinations** for admission in **higher educational institutions**

Aatma Nirbhar Bharat Abhiyaan: Technology Driven Education

- **PM eVIDYA**, a programme for **multi-mode access to digital/online education** to be launched consisting of:
 - Over 100 top **universities** will be permitted to start **online courses by May 2020**.
 - **DIKSHA** to become '**one nation, one digital platform**' for school education- **e-content** and **QR-coded Energized Textbooks** for all grades.
 - **TV channel** earmarked for each class from standard **1 to 12 under 'one class one channel programme'**, **Community Radios** to broadcast education content
 - **Special e-content** for visually and hearing impaired students
- **New National Curriculum and Pedagogical framework** for school, early childhood and teachers will also be launched.
- **National Foundational Literacy and Numeracy Mission** for ensuring that every child attains **Learning levels and outcomes** in grade 5 by 2025 will be launched by December 2020.
- **Manodarpan**, an initiative for **psycho-social support for students**, teachers and families for mental health and emotional well-being to be launched immediately as well.

National Education Policy, 2020

- The Union Cabinet approved the **National Education Policy 2020**. The new policy aims to pave way for **transformational reforms** in school and higher education systems in the country.
- This is the third NEP of India. The **first came in 1968 and the second in 1986**.
- It aims to **increase the public investment in the education sector to reach 6% of GDP** at the earliest.
- **School Education**
 - **Universalization of Education** from preschool to secondary level with **100% Gross Enrollment Ratio (GER) in school education by 2030**.
 - Bring 2 crore out of school children back into the mainstream through an **open schooling system**.
 - The current 10+2 system to be replaced by a **new 5+3+3+4 curricular structure** corresponding to ages 3-8, 8-11, 11-14, and 14-18 years respectively.

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- Emphasis on **foundational literacy and numeracy**, no rigid separation between academic streams, extracurricular, vocational streams in schools; **Vocational Education to start from Class 6** with internships.
- **Teaching up to at least Grade 5 to be in mother tongue/ regional language.**
- A new and comprehensive **National Curriculum Framework for Teacher Education (NCFTE) 2021**, will be formulated by the NCTE in consultation with NCERT. By 2030, the **minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree.**
- **Higher Education**
 - **Gross Enrolment Ratio** in higher education to be **raised to 50% by 2035.**
 - Broad based, multi-disciplinary, **holistic undergraduate education** with flexible curricula and **multiple entry and exit points** with appropriate certification.
 - **M.Phil courses will be discontinued** and all the courses at undergraduate, postgraduate and PhD level will now be interdisciplinary.
 - **Academic Bank of Credits** to be established to facilitate transfer of Credits.
 - **Multidisciplinary Education and Research Universities (MERUs)**, at par with IITs, IIMs, to be set up as models of best multidisciplinary education of global standards in the country.
 - The **National Research Foundation** will be created as an **apex body for building research capacity** across higher education.
 - **Higher Education Commission of India (HECI)** will be set up as a single overarching umbrella body for the entire higher education, **excluding medical and legal education**. It will have four independent verticals:
 - National Higher Education Regulatory Council (NHERC) for regulation,
 - General Education Council (GEC) for standard setting,
 - Higher Education Grants Council (HEGC) for funding,
 - National Accreditation Council (NAC) for accreditation.
 - **Affiliation of colleges is to be phased out in 15 years** and a stage-wise mechanism is to be established for granting graded autonomy to colleges.
- **Others**
 - An autonomous body, the **National Educational Technology Forum (NETF)**, will be created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration.
 - Setting up of **Gender Inclusion Fund, Special Education Zones** for disadvantaged regions and groups
 - **National Institute for Pali, Persian and Prakrit, Indian Institute of Translation and Interpretation to be set up.**
 - '**PARAKH**', National Assessment Centre, has been created to assess the students.

Restricting screen time

The following guidelines were prescribed by the MHRD for school heads and teachers for implementing digital education

- For pre-primary students, not more than **30 minutes** a day to be spent by teachers in interacting with parents
- For classes 1 to 8, not more than **two sessions** of **30-45 minutes each** can be held
- For classes 9 to 12, not more than **four sessions** of **online classes of 30-45 minutes each** can be held

Breaks of
10-15
minutes between
two consecutive
classes are
recommended

- Teachers are recommended to adopt the academic calendar of NCERT at <http://ncert.nic.in/aac.html>
- Instant messaging groups/ emails involving parents to be used for sharing important information and resources
- Teachers are instructed to make students aware of **cyber bullying**

Manodarpan Initiative

- Union HRD Minister launched the **Manodarpan initiative to provide Psychosocial Support** to students for their **Mental Health & Well-being** during the COVID outbreak and beyond.
- It has been included in the **ATMANIRBHAR BHARAT ABHIYAN**, as a part of strengthening **human capital and increasing productivity** and efficient reform and initiatives for the Education sector.

NISHTHA Programme

- The **first on-line NISHTHA programme** has been launched by the Ministry of Human Resource Development in **Andhra Pradesh**.
- NISHTHA is a **National Initiative for School Heads' and Teachers' Holistic Advancement** at the **elementary stage** under **Samagra Shiksha**.
- NISHTHA in face-to-face mode was **launched on 21st August, 2019**. However, due to COVID-19 situation, sudden lockdown has affected the conduct of this programme in face-to-face mode. Therefore, for providing training to the remaining teachers and school heads, NISHTHA has been customized for online mode to be conducted through **DIKSHA** and **NISHTHA portals by the NCERT**.
- Modules developed under NISHTHA focus on **holistic development of children**, initiatives in school education, subject-specific pedagogies, **ICT in teaching-learning**, leadership, pre-school education, pre-vocational education, etc.

Samagra Shiksha

- Samagra Shiksha is an **overarching programme** for the school education sector **extending from preschool to class 12**. It has been prepared with the broader goal of improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes.
- It **subsumes the three erstwhile Schemes of:**
 - Sarva Shiksha Abhiyan (SSA)
 - Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
 - Teacher Education (TE)
- The Scheme will be implemented as a **Centrally Sponsored Scheme** by the Department through a single State Implementation Society (SIS) at the State/UT level.

DIKSHA

- DIKSHA is a unique initiative which **leverages existing highly scalable and flexible digital infrastructures**, while keeping teachers at the center. It is built considering the whole teacher's life cycle - from the time student teachers enroll in Teacher Education Institutes (TEIs) to after they retire as teachers.
- Diksha portal will enable, accelerate and amplify solutions in the realm of teacher education. It will **aid teachers to learn and train themselves** for which assessment resources will be available.

INDSAT Exam Under 'Study in India' Programme

- The Ministry of HRD conducted the first ever Indian Scholastic Assessment (Ind-SAT) Test 2020 under its '**Study in India**' programme.
- Nearly five thousand **candidates from Nepal, Ethiopia, Bangladesh, Bhutan, Uganda, Tanzania, Rwanda, Sri-Lanka, Kenya, Zambia, Indonesia and Mauritius** appeared for the exam conducted in the proctored internet mode **by the National Testing Agency**.

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- **EdCIL (India) Limited**, a PSU under MHRD and the **implementing agency of Study in India** handled the registrations and other aspects of the examination.
- Ind-SAT is an exam **for grant of scholarships and admissions to foreign students** for studying in select Indian universities.
- **The Finance Minister, as part of the budget speech this year, had announced** that the Ind-SAT exam is proposed to be **held in Asian and African countries**, for benchmarking foreign candidates who receive scholarships for studying in Indian higher education centers.
- The Study in India is a programme of MHRD under which foreign students come to study in **116 select higher education institutions in India** for **undergraduate and postgraduate programmes**. The selection of the students is **based on their merit in the class 12 / school leaving exam**.

Higher Education Funding Agency (HEFA)

- **Jawaharlal Nehru University** has got approval from the **Higher Education Funding Agency (HEFA)** for ₹455.02 crore for construction of new infrastructure.
- HEFA was **set up in 2017** by the Central Government, registered under the **Companies Act 2013**, as a **Union Govt company and as Non-deposit taking NBFC with RBI** for **mobilising extra-budgetary resources** for building **crucial infrastructure in the higher educational institutions** under Central Government.
- It is a **joint venture** of the Ministry of Human Resource Development (now **Ministry of Education**), **Government of India** and **Canara Bank** with an agreed equity participation in the ratio of 90.91% and 09.09% respectively.
- The funding under HEFA will **replace the current grant assistance by GOI** for infrastructure projects in premier educational institutions.
- All the Educational Institutions set up/funded referred by concerned ministries would be eligible for financing their capital expenditure from HEFA.
- The HEFA will mobilize resources from the market by way of **equity from individuals/corporates** and **by issue of bonds** to finance the requirement.

Rapid Antigen Detection Tests

- It is a **test on swabbed nasal samples that detects antigens (foreign substances that induce an immune response in the body)** that are found on or within the SARS-CoV-2 virus. It is a point-of-care test, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.
- RT-PCR is currently the gold standard frontline test for the diagnosis of Covid-19. Like RT-PCR, **the rapid antigen detection test too seeks to detect the virus** rather than the antibodies produced by the body.
- While the mechanism is different, **the most significant difference between the two is time**. The RT-PCR test takes a minimum of 2-5 hours including the time taken for sample transportation. These specifications limit the widespread use of the RT-PCR test and also impedes quick augmentation of testing capacity in various containment zones and hospital settings. **In a reliable rapid antigen detection test, the maximum duration for interpreting a positive or negative test is 30 minutes.**

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- However, antigen tests are very specific for the virus, but are not as sensitive as molecular PCR tests. This means that positive results from antigen tests are highly accurate, but there is a higher chance of false negatives, so negative results do not rule out infection.

Airborne Transmission

- In the context of **transmission of viruses**, as in this case, aerosols are read as micro droplets, much smaller (5 microns or less) than respiratory droplets, and take a longer time to drop to the floor.
- As per the recent proposal of scientists that COVID-19 is also transmitted via **aerosols**, “at typical indoor air velocities , a 5 micron droplet will travel tens of metres, much greater than the scale of a typical room, while settling from a height of 1.5 m to the floor.”
- In common understanding, **aerosols** are minute particles that are expelled under pressure, as in the case of fine mist from a jar of perfume, or a can of roach repellent.
- However, aerosol is a term used to broadly refer to particles suspended in the air; they could include fine dust, mist, or smoke.

Oropharyngeal Secretions

- Researchers have reported that testing of **oropharyngeal secretions, secretions from the part of the throat at the back of the mouth**, may reduce the number of false negative results of COVID-19.
- **False negatives** have been reported several times during the Covid-19 pandemic. These results have come up during nasal swab testing of patients who have seemingly recovered from the disease — but have later been found to be still carrying the virus.

RECOVERY Trial

- It is a large **randomised controlled trial in the U.K. to test five drugs for COVID-19**.
- The RECOVERY Trial are testing these suggested treatments:
 - **Lopinavir-Ritonavir** (commonly used to treat **HIV**)
 - **Low-dose Dexamethasone** (**an anti-inflammatory medication**)
 - **Hydroxychloroquine** (**used to treat malaria, lupus, and rheumatoid arthritis**)
 - **Azithromycin** (**a commonly used antibiotic**)
 - **Tocilizumab** (**an anti-inflammatory treatment given by injection**)

Solidarity Trial

- The Solidarity trial for treatments is a **multinational Phase III-IV clinical trial** organized by the **World Health Organization (WHO)** and partners to compare four untested treatments for hospitalized people with severe COVID-19 illness. They are
 - **Remdesivir**
 - **Lopinavir/ritonavir combined**
 - **Lopinavir/ritonavir combined with interferon-beta**
 - **Hydroxychloroquine or chloroquine (discontinued due to no benefit, June 2020)**

Global Vaccine Summit

- The Summit was **hosted** by the **United Kingdom** (UK).
- Almost **50 countries** including the **business leaders, UN agencies, civil society, government ministers, Heads of State** and **country leaders** participated in the Summit.
- From **India**, Our **Prime Minister** addressed this **virtual Global Vaccine Summit** and **India pledged \$15 million** to Gavi.
- **GAVI**, officially **Gavi, the Vaccine Alliance** (previously the **GAVI Alliance**, and before that the **Global Alliance for Vaccines and Immunization**) is a **public–private global health partnership** with the goal of increasing access to **immunisation** in **poor countries**.
- **GAVI** brings together **developing country** and **donor governments**, the **World Health Organization, UNICEF**, the **World Bank**, the **vaccine industry** in both **industrialised** and **developing countries**, **research and technical agencies**, **civil society**, the **Bill & Melinda Gates Foundation**, and other private philanthropists.
- **GAVI** has **observer status at the World Health Assembly**.
- In the Pandemic, **India had shared its stocks of medicines** with over 120 countries, set up a **common response strategy** in its **immediate neighbourhood** and provided specific help to countries in need while protecting its own population.

Global Outbreak Alert and Response Network (GOARN)

- GOARN is a **technical partnership** established in **2000** by the **World Health Organization (WHO)** as a key mechanism to engage the resources of technical agencies for rapid identification, confirmation and response to major international public health emergencies.
- It is a network composed of **numerous technical and public health institutions**, laboratories, NGOs, and other organizations that work to observe and respond to threatening epidemics.
- GOARN works closely with and under the World Health Organization (WHO), which is one of its most notable partners. Its **goals** are to: examine and study diseases, evaluate the risks that certain diseases pose, and improve international capability to deal with diseases.

Bubonic Plague

- The **bubonic plague**, known as the “**Black Death**” in the Middle Ages, is a highly infectious and often fatal disease that is spread mostly by rodents. It is a **zoonotic disease**, which means it can **jump from animals to humans**.
- **Plague** is an **infectious disease** caused by the **bacteria Yersinia pestis**, usually found in small mammals and their fleas. The disease is transmitted between animals via their fleas and, as it is a **zoonotic bacteria**, it can also transmit from animals to humans.
- It is **one of the three plagues** caused by bacterium Yersinia pestis. The other two being Septicaemic plague and Pneumonic plague.

Kawasaki Disease

- Kawasaki disease is a **syndrome** of **unknown cause** that results in a fever and mainly affects **children under 5 years of age**. It is a form of vasculitis, where blood vessels become inflamed throughout the body.

- It is a rare disease and does not spread between people.
- The disease derives its name from a Japanese paediatrician, Tomisaku Kawasaki, who reported the first case in 1961. The doctor, 95, died on June 5 this year in Tokyo.

Kala Azar Disease

Leishmaniasis is a **neglected tropical disease** affecting almost 100 countries including India. It is caused by a parasite called **Leishmania**, which is transmitted through the bite of sand flies.

Global Nutrition Report 2020

- WHO released the **Global Nutrition Report 2020** that stated that **India is among 88 countries** that are likely to miss global nutrition targets by 2025.
- India also has the highest rates of **domestic inequalities**, especially in malnutrition.

Global Nutrition Targets

In 2012, the **World Health Assembly** (decision-making body of the **World Health Organisation**) identified **six nutrition targets to be met by 2025**. These are:

- i) Reduce stunting by 40% in children under 5.
- ii) Reduce the prevalence of anaemia by 50% among women in the age group of 19-49 years.
- iii) Ensure 30% reduction in low-birth weight.
- iv) Ensure no increase in childhood overweight.
- v) Increase the rate of exclusive breastfeeding in the first six months up to at least 50%
- vi) Reduce and maintain childhood wasting to less than 5%.

Cytokine Storms

- The **immune systems** in human bodies **protect** from bacteria, viruses, and parasites by removing them from systems. The **immune system gets activated** by things that the body does not recognise as its own. These things are called **antigens**, and include bacteria, fungi and viruses.
- An **effective immune system response** involves **inflammation**, an important and indispensable part of the process. The release of inflammatory mediators increases the blood flow to the area, which allows larger numbers of immune system cells to be carried to the injured tissue, thereby aiding the repairing process.
- However, if this **inflammatory response is not regulated**, it can lead to very dangerous consequences triggering a '**cytokine storm**'.
- A **cytokine storm or cytokine storm syndrome (CSS)** is characterised by the overproduction of **immune cells and the cytokines** themselves because of a dysregulation in the process. Cytokines are **signaling proteins** that are released by cells at local high concentrations.
- Cytokine storms are not exclusive to coronavirus patients. It is an immune reaction that can occur during other infectious and non-infectious diseases as well.

VAJIRAM & RAVI **Science and Technology of Yoga and Meditation (SATYAM)**

- The Department of Science and Technology (DST) has invited proposals under the Science and Technology of Yoga and Meditation (SATYAM) programme to study appropriate intervention of yoga and meditation in fighting COVID-19 and similar kinds of viruses.
- SATYAM, a cognitive science programme, was conceptualised by the DST under its Cognitive Science Research Initiative (CSRI) in 2015. The programme is aimed to foster scientific research on the effects of yoga and meditation on physical & mental health and on cognitive functioning in healthy people as well as in patients with disorders.

Alzheimer Inhibitor Ber-D

- Scientists from Jawaharlal Nehru Centre For Advanced Scientific Research (JNCASR) have modified the structure of Berberine, a natural and cheap product similar to curcumin, available commercially, into Ber-D to use as a Alzheimer's inhibitor.
- Scientists led the quest to discover natural product based therapeutic candidates for Alzheimer's disease, and selected isoquinoline natural product berberine found in India and China and used in traditional medicine and other applications.
- However, berberine is poorly soluble and toxic to cells. So they modified berberine to Ber-D, which is a soluble (aqueous), antioxidant. They found it to be a multifunctional inhibitor of multifaceted amyloid toxicity of Alzheimer's disease.

Alzheimer's disease

- A progressive disease that destroys memory and other important mental functions.
- Brain cell connections and the cells themselves degenerate and die, eventually destroying memory and other important mental functions.
- Memory loss and confusion are the main symptoms.
- It is the most prevalent neurodegenerative disorder & accounts for more than 70% of all dementia.
- No cure exists, but medication and management strategies may temporarily improve symptoms.

Dementia

- Dementia is an overall term for diseases and conditions characterized by a decline in memory, language, problem-solving and other thinking skills that affect a person's ability to perform everyday activities. Memory loss is an example.

Immunity Passport

- Immunity passports are some form of certificates to people who have been sick with the virus and been recovered.
- This works on the assumption that these people would be immune to reinfection due to the presence of antibodies.
- However, according to WHO, there is no scientific evidence to prove that people who have recovered from the coronavirus develop immunity against potential infection in the future.

Vertical transmission

- ICMR said that the available scientific evidence suggests that vertical transmission of virus i.e transmission of an infection from a pregnant woman to her child can happen to a baby before the birth.

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- There is no evidence currently that the virus is **teratogenic**. Teratogenic means that any agent that can disturb the development of an **embryo or fetus**. Teratogens may cause a **birth defect** in the child.

Polio-fighting strategy of India

- WHO chief has welcomed the world health body's cooperation with India to leverage strategies that helped the country win its war against polio into the response to COVID-19 outbreak
- The WHO release said strengths of the **WHO's National Polio Surveillance Project** team surveillance, data management, monitoring and supervision, and responding to local situations and challenges will be utilized to supplement efforts of the National Centre for Disease Control and Indian Council of Medical Research to strengthen COVID-19 surveillance.

National Polio Surveillance Project:

- **WHO and India established it in 1996.**
- National polio surveillance unit was created in **New Delhi** to provide technical assistance, training and logistic support to all Surveillance Medical officers in the field

African Swine Fever (ASF)

- **First time** an ASF outbreak has been reported in India which has killed over 3000 **pigs in Assam**.
- It is caused by a **large DNA virus** of the **Asfarviridae family**.
- It is highly **contagious and fatal** animal disease that infects and leads to an acute form of hemorrhagic fever.
- No Human transmission reported
- 100% mortality rate in Pigs.

India's COVID-19 Social Protection Response Programme

- The **World Bank** has announced a \$1 billion assistance for the proposed program
- It aims to **provide social assistance** to the poor and vulnerable households severely affected by the COVID-19 pandemic.
- It will be implemented by the **Ministry of Finance**.
- **Funding** will happen in **2 Phases**
 - The **first phase** will be implemented through the **Pradhan Mantri Garib Kalyan Yojana (PMGKY)** with the allocation of \$750 million for fiscal year 2020.
 - In the **second phase**, additional benefits based on local needs will be **extended through state governments** and a \$250 million second tranche will be made available for fiscal year 2021.

Report On Immunisation

- Around **60% of children under five years of age** were **fully immunised**, a survey conducted by **National Statistical Office (NSO)** during July 2017-June 2018 shows.
- This includes about **59% of boys and 60% of girls** across the country who had been fully immunised with **all eight prescribed vaccinations** — BCG, OPV- 1, 2,3, DPT- 1,2,3 and measles.

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- In rural India, about 58% (57% boys and 60% girls) children under five years, and about 62% (62% boys and 61% girls) children in urban India had been fully immunised.
- The report also shows a **decline in estimated anaemia** cases during the 75th round of the survey with cases dropping to 5,96,200 from 8,80,700 during the 71st round. Proportion of persons suffering from **tuberculosis** has fallen to half during the latest survey to 38 per 1,00,000 persons from the earlier level of 76 per 1,00,000.
- The **Intensified Mission Indradhanush**, launched by Government of India in **2017**, aims to reach **each and every child under two years of age and all pregnant women** who have been left uncovered under the routine immunisation programme.
- **Majority** of the children received vaccination from **government hospitals** or clinics.
- About 95% of children in rural India and 86% of children in urban India had received some vaccination from government hospitals including primary and community health centres or even Anganwadi centres.
- Private sector catered to about 5% of children in rural India, though the percentage was slightly higher at 14% of children in urban India who received any vaccination.
- **Punjab** got its **first plasma bank at Patiala's Rajindra Hospital** where those who have recovered from the novel coronavirus can donate their blood plasma to help treat COVID-19 patients.
- The **National Green Tribunal** said that **segregation of COVID-19 waste** from others is a **must** to avoid further contamination adversely affecting public health.
- In India, **Biomedical Waste Management Rules, 2016** deal with waste generated in infectious diseases like Covid-19.

Sero-Surveillance

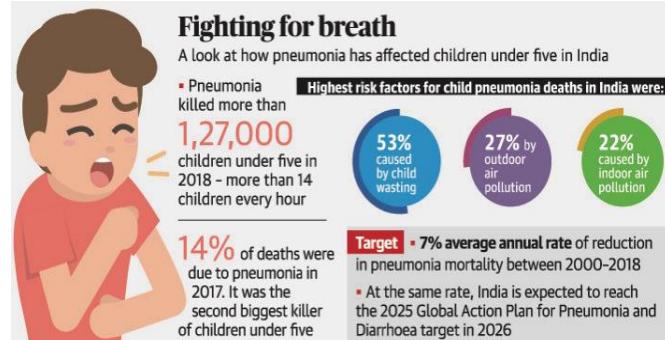
- **National Centre for Disease Control (NCDC)**, a body under administrative control of the Union Ministry of Health and Family Welfare, conducted a **sero-surveillance** study for Covid-19 in New Delhi from 27th June - 10th July 2020.
- Serosurveillance provides **estimates of antibody levels against infectious diseases** and is considered the gold standard for measuring population immunity due to past infection or vaccination.
- It is an important component of disease surveillance and complements notification, hospitalisation, mortality and immunisation coverage data.
- The results of the **sero-prevalence** study show that on an average, across Delhi, the prevalence of IgG antibodies is **23.48 %**. The study also indicates that a large number of infected persons remain **asymptomatic**.

First Indigenous Vaccine For Infant Pneumonia Approved

- The Drug Controller General of India (DCGI) has approved the first fully indigenously developed **conjugate vaccine for pneumonia developed by the Serum Institute of India Pvt. Ltd, Pune**.
- Serum institute conducted Phase I, Phase II and Phase III **clinical trials of Pneumococcal Polysaccharide Conjugate Vaccine in India**. It has **also** conducted clinical trials in **Gambia**.
- This vaccine is used for active immunisation against invasive disease and pneumonia caused by "**streptococcus pneumonia**" in **infants**. The vaccine is administered intramuscularly.

Pneumonia

- **Pneumonia is an infection in one or both lungs. Bacteria, viruses, and fungi cause it.**
- The infection **causes inflammation in the air sacs in lungs**, which are called **alveoli**. The alveoli fill with fluid or pus, making it difficult to breathe.
- The germs that cause pneumonia are **contagious**. This means they can spread from person to person.
- **Both viral and bacterial pneumonia can spread** to others through inhalation of airborne droplets from a sneeze or cough.
- **Fungal pneumonia** can be contracted from the environment. However, it **doesn't spread from person to person**.



Initiatives against Pneumonia

- **Social Awareness and Action to Neutralise Pneumonia Successfully (SAANS) campaign:** It was launched by the Health Ministry to spread awareness and preferential treatment of Pneumonia.
- **Integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD):** launched by WHO and UNICEF jointly in 2009. It targets to end preventable childhood deaths due to pneumonia and diarrhoea by 2025.

The Advanced Persistent Threat 29 (APT-29)

- ATP-29, also known as "**Cozy Bear**" and **The Dukes**, are familiar names in **cybersecurity** circles.
- APT29 is using custom **malware** known as '**WellMess**' and '**WellMail**' to target a number of organisations globally including those organisations involved with COVID-19 vaccine development.
- The hackers **targeted "valuable intellectual property (IP) and public health data related to vaccines**, treatments, and testing from networks and personnel affiliated with COVID-19-related research as alleged by the US, UK and France.

WHO Launches Covid-19 Law Lab For Implementing Legal Frameworks To Manage Pandemic

- The new Lab is a joint project of the **United Nations Development Programme (UNDP)**, **WHO**, the **Joint United Nations Programme on HIV/AIDS (UNAIDS)** and the O'Neill Institute for National and Global Health Law at Georgetown University.
- The covid-19 Law Lab is a **database of laws** that **190 countries** have implemented in response to the pandemic.
- It includes state of emergency declarations, quarantine measures, disease surveillance, legal measures relating to mask-wearing, social distancing, and access to medication and vaccines.

COVAX Alliance

- **GAVI's vaccine alliance** said that more than 75 countries have expressed interest in joining the **COVAX financing scheme** designed to guarantee **fast and equitable access globally to COVID-19 vaccines**.

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- COVAX is co-led by GAVI, the World Health Organization and the CEPI Coalition for Epidemic Preparedness Innovations. Its aim is to deliver 2 billion doses via the COVAX Advanced Market Commitment of effective, approved COVID-19 vaccines by the end of 2021.
- AstraZeneca, which is developing a potential COVID-19 shot known as AZD1222, has agreed to supply 300 million doses to COVAX if the vaccine proves effective and is licensed.

COVAX Facility

- The World Health Organisation has renewed its invite to countries to join its COVAX facility, an international alliance aimed at accelerating the development and manufacture of novel Coronavirus vaccines, and ensuring equitable access to all.
- The COVAX facility, launched in April 2020, is stitching together agreements with developers and manufacturers of vaccine candidates it thinks are most likely to succeed.
- It is trying to raise funds to support the rapid development of promising candidates, and the quick expansion of manufacturing capacities, so that the vaccines once approved, could be produced on mass scale.
- It aims to procure at least two billion doses of a novel Coronavirus vaccine by the end of next year, for deployment and distribution mainly in the low and middle income countries.
- The countries who join the initiative are also assured supply of vaccines whenever they become successful. The countries will get assured supplies to protect at least 20 percent of their populations.

BelYo, India's First Covid-19 Blockchain Platform

BelYo uses the BelfricsBT Belrium blockchain platform to convert Covid-19-related clinical and vaccination data of citizens currently from the physical form into digital assets, which can be retrieved by contact tracing apps like Aarogya Setu via application programme interface (API).

Pradhan Mantri Jan Arogya Yojna (PM-JAY)

- The nationwide lockdown had a significant negative impact on inpatient care utilisation under the Pradhan Mantri Jan Arogya Yojna or PM-JAY, where claim volumes fell by over 50%, with wide variation across the States and procedure types.
- The steepest decline (over 75%) was registered in Assam, followed by Maharashtra and Bihar, while much smaller declines (about 25% or less) were observed in Uttarakhand, Punjab and Kerala.
- PM-JAY scheme is the second component under Ayushman Bharat and was launched in September, 2018 in Ranchi, Jharkhand.
- Ayushman Bharat PM-JAY is the largest health assurance scheme in the world which aims at providing a health cover of Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization to over 10.74 crores poor and vulnerable families that form the bottom 40% of the Indian population.
- The households included are based on the deprivation and occupational criteria of Socio-Economic Caste Census 2011 (SECC 2011) for rural and urban areas respectively.
- PM-JAY was earlier known as the National Health Protection Scheme (NHPS) before being rechristened. It subsumed the then existing Rashtriya Swasthya Bima Yojana (RSBY) which had been launched in 2008.

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- The coverage mentioned under PM-JAY, therefore, also includes families that were covered in RSBY but are not present in the SECC 2011 database.
- PM-JAY is **fully funded by the Government** and cost of implementation is shared between the Central and State Governments.
- **Benefits of the scheme are portable across the country** i.e. a beneficiary can visit any empanelled public or private hospital in India to avail cashless treatment.

Smallpox

- Smallpox is an **acute contagious disease** caused by **variola virus**, a member of the **Orthopoxvirus family**.
- It is **transmitted from person to person** by infected aerosols and air droplets spread in face-to-face contact with an infected person. It can also be transmitted by **contaminated clothes and bedding**, though the risk of infection from this source is much lower.
- The **global eradication of smallpox** was certified in December 1979 and endorsed by the World Health Assembly in **1980**.

Viking Age

- The Viking Age (793–1066 AD) was the period during the **Middle Ages** when Norsemen known as Vikings undertook large-scale raiding, colonizing, conquest and trading throughout Europe, and reached North America.

Malaria

- **Hindustan Insecticides Limited** (HIL, India), a PSU under the Ministry of Chemicals and Fertilizers, supplied 20.60 Metric tonne of **DDT to South Africa** for their Malaria control program.
- HIL (India) is the **sole manufacturer of DDT globally**. The company was incorporated in **1954** to manufacture and supply DDT to the Government of India's Ministry of Health and Family Welfare for malaria control programmes.
- Malaria is a **mosquito-borne** infectious disease that affects **humans** and other **animals**.
- It is caused by **single-celled microorganisms** of the **Plasmodium (parasite)** group. The disease is most commonly spread by an infected **female Anopheles mosquito**.
- **Dichlorodiphenyltrichloroethane** (DDT), is a **colorless, tasteless**, and almost **odorless** crystalline chemical compound, an **organochlorine**. Originally developed as an **insecticide**, it became infamous for its **environmental impacts**.

ChAdOx1 COVID-19 Vaccine

- In early human trials of a Covid-19 vaccine, **ChAdOx1**, developed by the **University of Oxford** and drugmaker **AstraZeneca** has been found safe. The vaccine belongs to a category called **non-replicating viral vector vaccines**.
- When someone is infected with the **Covid-19 virus (SARS-CoV-2)**, the reason it spreads in the body easily is because of the spikes on its surface. These spikes, known as the '**spike protein**', allow the virus to penetrate cells and, thereafter, multiply.
- The vaccine tries to **build the body's immunity against this spike protein**. It creates antibodies to fight this spiked surface so that the virus does not even have the chance to penetrate the cells.

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- The vaccine uses a different virus — in this case, a weakened version of a **common cold virus (adenovirus)** that infects chimpanzees — to carry just the code to make the spike protein. The adenovirus, genetically modified so that it cannot replicate in humans, will enter the cell and release the code to **make only the spike protein**.
- The body's immune system is expected to recognise the spike protein as a potentially harmful foreign substance, and starts building antibodies against it. Once immunity is built, the antibodies will attack the real virus if it tries to infect the body.
- Another potential positive was that it **increased the number of T cells** — a type of white blood cell that protects the body from pathogens and cancer cells and works to actively destroy infected cells.

Covishield

- The **Drugs Controller General of India (DCGI)** has approved the application of **Serum Institute of India (SII)** to conduct late-stage human trials in the country for the Covid-19 vaccine - **Covishield**.
- **Covishield – the name given to the Oxford-AstraZeneca Covid-19 vaccine candidate** and is technically referred to as AZD1222 or ChAdOx 1 nCoV-19.
- **SII, the world's largest maker of vaccines**, has a tie-up with AstraZeneca, the Swedish-British pharma giant, to manufacture the Covid-19 vaccine **for low- and middle-income countries**.

Inflammageing

- The most severe Covid-19 cases have occurred mostly in **older people**, researchers are investigating whether **inflammageing** has a role.
- **Inflamm-aging** (also known as inflammaging or inflamm-ageing) is a chronic **low-grade inflammation** that develops with advanced age. It is believed to accelerate the process of biological aging and to worsen many age-related diseases.
- Immune system undergoes profound changes during ageing. Adaptive immune response becomes **less effective as lymphocyte** numbers are reduced in the elderly.

Inflammation

- Inflammation is part of the complex **biological response of body tissues** to harmful stimuli, such as pathogens, damaged cells, or irritants, and is a **protective response** involving immune cells, blood vessels, and molecular mediators.
- The function of inflammation is to **eliminate the initial cause of cell injury**, clear out necrotic cells and tissues damaged from the original insult and the inflammatory process, and initiate tissue repair.

Lymphocyte

- A **lymphocyte** is one of the subtypes of a **white blood cell** in a vertebrate's **immune system**.
- Lymphocytes include **natural killer cells** (which function in cell-mediated, cytotoxic innate immunity), **T cells** (for cell-mediated, cytotoxic adaptive immunity), and **B cells** (for humoral, antibody-driven adaptive immunity).

Electronic Vaccine Intelligence Network (eVIN)

- To support the Government of India's efforts to combat COVID-19, **Electronic Vaccine Intelligence Network (eVIN) India** is helping the State/UT governments monitor the supply chain of COVID response material.

- eVIN is an innovative technological solution **aimed at strengthening immunization supply chain systems across the country**.
- This is being **implemented under the National Health Mission (NHM)** by the Ministry of Health and Family Welfare.

Tick-Borne Virus

- A disease called **Severe Fever with Thrombocytopenia Syndrome**, caused by the **tick-borne virus**, has killed seven and infected at least 60, setting off alarm bells among health officials in **China**.
- **Severe fever with thrombocytopenia syndrome virus (SFTSV)** belongs to the **Bunyavirus family** and is transmitted to **humans through tick bites**. Chinese virologists have warned that **human-to-human transmission of the virus cannot be ruled out**.
- Unlike SARS-CoV-2 however, this is **not the first time** the SFTS virus has infected people. The recent spate of cases merely marks a **re-emergence** of the disease. The virus was **first identified** by a team of researchers in China over a decade ago. The first few cases were reported in rural areas of **Hubei and Henan provinces in 2009**.
- The **current case fatality rate** rests between approximately 16 and 30 per cent and due to the rate at which it spreads and its high fatality rate, SFTS has been listed **among the top 10 priority diseases blueprint by the World Health Organisation (WHO)**.
- In epidemiology, a case **fatality rate** — sometimes called case fatality risk or case-fatality ratio — is the proportion of **deaths from a certain disease compared to the total number of people diagnosed** with the disease for a particular period.
- **Asian tick** called **Haemaphysalis longicornis** is the **primary vector**, or carrier, of the virus but the virus is also transmitted to humans from animals like goats, cattle, deer and sheep.
- Despite being infected by the virus, animals generally do not show any symptoms associated with SFTSV.
- While a vaccine to treat the disease is yet to be successfully developed, the antiviral drug **Ribavirin** is known to be effective in treating the illness.

Salmonella Infection

- The **salmonella bacteria** resides in animals. When it enters a human body it causes salmonellosis, an infection that attacks the intestine, and can cause diarrhoea, abdominal pain, fever, vomiting, bleeding in stool and nausea.
- Salmonella can transmit to humans through contaminated water or food.

'Beaten or Broken? Informality and COVID-19' Report by World Bank

- The World Bank has released a report titled "Beaten or Broken? Informality and Covid-19 in South Asia". The report **analyses the impact of school closures because of COVID** on children.
- The report noted that the prolonged closure of schools due to the pandemic in India may cause a loss of over USD 400 billion in the country's future earnings, besides substantial learning losses.

Learning Adjusted Year of Schooling' (LAYS)

- It is a **concept introduced by World Bank**. It seeks to combine access and learning outcomes into a single measure.

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- It combines quantity (years of schooling) and quality (how much kids know at a given grade level) into a single summary measure of human capital in a society.

Soil-Transmitted Helminthiases (STH)

- 14 States have shown substantial reduction in worm prevalence in the Soil-Transmitted Helminthiases (STH) in follow up prevalence survey conducted by the Ministry of Health.
- STH, also known as **parasitic intestinal worm infection**, is a significant public health concern mostly in low resource settings. These are known to have detrimental effects on children's physical growth and wellbeing and can cause anemia and under-nutrition.
- **Albendazole tablet** is used for treatment of intestinal worms in children and adolescents as part of Mass Drug Administration (MDA) programmes globally.
- **The National Deworming Day (NDD)**, launched in 2015, is a flagship program of the **Ministry of Health and Family Welfare**.

CuRED

- The Union Minister of Health launched a website, CuRED or **CSIR Ushered Repurposed Drugs**, that gives comprehensive information about the numerous COVID-19 clinical trials.
- The website provides **information about the drugs, diagnostics and devices** including the current stage of the trials, that CSIR is engaged in partnership with Industry, other government departments and ministries.

Regional Raw Drug Repository

- The **Minister of Ayush** inaugurated the Regional Raw Drug Repository (RRDR) at All India Institute of Ayurveda in New Delhi. This RRDR is second in the series of repositories proposed by the National Medicinal Plants Board (NMPB).
- RRDRs are important components of the **Centrally Sponsored Scheme of National AYUSH Mission**, which plays an important role in medicinal plants cultivation. This RRDR would play a role in collection, documentation, and authentication of raw drugs collected from the agro-climatic region, that is, the Southern Plateau Region.
- It will also act as an accredited reference library for authentication of raw drugs and establish standard protocols and keys for authentication of raw drugs used in the herbal industries.

Gyan Circle Ventures

- The Ministry of Education recently inaugurated the Gyan Circle Ventures (GCV), a **MeitY funded Technology Business Incubator (TBI)** of Indian Institute of Information Technology, Chittoor, Andhra Pradesh.
- The incubator would leverage the institutions' entrepreneurial spirit via utilizing its intellectual capital and engage in using emerging technologies such as Artificial Intelligence (AI), Block-chain, Cyber Physical Systems (CPS), Cyber Security, Internet of Things (IoT), Robotics, etc.
- It will serve as a hub for innovation and startups by providing support, in various phases, via investments, infrastructure and mentoring.

Parliament Passes Labour Bills

- Parliament passed three Bills that complete the government's codification of 29 labour laws into four codes. The 3 bills which were passed are **(i) Industrial Relations (IR) Code, 2020** **(ii) Code on Occupational Safety, Health (OSH) & Working Conditions Code, 2020** & **(iii) Social Security Code, 2020**. Out of the 4 labour codes, Code on Wages has already been passed by Parliament and have become the law of the land. Labour falls under the **Concurrent List of the Constitution**.
- The IR Code will allow companies with under 300 workers to decide on termination and other service conditions of employees without prior approval, as opposed to companies with less than 100 employees as of now.
- The Social Security Code will extend the scope of the Employees State Insurance Corporation to all 740 districts in the country and that of the Employees' Provident Fund Organisation to all institutions with 20 or more workers as well the self-employed.
- A National Occupational Safety and Health Board under the OSH Code and a Social Security Fund under the Social Security Code will be set up.

Global Hunger Index (GHI) 2020

- GHI 2020 was recently published by **Concern Worldwide and Welthungerhilfe**. GHI is designed to comprehensively measure and track hunger at the global, regional, and country levels.
- Indicators: For each country in the list, the GHI looks at four indicators (1) **Undernourishment**, (2) **Child Wasting**, (3) **Child Stunting** and (4) **Child Mortality**.
- Based on the values of the four indicators, the GHI determines hunger on a 100-point scale, where 0 is the best possible score (no hunger) and 100 is the worst.
- Further, each country's GHI score is classified by severity, from low to extremely alarming as follows: Low \leq 9.9; Moderate 10.0-19.9; Serious 20.0-34.9; Alarming 35.0-49.9 and Extremely alarming \geq 50.0.

Highlights From India

- India ranks **94 among 107 countries in GHI 2020**. India's rank was 102 out of 117 countries last year. With a score of 27.2, India has a level of hunger that is "**serious**".
- India ranks lower than most of its neighbours viz. Nepal (73), Pakistan (88), Bangladesh (75), Sri Lanka (64) and Myanmar (78) among others.
- According to the report, **14 % of India's population was undernourished**. The country recorded a 37.4 % stunting rate among children under five and a wasting rate of 17.3 %.

International Day of Older Persons

- The International Day of Older Persons was recently celebrated on 1st October. This year marks the 30th year of the celebration of the day. In 1990, the United Nations General Assembly (UNGA) designated 1 October the International Day of Older Persons.
- This was preceded by initiatives such as the **Vienna International Plan of Action on Ageing** – which was adopted by the 1982 World Assembly on Ageing – and endorsed by UNGA.
- **2020 Theme:** "Pandemics: Do They Change How We Address Age and Ageing?".

- **The World Bank** recently released its biennial Poverty and Shared Prosperity 2020 report. The report provides the latest and most accurate estimates on trends in global poverty and shared prosperity. Its report presents new estimates of COVID-19's impacts on global poverty.
- **Global economic growth** is predicted to **fall by 5.2 %** in 2020, the largest drop in eight decades.
- The pandemic and global recession may cause over 1.4 per cent of the world's population to fall into extreme poverty. An additional **88 million to 115 million people would fall into extreme poverty** this year, with the total rising to as many as **150 million by 2021**.
- **Climate change** may drive about 100 million additional people into poverty by 2030, many of whom reside in countries affected by armed conflict.
- **Lack Of Data In India:** As the Indian government decided not to release the 2017-18 All India Household Consumer Expenditure Survey data from the 75th Round, a number of results in the report are incomplete, or uncertain because of the lack of data from India which, as per the report, accounted for 139 million of the 689 million people living in poverty in 2017.

Assisted Reproductive Technology (ART) (Regulation) Bill, 2020

- ART (Regulation) Bill, 2020, recently introduced in Lok Sabha, seeks to **regulate ART banks and clinics**, allow safe and ethical practice of ARTs and protect women and children from exploitation. The Bill was introduced to **supplement the Surrogacy (Regulation) Bill, 2019 (SRB)**.
- The Bill provides that **every ART clinic and the bank must be registered under National Registry of Banks and Clinics of India**.
- ART procedures can only be carried out with the **written informed consent of both the party** seeking ART services as well as the donor.
- A clinic is **prohibited from offering to provide a child of pre-determined sex**. A child born through ART will be **deemed to be a biological child of the commissioning couple** and will be entitled to the rights and privileges available to a natural child of the commissioning couple. A donor will not have any parental rights over the child.
- The Bill provides that the **National and State Boards for Surrogacy** constituted under the Surrogacy (Regulation) Bill, 2019 will act as the National and State Board respectively for the regulation of ART services.

ART services used to treat persons suffering from infertility includes: gamete donation, intrauterine insemination (IUI), In-Vitro Fertilization (IVF), ICSI, PGD and gestational surrogacy.

Ambedkar Social Innovation and Incubation Mission (ASIIM)

- The **Ministry of Social Justice and Empowerment** has launched the Ambedkar Social Innovation and Incubation Mission (ASIIM) under Venture Capital Fund for SCs.
- **Objectives**
 - To promote entrepreneurship among the SC Youth with special preference to Divyangs;
 - To support (1,000) innovative ideas till 2024 through a synergistic work with the Technology Business Incubators (TBIs) set up by Department of Science and Technology;

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- To support, promote, hand-hold the start-up ideas till they reach commercial stage by providing liberal equity support;
- 1,000 SC youth with start-up ideas would be identified in the next 4 years (till 2024), in various higher educational institutions. They will be **funded up to Rs. 30 lakhs in 3 years** as equity funding so that they can translate their start-up ideas into commercial ventures.
- Successful ventures would further qualify for funding of **up to Rs. 5 Crore from the Venture Capital Fund** for SCs.

Venture Capital Fund for SCs (VCF-SC)

- The ASIIM initiative will be implemented by the Venture Capital Fund for SCs which was set up in 2016, with the fund size of Rs. 500 crore.
- The fund was launched to develop entrepreneurship among the SC/Divyang youth by providing concessional finance to them.
- Since its inception, VCF-SC has sanctioned financial assistance to 118 companies with an amount of Rs. 444.14 crore.

Crime in India Report 2019

- The **National Crime Records Bureau** recently released the Crime in India report 2019.
- Nearly **5.2 million cognisable crimes** were reported across India in 2019. A total of 4,05,861 cases of crime against women were registered during 2019, showing an increase of 7.3% over 2018.
- **UP reported the highest number of crimes against women** (59,853), accounting for 14.7 % cases across the country. It was followed by Rajasthan and Maharashtra. UP also had the highest number of crimes against girl children under the POCSO Act with 7,444 cases, followed by Maharashtra and MP. **Rajasthan also had the highest number of rapes against Dalit women** (554), followed by UP and MP.
- A total of **45,935 cases** were registered as crime against Scheduled Castes (SCs), showing an increase of 7.3% over 2018. Crime rate registered showed an increase from 21.2 (per lakh population) in 2018 to 22.8 in 2019.

Ayushman Sahakar Scheme

- The Centre has launched the Ayushman Sahakar scheme to **involve co-operatives in creating healthcare infrastructure** in the country.
- Under the scheme, the National Cooperative Development Corporation (NCDC) will give loans to eligible cooperatives **totalling Rs 10,000 crore in the coming years**.
- The scheme would specifically cover establishment, modernisation, expansion, repairs, renovation of hospitals, and healthcare and education infrastructure encompassing all hospitals & Ayush facilities. The scheme also provides working capital and margin money to meet operational requirements.
- Any cooperative society with suitable provision in its bye-laws to undertake healthcare related activities will be able to access the NCDC fund.

Strengthening Teaching-Learning and Results for States (STARS)

- The Union Cabinet has approved the implementation of STARS project, partially funded by the **World Bank**. It would be implemented as a new Centrally Sponsored Scheme under **Ministry of Education**.

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- **Establishment of PARAKH** (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development): It will act as a **National Assessment Centre**. Included in NEP, 2020, this autonomous institution will set norms for student **assessment and evaluation for all school boards across the country**.
- **Contingency Emergency Response Component (CERC)**: It would enable it to be more responsive to any natural, man-made & health disasters. It will help the government to respond to situations that lead to loss of learning such as school closures/infrastructure damage, inadequate facilities etc.
- At the State level, the project covers **6 States** namely Himachal Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, Kerala and Odisha. The project aims to improve the overall monitoring and measurement activities in the Indian school education system through interventions in selected states.

Free Coaching for SC and OBC Students Scheme

- From this year, under the Centre's free coaching scheme for scheduled caste and OBC students, candidates will be able to **take admissions in the institute of their choice**, instead of being randomly allotted institutes by the government.
- The objective is to **provide coaching of good quality** for economically disadvantaged Scheduled Castes (SCs) and Other Backward Classes (OBCs) candidates. It aims to enable them to appear in competitive examinations and succeed in obtaining an appropriate job in public/private Sector.
- The scheme is a **Centrally sponsored scheme** and the **Ministry of Social Justice and Empowerment** funds the entire fees for the coaching provided to selected candidates.
- **Only students belonging to SCs and OBCs** having total family income from all sources of **Rs 8 lakh or less per annum** are eligible for benefits under the Scheme.

Global Burden of Disease (GBD) study 2019

The Global Burden of Disease (GBD) study 2019, was recently published in The Lancet journal.

Findings from India

- The leading risk factor for total health loss in India in 2019 was **child and maternal malnutrition**, while the second leading risk factor was **air pollution**.
- According to the report, **58 % of the total disease burden** in India is now due to **non-communicable diseases**, up from 29 % in 1990.
- The leading non-communicable cause of death in India in 2019 was **heart disease** with 1.52 million deaths, followed by pulmonary disorders, stroke, diabetes.
- India has gained more than a decade of **life expectancy** since 1990, **rising from 59.6 years to 70.8 years in 2019**.

Non-Communicable Disease (NCD)

- A non-communicable disease is a **non-infectious health condition that cannot be spread from person to person**. It also lasts for a long period of time and is therefore also known as a chronic disease.
- A combination of genetic, physiological, lifestyle, and environmental factors can cause these diseases.

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- **NCDs include** Parkinson's disease, autoimmune diseases (like rheumatoid arthritis), strokes, most heart diseases, most cancers, diabetes, chronic kidney disease, osteoarthritis, osteoporosis, Alzheimer's disease, cataracts.

Annual Status of Education Report (ASER) 2020

- The latest Annual Status of Education Report (ASER 2020) was recently **released by the non-profit Pratham Education Foundation**.
- The survey shows that **5.5 per cent children are not currently enrolled for the 2020-21 school year**, up from 4 per cent in 2018.
- At all-India level, there has been a **small shift towards government schools between 2018 and 2020**, across all grades and among both girls and boys.
- Among enrolled children, the percentage of families with **at least one smartphone** has increased significantly in the past two years, from 36.5% to 61.8%.
- Overall more than 80 per cent children said they had **textbooks** for their current grade. This proportion was higher among students enrolled in government schools than in private ones.

ASER

- ASER is a **nationwide survey of rural education** and learning outcomes in terms **of reading and arithmetic skills** that has been conducted by the NGO Pratham, since 2005.
- ASER seeks to use simple yet rigorous methods to generate evidence on the outcomes of such social sector programs. It aims to strengthen the link between evidence and action by building the capacity of individuals and institutions to design, conduct and understand assessments that focus on key outcome indicators.

Meri Saheli' Initiative

- **The Indian Railways** has launched the 'Meri Saheli' initiative for focused action on **security of women passengers** during their entire journey.
- Under the initiative, a team of lady officer and staff have been formed. The team will visit all of the passenger coaches including ladies coaches to identify women passengers.
- These women passengers will then be briefed about all precautions to be taken during the journey and told to **dial 182** in case they face or see any problem in the coach.

Commitment To Reducing Inequality (CRI) Index 2020

- The CRI Index is developed by a partnership between **Development Finance International** and **Oxfam International**, with inputs from independent experts.
- The index **doesn't aim to measure inequality**, instead it focuses on what each government is doing to fight inequality. The index highlights that no country in the world was doing enough to fight inequality prior to the pandemic.
- **Norway** tops the 2020 CRI Index.
- **India spent less than 4% of its budget on health** and was **ranked 155th** on the health spending, the fourth lowest in the world. Only about 10% of the workforce in India is formal. Most workers earn less than half of the minimum wage and 71% do not have any written job contract and 54% do not get paid leave.

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- India has improved its tax rankings — going from 91st in 2017 to 50th in 2018 (when the last report was published) and 19th now.

Migration and Development Brief

- The **World Bank** has released its report “Migration and Development Brief”. The report is released **twice a year**. **Theme** of this report - COVID-19 Crisis Through a Migration Lens.
- The report provides an update on key **developments in the area of migration and remittance flows** and related policies over the past six months.
- The report highlighted that **remittances to India would fall this year by 9 % to \$76 billion** due to the ongoing coronavirus pandemic and global economic recession.
- India followed by China, Mexico, Philippines, and Egypt will continue to be the top five countries in 2020 to receive foreign remittances.

World Polio Day

- October 24 is observed as World Polio Day. As per the WHO, since 1980, the cases of wild poliovirus have **decreased by over 99.9%** as a result of vaccination efforts made around the world.
- World Polio Day was **established by Rotary International** over a decade ago to commemorate the birth of **Jonas Salk**, who led the first team to develop the vaccine against the disease.
- **India was declared polio-free in January 2014**, after three years of zero cases.
- Polio is a crippling and potentially deadly disease that affects the nervous system. In rare cases, polio infection causes permanent loss of muscle function (paralysis).

National Portal For Transgender Persons

- The **Ministry of Social Justice and Empowerment** launched a national portal for transgender persons to apply for certificates and identity cards.
- Under the Transgender Persons (Protection of Rights) Act, 2019, transpersons can apply for an ID card based on their self-perceived identity. The portal will allow transgender persons to **upload an affidavit declaring their gender**, which then becomes the basis for their identity certificates to be issued by the respective district magistrates.
- **Garima Greh**: The Ministry also inaugurated 'Garima Greh: A Shelter Home for Transgender Persons' in Vadodara. It will provide shelter to transgender persons, with basic amenities like shelter, food, medical care and recreational facilities.

Rice Fortification

- In a bid to combat **chronic anaemia and undernutrition**, the government is making plans to distribute fortified rice through the **Integrated Child Development Services and Mid-Day Meal schemes** across the country from next year, with a special focus on **112 aspirational districts**.
- The rice will be fortified with three micronutrients -- **vitamin B12, iron and folic acid**.
- Fortifying rice involves grinding broken rice into powder, mixing it with nutrients, and then shaping it into rice-like kernels. These fortified kernels are then mixed with normal rice in a 1:100 ratio, and distributed for consumption.

Organ Donation Day

- On 27 November, India celebrated the 11th ‘National Organ Donation Day’ in the country.
- The **National Organ & Tissue Transplant Organisation (NOTTO)**, is mandated under the Transplantation of Human Organs (Amendment) Act 2011 to carry out activities for promotion of organ donation from deceased persons.
- With 12,666 organs transplanted in 2019, **India ranked third** in the world as per data available from **WHO Global Observatory on Donation and Transplantation (GODT)**.
- **Tamil Nadu** has been adjudged the best in organ donation in the country for the sixth consecutive year.

Academic Freedom Index

- AFI was recently published by **Global Public Policy Institute**. It compares levels of academic freedom worldwide and helps in understanding its decrease across the world.
- The report quantifies the **freedom of scholars to discuss politically and culturally controversial topics**, without fearing for their life, studies or profession.
- **Uruguay and Portugal** are at the top of AFI, followed closely by Latvia and Germany.
- **India has scored considerably low**, which is closely followed by Saudi Arabia and Libya.

Poshan Abhiyaan’s Progress Report

- NITI Aayog recently launched National Nutrition Mission’s or Posan Abhiyaan’s third progress report.
- Launched in 2018, Posan Abhiyaan, or National Nutrition Mission, is the government’s flagship program to improve nutritional outcomes for children, pregnant women and lactating mothers, with **specific targets to be achieved by 2022**.
- It aims to **reduce stunting and wasting by 2% per year** among children and **anaemia by 3% per year** among children, adolescent girls and pregnant women and lactating mothers.

Minimum Requirements For Annual MBBS Admissions Regulations (2020)

- In a significant step towards affordable medical education, the National Medical Commission (NMC) has notified its first major regulation titled as “Minimum Requirements For Annual MBBS Admissions Regulations (2020)”. It replaces the “Minimum Standard Requirements for Medical Colleges, 1999” of the erstwhile Medical Council of India (MCI).
- The new Regulation shall be **applicable to all new medical colleges** proposing to be established, and to the **established medical colleges proposing to increase their annual MBBS intake** from the academic year 2021-22.

The Key Changes

- The new Regulation has **deleted the quantum of land required** for setting up a medical college and its affiliated teaching hospitals. It also defines a Medical Education Unit for training medical teachers in educational pedagogy.
- A well-equipped “**Skills Laboratory**” for training students is essential now. The space required for Library and the number of books and journals have been rationalized and reduced.

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- Student counselling services has been mandated. The new regulation now mandates the **availability of a fully functional 300 bed multi-speciality hospital for at least 2 years** at the time of application for establishing a new medical college.
- Over and above the minimum prescribed faculty, provision for “**visiting faculty**” has been made to enhance quality of training.
- Two new teaching departments have now become mandatory in all medical college hospitals for the training of undergraduate medical students. These include the Department of Emergency Medicine and the Department of Physical Medicine and Rehabilitation.

Civil Registration System (CRS) Report

- Recently, the 2018 report on vital statistics of India based on the Civil Registration System was published. CRS in India is the **unified process of continuous, permanent, compulsory and universal recording of the vital events (births, deaths, still births)**.
- The Registration of Births and Deaths Act, 1969 provides for the **compulsory registration** of births and deaths.
- As per the report, the number of registered births increased to 2.33 crore in 2018 from 2.21 crore registered births the previous year. The level of registration of births has increased to 89.3% in 2018 from 81.3% in 2009.
- **Highest Sex Ratio** at Birth (SRB) has been reported by Arunachal Pradesh (1084), followed by Nagaland (965) Mizoram (964) and Kerala (963). **Lowest SRB has been reported by Manipur** (757), Lakshadweep (839) and Daman & Diu (877) followed by Punjab (896).

Step Up For TB 2020 Report

- The Step Up for TB 2020 report was recently launched by **Médecins Sans Frontières (MSF)** and **Stop TB Partnership**. It covers 37 countries with high Tuberculosis burden, home to 77% of the global estimated cases.
- TB remains the world's top infectious disease killer, with more than 10 million people falling ill and 1.4 million people dying due to this disease in 2019.
- **India has around a quarter of the world's TB cases** and fairs poorly. As per the report, India is still following a very conservative approach regarding the new medicines for drug resistant TB, putting lives of patients including children in danger.
- As of March 2020, India had 119,960 Multi drug resistant TB (MDR-TB) patients, who were eligible for oral drugs for the treatment of MDR-TB. However, only 10,845 received their dosage.

Cost Of A Plate Of Food Report

- **World Food Programme (WFP)** recently published the ‘Cost of a Plate of Food 2020’ report, on the occasion of World Food Day (October 16).
- The report highlights the **impact of various factors on people's access to affordable food**. It takes an estimated per capita average income across each country and calculates the percentage of income that people have to spend for a basic meal. The report highlights conflict and climate change as the core reasons for hunger in many countries.

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- Sub-Saharan Africa in particular is the worst affected, with 17 out of the top 20 countries in the report coming from this region. **South Sudan is at the top of the list**, with basic ingredients costing 186 % of a person's daily income.
- **India stands at 28th position** as per the percentage of money, people have to pay on a plate of food compared to their salaries. On an average an **Indian spends 3.5% of his/ her daily income (or US\$7.37) for a plate of food** as compared to 0.6% (US\$1.26) by a person living in New York

Deendayal Antyodaya Yojana- National Rural Livelihood Mission (DAY-NRLM)

- The Union Cabinet has approved a special package of Rs 520 crore for a period of five years till financial year 2023-24, in **Jammu and Kashmir and Ladakh** under DAY-NRLM.
- The programme, **aimed at women**, will ensure they get better access to credit facilities. The extension of the NRLM will ensure that two third rural women will be covered and around 10.58 lakh women will get the benefit from the special package in J&K and Ladakh.
- DAY-NRLM has been implemented in the erstwhile state of J&K by the Jammu and Kashmir State Rural Livelihoods Mission (JKSRLM) as "**Umeed**" programme.

DAY-NRLM

- It is a **centrally sponsored programme** that aims at **eliminating rural poverty** through *promotion of multiple livelihoods and improved access to financial services* for the estimated 10 crore rural poor households.
- It involves working with community institutions through community professionals in the spirit of self-help, making it different from the previous poverty eradication programmes.
- The programme seeks to reach out to all rural poor households, estimated at about 10 crore households, and impact their livelihoods through universal social mobilization.

Child Care Leave

- Union Government announced that **male government employees who were single parents were now entitled to child care leave**. “
- Single male parent” included employees who were **unmarried or widower or divorcee** and might therefore be expected to take up the responsibility of caring for a child single-handedly.
- In addition, the Leave Travel Concession (LTC) might be availed by the employee even if he was on child care leave. The child care leave could be **granted at 100% of leave salary for the first 365 days and 80% of leave salary for the next 365 days**.
- In case of a disabled child, the condition of availing child care leave up to the age of 22 years of the child had been removed. Now **child care leave could be availed by a government servant for a disabled child of any age**.

Mental Health Day

- World Mental Health Day is celebrated on 10th October every year. The day is marked for global mental health education, awareness and to advocate against social stigma associated with mental health issues.
- The day was celebrated for the first time in 1992 at the **initiative of the World Federation for Mental Health**, a global mental health organisation with members in more than 150 countries.

- This year's theme is **Mental Health for All: Greater Investment – Greater Access.**

Kiran Helpline

- **Ministry of Social Justice & Empowerment** has launched a 24x7 Toll-Free Mental Health Rehabilitation Helpline "KIRAN".
- It will offer mental health rehabilitation services with the objective of early screening, first-aid, psychological support, distress management, mental well-being etc. It will function as a lifeline to provide 1st stage advice, counselling and reference to anyone in need of support across the country.
- This assumes great significance in view of the growing incidence of mental illness, particularly in the wake of COVID-19 Pandemic.

Health In India Report

- The National Statistical Organisation (NSO) recently released the Health in India report.
- As per the report, across the country, only 59.2% of children under five years are fully immunised. Full immunisation means that a child receives a set of eight vaccine doses in the first year of life.
- Among States, **Manipur** (75%), Andhra Pradesh (73.6%) and Mizoram (73.4%) recorded the highest rates of full immunization.

National Statistical Office (NSO)

- NSO is the statistics wing of the **Ministry of Statistics and Programme Implementation**. It consists of the Central Statistical Office (CSO), the Computer center and the National Sample Survey Office (NSSO).
- It acts as the **nodal agency for planned development of the statistical system** in the country and lays down and maintains norms and standards in the field of statistics.
- It compiles and releases the **Index of Industrial Production (IIP)** every month.
- It conducts large scale all-India sample in areas such as employment, consumer expenditure, housing conditions and environment, literacy levels, health, nutrition, family welfare, etc

Household Social Consumption on Education in India

- NSO has released a report Household Social Consumption: Education in India, which also covers the literacy rates in the country. The data in the report is for the year 2017-18.
- As per the report, **77.7% people are literate in India**. Kerala is the most literate state in the country, with 96.2 per cent literacy, while Andhra Pradesh features at the bottom with a rate of 66.4 per cent.
- **Male-Female Literacy:** The gap between male and female literacy at the all-India level is 14.4 percentage points with male literacy at 84.7% and female literacy at 70.3%.
- **Urban-Rural Literacy:** Kerala also has the lowest gap between urban and rural literacy rates with 1.9 percentage points.
- **Digital Literacy:** The NSO report shows that 20% of Indians above the age of 5 years had basic digital literacy.

Literacy: According to the 2011 Census, any person **aged seven and above**, who has the ability to read and write, with understanding in any language, is considered literate. A person, who can only read but cannot write, is not literate.

- The National Institute of Nutrition (NIN) recently released its report on Nutrient Requirements for Indians. For the first time the NIN report contains the Estimated Average Requirements (EAR) and also the Tolerable Upper Limits (TUL) of nutrients. Until now, a single value Recommended Dietary Allowance (RDA) was used for all nutrients.
- While **RDAs contain daily nutritional intake** levels that would be sufficient to meet the nutritional needs of almost all healthy individuals, EARs are the average daily nutritional intake levels of the population.
- The **TUL is the highest level of a daily nutrient intake** that will most likely not lead to any adverse (negative) health effects in almost all individuals in the general population.
- **Body Mass Index (BMI):** It is a person's weight in kilograms divided by the square of height in meters. It is universally expressed in units of kg/m². It is generally used to broadly categorize a person as underweight, normal weight, overweight, or obese.

National Institute of Nutrition

- NIN is a premier nutrition research body of the Indian Council of Medical Research.
- The vision of NIN is elimination of all forms of malnutrition for a progressive healthy India.

Human Capital Index 2020

- The Human Capital Index 2020 report was recently **released by the World Bank**.
- The HCI was launched in 2018 as part of the **Human Capital Project (HCP)**, a global effort to accelerate progress towards a world where all children can achieve their full potential.
- The **HCI measures the human capital that a child born today can expect to attain by her 18th birthday**, given the risks of poor health and poor education prevailing in her country.
- The index incorporates measures of **different dimensions of human capital: health and the quantity and quality of schooling**.
- **India has been ranked at the 116th position** in the HCI 2020. However, India's score increased to 0.49 from 0.44 in 2018.
- **Other Reports Published by World Bank:** Global Economic Prospects, Ease of Doing Business report, World Development Report, Global Financial Development Report.

Glanders Disease

- The Delhi High Court directed city government to prevent spread of glanders disease among horses, mules, ponies and donkeys here.
- Glanders is an infectious disease that is caused by the bacterium *Burkholderia mallei*. While people can get the disease, glanders is primarily a disease affecting horses. It also affects donkeys and mules and can be naturally contracted by other mammals such as goats, dogs, and cats.

Tinnitus

- New research has found that **tinnitus is being exacerbated by Covid-19**.
- Tinnitus is a common condition that **causes the perception of noise or ringing in the ears and head**.

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- Tinnitus isn't a condition itself — **it's a symptom of an underlying condition**, such as age-related hearing loss, ear injury or a circulatory system disorder.

Dhanwantari Rath

- A MoU was recently signed between All India Institute of Ayurveda (AIIA) and Delhi Police for extending the ayurvedic mode of preventive and promotive health services in the residential colonies of Delhi Police.
- These services are to be provided through a **mobile unit named 'Dhanwantari Rath'** and Police Wellness Centres, and are to be catered by AIIA, supported by Ministry of AYUSH.

Partners in Population and Development

- India's Minister for Health and Family Welfare recently addressed the Inter-Ministerial Conference by Partners in Population and Development (PPD).
- The Conference was titled "Nairobi Commitments and the 2030 Agenda: Taking stock and looking ahead to post COVID-19 Crisis".
- The **Nairobi Summit**, also known as ICPD+25, was held in 2019 and made new pledges to achieve zero preventable maternal deaths, zero unmet need for family planning, and zero gender-based violence and harmful practices by 2030.

About PPD

- It is an **inter-governmental alliance** of 27 developing countries with a mission to improve **South-South collaboration** in the fields of *family planning and reproductive health, population and development*.
- PPD was created at the 1994 **International Conference on Population and Development (ICPD)**, when ten developing countries formed an intergovernmental alliance to help implement the **Cairo Program of Action (POA)**.
- This POA, endorsed by 179 nations, stresses the need to establish mechanisms to promote development through the sharing of experiences in reproductive health (RH) and family planning (FP).
- The **Secretariat of PPD is located in Dhaka, Bangladesh**

UN Award For Control Of Non-Communicable Diseases

- **Kerala has won a United Nations award** for its "outstanding contribution" towards the noncommunicable diseases-related sustainable development goals (SDG).
- The UN Interagency Task Force (UNIATF) award on prevention and control of non-communicable diseases was announced by World Health Organization.
- The award recognises achievements during 2019 on the multisectoral action in the prevention and control of NCDs, mental health and the wider NCD-related SDGs.

Catch The Rain Campaign

- The **National Water Mission (NWM)** under **Ministry of Jal Shakti** has launched the 'Jal Shakti Abhiyan II: Catch the Rain' awareness campaign.

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- The NWM has initiated the campaign in collaboration with **Nehru Yuva Kendra Sangathan (NYKS)** under the Ministry of Youth Affairs & Sports.
- It aims to nudge all stakeholders to create rainwater harvesting structures (RWHS) suitable to the climatic conditions and sub-soil strata to store rainwater.

National Water Mission is one of the eight National Missions under the National Action Plan on Climate Change. The main objective of NWM is conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management

World Diabetes Day

- World Diabetes Day (WDD) is marked every year on 14 November, the birthday of Sir **Frederick Banting, who co-discovered insulin along with Charles Best in 1922**.
- Theme: "**The Nurse and Diabetes**".
- Diabetes is a chronic disease, which occurs when the **pancreas does not produce enough insulin**, or when the body cannot effectively use the insulin it produces. This leads to an increased concentration of glucose in the blood (hyperglycaemia).

Vision 2035: Public Health Surveillance In India

- NITI Aayog recently released a white paper titled 'Vision 2035: Public Health Surveillance in India'. Jointly prepared by **NITI Aayog and University of Manitoba** in Canada, the white paper puts forward the **vision for India's public health surveillance**.
- The vision is to make India's public health surveillance system **more responsive and predictive to enhance preparedness** for action at all levels.
- This vision is **to be achieved by 2035** through the integration of three-tiered public health system into Ayushman Bharat.

Namath Basai

- The Kerala government has been conducting a unique programme, called '**Namath Basai**' of **teaching tribal children in their mother tongue**.
- The programme is implemented by the **Samagra Shiksha Kerala (SSK)**. The SSK has distributed around 50 laptops exclusively for Namath Basai and pre-recorded classes are offered through a YouTube channel.
- Classes are being offered in three tribal languages viz. **Irula, Mudka and Kurumba**. These languages are spoken by Irula, Muduka and Kurumba tribes, respectively.

Remote Learning Reachability report

- The **United Nations Children's Fund (UNICEF)** has released Remote Learning Reachability report.
- The report measured remote learning capacities among pre-primary, primary, lower-secondary and upper-secondary schoolchildren. It is based on data gathered from 100 countries, measuring public access to the internet, television and radio.

Mucormycosis

- Doctors have witnessed more than 12 cases of Covid-19 triggered Mucormycosis fungus.
- Black Fungus or Mucormycosis, previously called **zygomycosis**, is a serious but rare **fungal infection caused by a group of molds called mucormycetes** which exist in the environment.
- Mucormycosis mainly **affects people who have health problems** or take medicines that lower the body's ability to fight germs and sickness.

National Digital Health Mission (NDHM)

- NDHM was launched by the Prime Minister on 74th Independence Day.
- It comes under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (**AB-PMJAY**) and the National Health Authority (NHA), the attached office of the Ministry of Health & Family Welfare, will design, build, roll-out and implement the NDHM
- It is envisioned to **create a national digital health ecosystem** that supports universal health coverage in an efficient, accessible, inclusive, affordable, timely and safe manner.
- **Six key building blocks or digital systems** - HealthID, DigiDoctor, Health Facility Registry, Personal Health Records, e-Pharmacy and Telemedicine.
- Under the NDHM, every citizen will be given an Health ID card on which confidential medical data, such as prescriptions, diagnostic reports and discharge summaries, will be stored digitally.

Dry Swab-Direct RT-PCR Method

- The Dry Swab-Direct RT-PCR method has now been approved by the Indian Council of Medical Research (ICMR) for scaling up the COVID-19 testing. It is developed by the **CSIR-Centre for Cellular and Molecular Biology (CCMB)**.
- This method is a simple variation of the existing gold standard RT-PCR method. It involves **collecting and transporting the nasal swab in a dry state** which makes the transportation and handling of the samples easy and less prone to spillage and spread of infection.

Mission COVID Suraksha

- The Government of India (GOI) has announced the third stimulus package of Rs. 900 Crore for the Mission COVID Suraksha- **The Indian COVID-19 Vaccine Development Mission**.
- This grant will be provided to the Department of Biotechnology (DBT) for Research & Development of Indian COVID-19 vaccines.
- It will be implemented by a dedicated Mission Implementation Unit at the Biotechnology Industry Research Assistance Council (BIRAC). The existing activities under National Bio Pharma Mission (NBM) and Ind-CEPI Mission will provide complementary strengths to this Mission.

Pneumonia and Diarrhoea Progress Report 2020

- The Pneumonia and Diarrhoea Progress Report 2020 was released by the **International Vaccine Access Centre (IVAC)**.
- It is an annual report which tracks progress towards 10 key indicators in the 15 countries with the highest mortality burden of pneumonia and diarrhea in children under 5.

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- Although overall the world's health systems are falling short of ensuring that children have access to prevention and treatment services, India has achieved the global target of 90% coverage for three of the five vaccines whose coverage is monitored in the report.

Pneumonia

- Pneumonia is a form of an **acute respiratory infection** that is most commonly caused by viruses or bacteria. Pneumonia can be **bacterial, viral or mycoplasmic**. Vaccines can help prevent pneumonia.
- Recently, India's first fully indigenously developed vaccine against pneumonia, **Pneumococcal Polysaccharide Conjugate Vaccine**, was approved by the Drug Controller General of India

Plasmodium Ovale Malaria

- A not very common type of malaria, Plasmodium ovale, has been identified in a jawan in Kerala. **P ovale is very similar to P vivax**, which is not a killer form. P ovale is no more dangerous than getting a viral infection.
- It is termed ovale as about 20% of the parasitised cells are oval in shape. P ovale malaria is **endemic to tropical Western Africa**. It has also been detected in the Philippines, Indonesia and Papua New Guinea, but is still relatively rare in these areas.
- **Malaria:** It is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable.
- There are **five kinds of malarial parasites** — Plasmodium falciparum, Plasmodium vivax (the commonest ones), Plasmodium malariae, Plasmodium ovale and Plasmodium knowlesi.

Measles

- WHO and US Centres for Disease Control and Prevention recently released a report, titled 'Progress Towards Regional Measles Elimination Worldwide 2000-2019.'
- **Measles** is a highly contagious disease **caused by a virus**. The virus infects the respiratory tract, then spreads throughout the body. After getting infected by measles, people gain immunity for the rest of their life from it. Measles is a human disease and is **not known to occur in animals**.
- Measles can be prevented by a highly-effective **measles-containing-vaccine (MCV)** given in two doses MCV1 and MCV2.

Shigella Infection

- Six cases of shigella infection and nearly two dozen suspected cases were detected in Kerala.
- Shigellosis, or shigella infection, is a **contagious intestinal infection** caused by a genus of **bacteria known as shigella**. The bacteria is one of the prime pathogens responsible for causing diarrhea, especially in children in African and South Asian regions.
- The bacteria, after entering the body through ingestion, attacks the epithelial lining of the colon resulting in inflammation of the cells and subsequently the destruction of the cells in severe cases.
- The infection is known to **spread person-to-person** when the bacteria is swallowed accidentally. Spread through contaminated food and water is the most common form of transmission across the world.

Guillain Barre Syndrome (GBS).

- In a rare complication, some patients infected with Covid-19 have been found suffering from (GBS).
- GBS is a very rare **autoimmune disorder**. The syndrome can **affect the nerves that control muscle movement** as well as those that transmit pain, temperature and touch sensations.
- GBS is **caused by bacteria or viral infection**. It may also be triggered by vaccine administration or surgery.
- The immune system, in an attempt to kill the coronavirus, accidentally starts attacking the peripheral nervous system.
- The most commonly used treatment for GBS is **intravenous immunoglobulin (IVIG) and plasma therapy**.

Cord Blood Banking

- Community Cord Blood Banking, a stem cell banking initiative introduced by LifeCell in 2017, has helped save the life of a seven-year-old girl who was suffering from aplastic anaemia.
- Cord blood banking is the **process of collecting the cord blood and extracting and cryogenically freezing its stem cells** and other cells of the immune system for potential future medical use.
- Cord blood (short for umbilical cord blood) is the **blood that remains in the umbilical cord and placenta post-delivery**. This makes cord blood at the time of delivery a rich source of stem cells and other cells of the immune system. It contains special cells called **hematopoietic stem cells** that can be used to treat some types of diseases.
- The purpose of Community Cord Blood Banking is to ensure easy and rapid access to stem cells for every Indian without the hurdles of public and private banking models.

Neutralising Antibodies

- A new study in Pune has revealed that nearly 85% of the people who had been found infected with novel coronavirus in a serosurvey had developed neutralising antibodies.
- Neutralising antibodies, like other antibodies, are nothing but proteins that are **created to fight the disease**. These are a small subset of the disease-specific antibodies that are generated once an infection has occurred.
- The neutralising antibodies are important because they have the **ability to thwart the entry of the same virus inside human bodies in the future**. The other antibodies help in fighting off the virus once the infection has already happened.

Global Prevention Coalition (GPC) for HIV Prevention

- The Union Minister for Health and Family Welfare digitally addressed the Ministerial meeting of the GPC for HIV Prevention. It was **hosted by UNAIDS and the United Nations Population Fund (UNFPA)** on behalf of GPC.
- In 2017, GPC was established to strengthen and sustain political commitment for primary prevention by setting a common agenda among key policy-makers, funders and programme implementers.
- The membership of GPC includes the **25 highest HIV burden countries**, UNAIDS Cosponsors, donors, and civil society and private sector organizations.

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- Member States of GPC had agreed to **reduce new adult HIV infections by 75% at the end of 2020 from 2010 levels.**

90-90-90 Strategy

- It is an ambitious treatment target to help end the AIDS epidemic.
- **Target: By 2020**
 - 90% of all people living with HIV will know their HIV status.
 - 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.
 - 90% of all people receiving antiretroviral therapy will have viral suppression.
- India is committed to achieve the 90-90-90 targets across the country by the end of the current year and also end the AIDS epidemic as a public health threat by 2030.

Havana Syndrome

- A report by the National Academies of Sciences (NAS) has found "**directed microwave radiation to be the plausible cause of neurological illness**", referred to as "Havana syndrome".
- Havana syndrome is a set of medical signs and symptoms experienced by United States and Canadian embassy staff in Cuba in late 2016.
- The symptoms included nausea, severe headaches, dizziness, sleep problems, and hearing loss.

Aquifer Mapping Program

- The Central Ground Water Board (CGWB), Ministry of Jal Shakti has signed a Memorandum of Understanding (MoU) with the CSIR-NGRI, Hyderabad for use of advanced heliborne geophysical survey under the Aquifer Mapping Programme.
- **National Aquifer Mapping and Management Programme (NAQUIM):** The programme was initiated as a part of the Ground Water Management and Regulation scheme to delineate and characterize the aquifers to develop plans for ground water management. One of the major objectives of NAQUIM is to promote participatory groundwater management.
- **Aquifer mapping** can be defined as a scientific process, wherein a combination of geologic, geophysical, hydrologic and chemical field and laboratory analyses are applied to characterize the quantity, quality and sustainability of groundwater in aquifers

National Recruitment Agency (NRA)

- The Union Cabinet approved creation of a National Recruitment Agency to conduct an **online Common Eligibility Test (CET)** for selecting candidates for majority of central government jobs.
- The NRA will be a **society registered under the Societies Registration Act, 1860.**
- **Composition:** The chairman of the NRA will be of the rank of Secretary to the Government of India. The agency will also have representatives from Staff Selection Commission (SSC), the Railway Recruitment Boards (RRBs) and by the Institute of Banking Personnel Selection (IBPS).
- NRA will **conduct a Common Eligibility Test (CET) for all non-gazetted posts**, including Group B and C (non-technical) jobs. The NRA will conduct a separate CET each for the three levels of graduate, higher secondary and the matriculate candidates for those non-technical posts to which recruitment is currently carried out by SSC, IBPS and RRB.

- The NRA will set up examination centers in every district of the country.

2019 Global Health Estimates

- The **World Health Organization** recently released the 2019 Global Health Estimates.
- According to the report, Non-communicable diseases now form 7 of the world's top 10 causes of death.
- Alzheimer's disease and other forms of dementia are now among the top 10 causes of death worldwide. Deaths from diabetes increased by 70 % globally between 2000 and 2019.
- There has been a global decline in deaths from communicable diseases but it still remains a major challenge in low- and middle-income countries.

Human Rights Day

- Human Rights Day is observed every year on 10 December. On this day, in 1948 the United Nations General Assembly adopted the **Universal Declaration of Human Rights (UDHR)**.
- This year's Human Rights Day theme is "Recover Better - Stand Up for Human Rights".

Replacement Level Fertility Rate

- The Centre told the SC that India is close to achieving a replacement level of fertility rate of 2.1 by 2025, through various voluntary birth control measures.
- **Replacement level fertility** is the level of fertility at which a **population exactly replaces itself from one generation to the next**. This rate is roughly 2.1 children per woman for most countries, although it may vary with mortality rates (death rates).
- In developed countries, replacement level fertility rate can be taken as an average of 2.1 children per woman. In countries with high infant and child mortality rates, however, the average number of births may need to be much higher.

Cannabis

- The UN Commission on Narcotic Drugs (CND) recently voted to remove cannabis and cannabis resin from the list of most dangerous substances in the flagship international Convention on narcotic drugs.
- According to the WHO, cannabis is a generic **term used to denote the several psychoactive preparations** of the plant Cannabis sativa. The major psychoactive constituent in cannabis is **Delta-9 tetrahydrocannabinol (THC)**.
- Most species of cannabis are **dioecious plants** that can be identified as either male or female. The unpollinated female plants are called hashish. **Cannabis oil** (hashish oil) is a concentrate of cannabinoids — compounds which are structurally similar to THC — obtained by solvent extraction of the crude plant material or of the resin.

National Family Health Survey (NFHS)

- The **Ministry of Health and Family Welfare** (MoHFW) recently released the results from the 1st phase of the National Family Health Survey (NFHS).

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- **The neonatal mortality rate (NMR)** which is deaths in the first four weeks of life, dropped in 15 states and UTs in comparison to NFHS-4.
- **Infant mortality rate (IMR)**, which accounts for deaths before the completion of one year, and the under-five mortality rate (UMR) fell in 18 states and UTs.
- **Stunting** refers to the percentage of children who have low height for their age. 13 States and UTs recorded a rise in the percentage of children under five years who are stunted in comparison to NFHS-4 (in 2015-16).
- **Child wasting** refers to children having low weight for their height. 12 States and UTs recorded a rise in the percentage of children under five years who are wasted in comparison to NFHS-4.

National Family Health Survey (NFHS)

- NFHS is a large-scale nationwide survey of representative households, in which the data is collected over multiple rounds. The MoHFW has designated **International Institute for Population Sciences** in Mumbai as the nodal agency and the survey is a collaborative effort of IIPS; ORC Macro, Maryland (US); and the East-West Center, Hawaii (US).
- The survey is **funded by the United States Agency for International Development (USAID)** with supplementary support from UNICEF

ECONOMY

India Ideas Summit

- The India Ideas Summit was held virtually by the **U.S. Chamber of Commerce**.
- The Summit was hosted by the **US-India Business Council (USIBC)**.
- India Ideas Summit has become an institution, convening leaders in business, government and society from across the United States and India.
- The theme for this year's India Ideas Summit is '**Building a Better Future**'.
- USIBC, **formed in 1975**, represents top global companies operating across the United States and India.
- USIBC serves as the **premier voice of industry**, to enlighten and encourage the private sectors of both India and the United States to enhance investment flows.

Geographical Indication (GI) Tags

The following products have received GI tags recently

- **Thanjavur Netti Works (pith works)**: It is made from Netti (pith) from a marshy plant called as Aeschynomene Aspera. The Netti Works are widely found in the Brihadeeswara Temple, Hindu Idols, Garlands, door hangings and decorative pieces in Tamil Nadu
- **Tamil Nadu's Arambavur Wood Carvings**: It primarily made out of the wooden logs of, Mango, Lingam tree, Indian Ash tree, Rosewood, Neem tree are used for making sculptures. Unique feature of the craft is that the entire design carved out of a single block of wood given that a single error could damage the entire piece.
- **Manipur black rice**: Popularly known as Chak-Hao, a scented glutinous rice which has been in cultivation in Manipur over centuries, is characterised by its special aroma. It is normally eaten during community feasts and is also served as Chakhao kheer. Chak-Hao has also been used by traditional medical practitioners as part of traditional medicine.
- **Jharkhand's Sohrai Khovar painting**: It is a traditional and ritualistic mural art being practised by local tribal women during local harvest and marriage seasons using local, naturally available soils of different colours in the area of Hazaribagh district of Jharkhand. The style features a profusion of lines, dots, animal figures and plants, often representing religious iconography.
- **Telangana's Telia Rumal**: It involves intricate handmade work with cotton loom displaying a variety of designs and motifs in three particular colours — red, black and white. Telia Rumals were worn as a veil by princesses at the erstwhile court of the Nizam of Hyderabad; and as a turban cloth by Arabs in the Middle East. Telia Rumal can only be created using the traditional handloom process and not by any other mechanical means as otherwise, the very quality of the Rumal would be lost.
- **Gorakhpur terracotta**: It is a centuries-old traditional art form, where the potters make various animal figures like, horses, elephants, camel, goat, ox, etc. with hand-applied ornamentation. The entire work is done with bare hands and artisans use natural colour. Some of the major products of craftsmanship

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include the Hauda elephants, Mahawatdar horse, deer, camel, five-faced Ganesha, single-faced Ganesha, elephant table, chandeliers, hanging bells etc.

- **Kashmir Saffron:** Kashmir saffron is cultivated and harvested in the **Karewa (highlands)** of Jammu and Kashmir. It is the only saffron in the world grown at an **altitude of 1,600 m to 1,800 m AMSL (above mean sea level)**. The unique characteristics of Kashmir saffron are its longer and thicker stigmas, natural deep-red colour, high aroma, bitter flavour, chemical-free processing, and high quantity of crocin (colouring strength), safranal (flavour) and picrocrocin (bitterness). **Iran** is the largest producer of saffron and India is a close competitor.
- **Kadalai Mittai:** Kovilpatti kadalai mittai is a candy made of peanuts held together with glistening syrup, and topped with wisps of grated coconut dyed pink, green and yellow. It is made using all natural ingredients such as the traditional and special 'vellam' (jaggery) and groundnuts and water from the river Thamirabarani is used in the production, which enhances the taste naturally.

Cooperative Banks Under RBI Supervision

- The President has promulgated the **Banking Regulation (Amendment) Ordinance, 2020**, to bring **all urban cooperative banks and multi-state cooperative banks under the supervision of RBI**.
- Currently, these banks come under **dual regulation of the RBI and the Registrar of Co-operative Societies**, resulting in **regulatory and supervisory lapses**. Also, RBI till now has no powers to draw up an enforceable scheme of reconstruction of a co-operative bank.
- The Ordinance has empowered RBI to **supersede the Board of Cooperative Banks for up to five years**.
- It also **allows a cooperative bank to issue equity shares, preference shares, or special shares** on face value or at a premium to its members or to any other person residing within its area of operation. Also, cooperative banks can **issue unsecured debentures or bonds or similar securities with maturity of ten or more years** to such persons. Such issuance will be subject to prior approval of RBI.
- The amendments do not affect existing powers of the State Registrars of Co-operative Societies under state co-operative laws. The amendments also **do not apply to Primary Agricultural Credit Societies (PACS)** or cooperative societies whose primary object and principal business is long-term finance for agricultural development.

Real Time Market (RTM) for Electricity

- The Ministry of Power and New & Renewable Energy has launched a **pan-India Real Time Market in electricity**. RTM is an organized market platform to **enable the buyers and sellers pan-India to meet their energy requirement closer to real time of operation**.
- It enables consumers, including distribution companies (discoms) and captive users, to buy power on exchanges **just an hour before delivery**. So far, the shortest period of trading in electricity in the country has taken place a day ahead of the market.
- RTM would be for every 30 minutes in a day based on double-sided closed auction with uniform price. The concept of "Gate Closure" has been introduced for bringing in the desired firmness in schedules during the hours of market operation. Buyers/sellers shall have the option of placing buy/sell bids for each 15-minute time block.
- National Load Despatch Centre-POSOCO is facilitating necessary automation in coordination with power exchanges.

FASTag

- The Ministry of Road Transport and Highways has decided to ensure capturing of FASTag details while registering or issuing fitness certificate to vehicles all over the country.
- FASTags are **prepaid rechargeable tags for toll collection** that allow automatic payment deduction from the FASTag, they are normally affixed on the windscreen of your vehicle.
- The device employs **Radio Frequency Identification (RFID) technology** for payments directly from the prepaid or savings account linked to it.
- **FASTags do not have any expiry date**, that is, they can be used as long as they are readable at the toll plaza and are not tampered.

ASEEM Portal

- **Ministry of Skill Development and Entrepreneurship (MSDE)** launched 'Aatamanirbhar Skilled Employee Employer Mapping (ASEEM)' portal to help skilled people find sustainable livelihood opportunities.
- ASEEM will provide employers a **platform to assess the availability of skilled workforce** and formulate their hiring plans. It shall help in providing real-time data analytics to NSDC and its Sector Skill Councils about the demand and supply patterns including - industry requirements, skill gap analysis etc.
- It is developed and managed by **National Skill Development Corporation (NSDC)** in collaboration with Bengaluru-based company Betterplace, specialising in blue collar employee management.

Digital India AatmaNirbhar Bharat Innovate Challenge

- **Ministry of Electronics and Information Technology**, along with the **Atal Innovation Mission**, are launching the 'Atmanirbhar Bharat App Innovation Challenge'.
- The move came after the **Central government banned 59 Chinese apps**.
- It is to identify the best Indian Apps that are already being used by citizens and have the potential to scale and become world class Apps in their respective categories.
- The challenge will run in two tracks, which are **promotion of existing apps and the development of new apps**.

Agriculture Infrastructure Fund

- The Union Cabinet has given its approval to a new pan India **Central Sector Scheme-Agriculture Infrastructure Fund**.
- The scheme shall provide a **medium - long term debt financing facility** for investment in viable projects for **post-harvest management Infrastructure and community farming assets** through interest subvention and financial support.
- Under the scheme, **Rs. One Lakh Crore** will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Self Help Group (SHG) etc.
- All loans under this financing facility will have **interest subvention of 3% per annum up to a limit of Rs. 2 crore** for a **maximum period of seven years**. Further, credit guarantee coverage will be

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available under **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)** scheme for a loan up to Rs. 2 crore.

- The fund will be managed and monitored through an online **Management Information System (MIS) platform**.

Rights Issues

- Reliance Industries Limited recently concluded its rights issue, raising a total of Rs 53,124 crore.
- A rights issues is a **mechanism by which companies can raise additional capital from existing shareholders**. The shareholders have the right to subscribe the shares in proportion to their existing holdings, in a pre-defined time period.
- Also, a rights issue is a more democratic approach to raising funds as it allows the existing shareholders the right to invest first in the company. The new shares are generally issued at a discounted price than the prevailing rate in the market.

Statistics Day

- Statistics Day of India is being celebrated on June 29, 2020 on the birth anniversary of Prof. P C Mahalanobis.
- **Theme** : "SDG- 3 (Ensure healthy lives and promote well-being for all at all ages) & SDG- 5 (Achieve gender equality and empower all women and girls)".
- Prasanta Chandra Mahalanobis (1893 –1972), a world-renowned statistician whose invaluable contributions led to the establishment of the National Statistical System in India. He is also **called the father of Indian Statistics**.
- He was one of the members of first Planning commission of free India. The Mahalanobis model, was employed in the Second Five Year Plan, which worked towards the rapid industrialization of India.

Indian Gas Exchange (IGX)

- **Ministry of Petroleum and Natural Gas** has launched the Indian Gas Exchange (IGX), which is the **first nationwide online delivery-based gas trading platform**.
- IGX has been incorporated as a **wholly owned subsidiary of the Indian Energy Exchange (IEX)**, which is India's energy market platform.
- The exchange will allow buyers and sellers of natural gas to trade both in spot market and forward market for imported natural gas across three hubs —Dahej and Hazira in Gujarat, and Kakinada in Andhra Pradesh.

Periodic Labour Force Survey (PLFS)

- According to the latest Periodic Labour Force Survey (PLFS), released by Ministry of Statistics and Programme Implementation, India's unemployment rate has improved from the 45-year high of 6.1% in 2017-18 to 5.8% in 2018-19.
- PLFS is India's first computer-based survey which gives estimates of key employment and unemployment indicators like the *labour force participation rate, worker population ratio, proportion unemployed and unemployment rate in rural households annually* and on a **quarterly basis for the urban households**.

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- **Labour Force Participation Rate** is the percentage of people in the labour force (those who are working or seeking or available for work) in the population while the **Worker Population Ratio** is the percentage of employed people. The unemployment rate shows the percentage of people unemployed among the labour force.

Liberalised Remittance Scheme (LRS)

- In April 2020, Indians remitted just \$499.14 million under the Liberalised Remittance Scheme (LRS) — a 61% decline from \$1,287.91 million in the same month last year.
- LRS of the Reserve Bank of India (RBI) allows resident individuals, including minors, to remit a certain amount of money during a financial year to another country for investment and expenditure. The Scheme is **not available to corporates, partnership firms, Hindu Undivided Family (HUF), Trusts etc.**
- Resident individuals may remit up to **\$250,000 per financial year**. This money can be used to pay expenses related to travelling, medical treatment, studying, gifts and donations etc
- Apart from this, the remitted amount **can also be invested in shares, debt instruments**, and be used to buy immovable properties in overseas market.
- Individuals can also open, maintain and hold foreign currency accounts with banks outside India for carrying out transactions permitted under the scheme.

GI Tag for Basmati

- The All India Rice Exporters' Association (AIREA) has appealed to the government to protect the integrity of Basmati rice, after Madhya Pradesh (MP) has put pressure on the central government for seeking Geographical Indication (GI) tag for Basmati produced in 13 districts of MP.
- In 2010, Agricultural and Processed Food Products Export Development Authority (APEDA), got the **GI tag for Basmati rice for the region located in Indo-Gangetic Plains (IGP) below the foothills of the Himalayas** spread across seven states — J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Western UP (26 districts) and Delhi.
- According to APEDA, the origin and reputation of Basmati rice as a 'long grain, aromatic rice' from the IGP is found in tradition, folklore, scientific and culinary literature and political and historical records. It has been **grown in this region from time immemorial**.
- **MP started cultivation of varieties of Basmati rice only around the middle of the first decade of this century.** The state claims that this rice possesses the same characteristics and qualities as that of the rice grown in the IGP.

Curbs On Public Procurement

- The Government of India **amended the General Financial Rules 2017** to enable imposition of restrictions on bidders from countries which share a land border with India **on grounds of national security**.
- Bidders from these countries will be eligible only if they are registered with the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). They will also be required to take mandatory political and security clearance from the Ministries of External and Home Affairs, respectively.

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- The order takes into its ambit public sector banks and financial institutions, autonomous bodies, Central Public Sector Enterprises (CPSEs) and public private partnership projects receiving financial support from the government or its undertakings. It **does not apply to procurement by the private sector.**
- The central government has invoked the provisions of **Article 257(1)** of the Constitution to direct state governments to implement this order for all public procurement.
- **Exceptions:** Relaxation will be provided for the procurement of medical supplies for containment of COVID-19 till December 31. Also, the order for prior registration will not apply for countries to which the Indian government extends lines of credit or provides development assistance, even if it shares a land border with India. These are Bangladesh, Nepal, and Myanmar.

General Financial Rules are a compilation of rules and orders of Government of India to be followed by all, while dealing with matters involving public finances i.e. matters relating to revenue and expenditure of government. These rules and orders are treated as executive instructions. They were first introduced in 1947 and modified thereafter in 1963, 2005 and 2017.

Zoram Mega Food Park Scheme

The Ministry of Food Processing Industries recently operationalised the Zoram Mega Food Park (MFP), which is the **first MFP in the state of Mizoram**.

Mega Food Park Scheme

- It aims at providing a mechanism to **link agricultural production to the market** by bringing together farmers, processors and retailers. By doing so it aims to **maximize value addition, minimize wastage, increase farmer's income and create employment opportunities** particularly in rural sector.
- The scheme is based on "**Cluster**" approach and envisages creation of **state of art support infrastructure** in a well-defined agri/horticultural zone for setting up of modern food processing units.
- Under the MFP Scheme, the **Union government provides financial assistance upto Rs. 50 crore per MFP project**. It is implemented by a **Special Purpose Vehicle (SPV)** which is a Body Corporate registered under the Companies Act.
- **Presently, 18 MFP Projects are under implementation** in various states and 19 Mega Food Parks have already become functional. 6 of them are in the North eastern region.

Automotive Solutions Portal for Industry, Research and Education (ASPIRE)

- A technology platform for the automotive industry called ASPIRE has been made live in its initial version. It is a part of a mission by **Department of Heavy Industry** (DHI), to promote innovation, R&D and product development in India for various sectors.
- The key objective of this portal is to facilitate **Indian Automotive Industry to become self reliant by assisting in innovation and adoption of global technological advancements** by bringing together the stakeholders from various associated avenues.
- **The International Centre for Automotive Technology (ICAT)** is developing the ASPIRE technology platform.
- ICAT was established in 2006, as a leading world class automotive testing, certification and R&D service provider under the aegis of **NATRIP** (National Automotive Testing and R&D Infrastructure

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Project). NATRIP is a fully Government of India funded project which aims at creating core global competencies in automotive sector in India by facilitating seamless integration of Indian automotive industry with the world.

Financial Stability Report

The RBI has released its FSR, a **biannual publication**, that reflects the collective assessment of the sub-committee of the Financial Stability and Development Council (FSDC) on risks to financial stability and the resilience of the financial system.

Highlights Of The Report

- **Increase In NPA:** The gross nonperforming assets (GNPA) ratio of all scheduled commercial banks (SCBs) may increase from 8.5 per cent in March 2020 to 12.5 per cent by March 2021.
- **The capital to risk-weighted assets ratio (CRAR)** of Scheduled Commercial Banks edged down to 14.8% in March, from 15% in September 2019. This ratio could slide to down to 13.3% in March 2021 under the baseline scenario and to 11.8% under very severe stress scenario.
- **Bank credit**, which had considerably weakened during the first half of 2019-20, slid down further in the subsequent period with the moderation becoming broad-based across bank groups.
- **Total bilateral exposures** among entities in the financial system declined marginally during 2019-20; with the inter-bank market continuing to shrink and with better capitalisation of public sector banks (PSBs), there would be reduction in contagion losses to the banking system under various scenarios in relation to a year ago.

CRAR is the ratio of a bank's capital in relation to its risk-weighted assets and current liabilities. In other words, it measures how much capital does a bank have with it as a percentage of its total credit exposure.

Gramodyog Vikas Yojana

- **Ministry of Micro Small and Medium Enterprises (MSME)** approved a programme for the benefit of artisans involved in **manufacturing of Agarbatti** under 'Gramodyog Vikas Yojana'.
- Initially four Pilot Projects will be started, including one in North Eastern part of the country. Each targeted cluster of artisans will be supported with about 50 Automatic Agarbatti making machines and 10 Mixing machines.
- Two major decisions by Govt of India i) **placing the 'Agarbatti' item from "Free" trade to "Restricted" trade in the import policy** and ii) **enhancing the import duty from 10% to 25%** on 'round bamboo sticks' used for manufacturing of Agarbatti, will help to boost the indigenous production of 'Agarbatti'.
- Under this Mission, **Khadi and Village Industries Commission (KVIC)** will provide training, and assist artisans working in this area, with Agarbatti manufacturing machines.

Panel to Probe Alleged Violations by Rajiv Gandhi Foundation

- The Ministry of Home Affairs has ordered an inter-ministerial committee to investigate Rajiv Gandhi Foundation, Rajiv Gandhi Charitable Trust and Indira Gandhi Memorial Trust.

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- It has been alleged that the said foundation has violated various legal provisions of PMLA, I-T Act, FCRA etc. Also, the Indira Gandhi Memorial Trust is not a FCRA registered association. Despite this, it has been allegedly receiving donations including foreign donations.

Foreign Contribution and Regulation Act 2010 (FCRA)

- **FCRA** was enacted with the primary purpose of regulating the inflow of foreign contributions. It also ensures that the received foreign contributions are not utilized for illegal purposes. All charitable organizations in India receiving foreign contributions come under the purview of this Act.
- As defined in Section 3(1) of FCRA, 2010, the **following are prohibited to receive foreign contribution:**
 - A candidate for election;
 - Correspondent, columnist, cartoonist, owner, printer or publisher of a registered newspaper;
 - Judge, government servant or employee of any Corporation or any other body controlled or owned by the Government; Member of any legislature; Political party or office bearer thereof;
 - Organization of a political nature as may be specified under sub-section (1) of Section 5 by the Central Government.
 - Correspondent or columnist, cartoonist, editor, owner of the association or company referred to above point.

Currency Swap Pact with Central Bank of Sri Lanka

- The Reserve Bank of India has signed an agreement for **extending a \$400-million currency swap facility** to Sri Lanka. Sri Lanka's forex reserves were at \$ 6.7 billion in June 2020 (India's forex reserves were at a record high of \$ 517.63 billion as on 17th July 2020).
- This agreement, which is valid till November 13, 2022, has been signed under the **South Asian Association for Regional Cooperation (SAARC) Currency Swap Framework 2019-22.**

India Digitization Fund

- Internet giant Google launched the Google for India Digitization Fund with a commitment to invest **₹75,000 crore (approximately \$10 billion) over the next 5-7 years** towards digitizing the Indian economy.
- The fund will focus on enabling **affordable access to internet** and information for Indians in their own language, building new products and services relevant to India's unique needs, **empowering small and medium businesses in their digital transformation**, and leveraging technology and **artificial intelligence (AI) for social good**, including digital literacy, outbreak predictions, and support for rural economies.

World's Longest Subsea Power Cable

- Construction work has begun in **Lincolnshire** on the world's longest subsea power cable, which will run between **Britain and Denmark to share renewable energy** between the two countries. The 475-mile (765km) cable is a joint-venture between National Grid in the UK and Denmark's Energinet
- The UK has about 5GW of power cable capacity connecting Britain's electricity system to power generated in the Netherlands, France and the Republic of Ireland.

Arakunomics

- Rockefeller Foundation has selected Naandi Foundation, Hyderabad-based non-profit, as one of the 'Top 10 Visionaries' in the world for the Food Vision 2050 Prize.
- The award recognised the application of **Arakunomics model** in regions of Araku, Wardha and New Delhi. Naandi's vision titled "Arakunomics" was based on **work with tribal farmers in Araku for nearly 20 years**. It is a **new integrated economic model that ensures profits for farmers, quality for consumers through regenerative agriculture**.
- The economic model is a tribute to the tribal farmers of Araku region for **the world class coffee produced and launched in Paris in 2017**, as well as for the high carbon landscape transformation they did in over 955 villages, thereby planting 25 million trees.
- It follows an "**ABCDEFGH**" **framework** centering on: Agriculture, Biology, Compost, Decentralised decision-making, Entrepreneurs, Families, Global Markets, and 'Headstands', or turning current approaches on their head.

Emergency Credit Line Guarantee Scheme (ECLGS)

- Centre has expanded its credit guarantee scheme for MSMEs to cover loans given to larger firms, as well as to self-employed people and professionals who have taken loans for business purposes.
- ECLGS was rolled out in May as part of the Centre's Aatmanirbhar package in response to the COVID-19 crisis. It is a 100% collateral-free MSME loan, which is being **provided by the National Credit Guarantee Trustee Company (NCGTC) to banks, NBFCs and Financial Institutions (FIs)**.
- Eligible MSMEs had to have an annual turnover up to ₹100 crore, with outstanding loans of up to ₹25 crore as on February 29, 2020. The scheme has been expanded to cover enterprises with a turnover up to ₹250 crore, with outstanding loans up to ₹50 crore.
- Scheme is valid for existing customers of a bank, NBFC or FI.

'Sahakar Cooptube Channel'

- **Union Minister of Agriculture & Farmers' Welfare** launched the National Cooperative Development Corporation's YouTube channel, 'Sahakar Cooptube NCDC India', to encourage farmers and the youth to take benefit of cooperatives.
- The guidance videos in different languages covering 18 states would also strengthen and deepen the major initiatives of our government to promote and form 10,000 farmer-producer organisations (FPOs).

Andaman And Nicobar To Be Maritime And Startup Hub

- Prime Minister recently said that the Andaman and Nicobar islands region, owing to its strategic importance, was going to be developed as a "maritime and startup hub".
- 12 islands of the archipelago have been **selected for high-impact projects with an emphasis on boosting trade of sea-based, organic and coconut-based products of the region**.
- The proposed transhipment hub in the Andamans will help the group of islands become an important centre of blue economy and a maritime and startup hub.

Samadhan-se-vikas Scheme

- The scheme is launched by the **Haryana Government** and modelled on the Central Government's **Vivad se Vishwas scheme of the Ministry of Finance**.
- It aims for the **recovery of long-pending dues on account of External Development Charges (EDC) and Infrastructural Development Charges (IDC)**.

Related Concepts

- **Infrastructure Development Charges (IDC):** These charges are paid by the Real estate developers to the state government for development of major infrastructure projects like construction of transportation networks including highways, bridges etc.
- **External Development Charges:** These charges are paid by the real estate developer to civic authorities for maintenance of civic amenities within the periphery of the developed project.
- **Vivad se Vishwas Scheme:** It is a direct tax dispute resolution scheme of the Central government which aims for reducing income tax pending litigation, and help taxpayers end their tax disputes with the department by paying disputed tax and get waiver from payment of interest and penalty.

Development Of An Economic Corridor — The Satellite Town Ring Road (STRR) — Between Tamil Nadu And Karnataka

- The greenfield highway is part of **Bharatmala Pariyojna** and will be implemented by the National Highways Authority of India.
- Development of the proposed project road will boost the local agriculture and enable farmers to realise better value for their products as well as attract more investment to that region.

India Water Resources Information System (India-WRIS)

- It has been launched by the **Ministry of Jal Shakti (MoJS)** under the **National Hydrology Project in 2019**.
- It is a web portal that contains information related to Water Resources for rainfall, water levels & discharge of rivers, water bodies, ground water levels, reservoir storages, evapotranspiration and soil moisture among others.

Krishi Megh

- The Agriculture Ministry has launched a data recovery centre 'Krishi Megh' set up in Hyderabad.
- Krishi Megh has been set up under the National Agricultural Higher Education Project (NAHEP), funded by both the government and World Bank.
- It aims to protect the precious data of the government's premier research body the Indian Council of Agricultural Research (ICAR)
- Currently, the main data centre of the Indian Council of Agricultural Research (ICAR) is at the Indian Agricultural Statistics Research Institute (IASRI) in the national capital.
- The data recovery centre has been set up at **National Academy of Agricultural Research Management (NAARM), Hyderabad**.

Universal Eligibility Condition for World Bank Loan

- The World Bank has clarified that the \$1 billion loan provided to India, in May 2020, comes with a condition of universal eligibility in procurements.
- **Universal Eligibility Condition:** Under this condition, all preferential market access policies, including Public Procurement (Preference to Make in India) Order, Micro Small & Medium Enterprises (MSME) Policy, certain benefits to start-ups, **shall not be applicable on purchases made while implementing the national project.**
- In other words, the **local firms shall not enjoy concession benefits**. They will have to be treated equally just like other universal (or foreign) firm. Hence, it will be a **setback for initiatives like Make in India and Atma Nirbhar Bharat.**

GST Compensation Cess

- The Comptroller and Auditor General (CAG) has found that in first two years of the GST implementation, Union government had wrongly retained ₹47,272 crore of GST compensation cess.
- Under the GST (Compensation to States) Act, 2017, **states are guaranteed compensation for loss of revenue due to the implementation of GST** for a transition period of five years (2017-22). GST, being a **consumption-based tax**, would result in loss of revenue for manufacturing-heavy states.
 - Under this, States are guaranteed a 14 % tax revenue growth from Fiscal Year (FY) 2017 to FY 2022. FY 2016 was taken as the base year for the calculation of this.
- **A compensation cess** — ranging from 1-200% — is imposed on sin and luxury goods like cigarettes, pan masala and certain categories of automobiles, over and above the topmost slab of 28%.
- The collected compensation cess goes to the Consolidated Fund of India, and is then transferred to the Public Account of India, where a GST compensation cess account has been created. States are compensated bi-monthly from the accumulated funds in this account.

Vodafone Case & Retrospective taxation

The **Permanent Court of Arbitration (PCA)** has recently ruled in favour of Vodafone International in its dispute with the Indian government.

Vodafone Case

- In 2007, Vodafone acquired stake in Hutchison Essar for \$11.2 bn. This included the mobile telephony business and other assets of Hutchison in India. The Indian government had said that Vodafone was liable to pay taxes on the acquisition. Since the stake purchase transaction took place outside India between two overseas entities, Vodafone said that **it was not liable for any tax relating to the deal.**
- In 2012, the Supreme Court had ruled in favour of Vodafone but the **government amended Finance Act**, thereby giving Income Tax Department the power to **retrospectively tax such deals.**
- Vodafone served arbitration notices under the India-Netherlands Bilateral Investment Treaty. Vodafone invoked BIT as its Dutch unit, Vodafone International Holdings BV, which had bought the Indian business operations of Hutchinson.
- One of the major factors for the PCA to rule in favour of Vodafone was the violation of the BIT and the United Nations Commission on International Trade Law (UNCITRAL).

Retrospective Taxation

- Retrospective taxation allows a country to pass a rule on taxing certain products, items or services and deals and charge companies from a time **behind the date on which the law is passed**. Countries use this route to correct any anomalies in their taxation policies that have, in the past, allowed companies to take advantage of such loopholes.
- Apart from India, many countries including the US, the UK, the Netherlands, Canada, Belgium, Australia and Italy have retrospectively taxed companies, which had taken the benefit of loopholes in the previous law.

Permanent Court of Arbitration (PCA)

- It is an intergovernmental organization **located in The Hague, Netherlands**.
- It was established by the **Convention for the Pacific Settlement of International Disputes**, concluded at The Hague in 1899 during the first Hague Peace Conference.
- It is **not a court in the traditional sense**, but provides services of arbitral tribunal to resolve disputes that arise out of international agreements between member states, international organizations or private parties.
- The cases span a range of **legal issues involving territorial and maritime boundaries**, sovereignty, human rights, international investment, and international and regional trade.
- The organization is **not a United Nations agency**, but the PCA is an official United Nations Observer.

SAROD-Ports

- **The Ministry of Shipping** has recently launched 'SAROD-Ports' (Society for Affordable Redressal of Disputes - Ports) - a **dispute redressal mechanism** to facilitate affordable and timely resolution of disputes for the **maritime sector**.
- It is established under **Societies Registration Act, 1860** and consists members from **Indian Ports Association (IPA) and Indian Private Ports and Terminals Association (IPTTA)**.
- SAROD-Ports will advise and assist in settlement of disputes through arbitrations in the maritime sector, including ports and shipping sector in Major Port Trusts, Non-major Ports, including private ports, jetties, terminals and harbours. It is similar to the provision available in the highway sector in the form of **SAROD-Roads** constituted by the National Highways Authority of India (NHAI).

Consumer Price Index for Industrial Workers (CPI-IW)

- The Ministry of Labour and Employment Ministry has revised the **base year of the CPI-IW from 2001 to 2016**. The CPI-IW is used as a benchmark **for calculating dearness allowance for government employees, dearness relief for pensioners**. It is also used in the determination and revision of minimum wages in scheduled employments.
- The number of items directly retained in the index basket has **increased to 463 items over 392 items** in the old series. In the new series, the **Geometric mean based methodology (GM of Price Relatives) is used** for the compilation of indices as against Arithmetic mean used in 2001 series.
- Following the change, the index will give **39% weight to food and beverage consumption** of workers now as against 46.2% earlier. In contrast, **spending on housing will get almost 17%**

weight as against 15.2% earlier. The segment comprising spending on heads like education, health and transport by workers has given a sizable jump in weight from 23% earlier to 30% now.

Aatmanirbhar Bharat ARISE-Atal New India Challenges (ANIC)

- Atal Innovation Mission (AIM) recently launched the Aatmanirbhar Bharat ARISE-Atal New India Challenges (ANIC), to **spur applied research and innovation in Indian MSMEs and startups**.
- The programme will be driven by **Indian Space Research Organization (ISRO)**, four ministries—Ministry of Defence; Ministry of Food Processing Industries; Ministry of Health and Family Welfare; and Ministry of Housing and Urban Affairs—and associated industries.
- ARISE- ANIC will support deserving applied research-based innovations by providing funding **support of up to Rs 50 lakh for speedy development of the proposed technology solution and/or product**.
- One of the proposed objectives of the challenges is to provide a steady stream of innovative products and solutions where the central government and its various ministries or departments will potentially become the first buyers of the new product and technology.

Start-up Ranking 2019

- The **Department for Promotion of Industry and Internal Trade (DPIIT)** has released the States' Startup Ranking Framework 2019. The DPITT started conducting the ranking exercise in 2018, to push states to improve the start-up ecosystem in their respective states.
- The rankings are **based on the initiatives taken by States to develop the start-up ecosystem** for promoting innovation and entrepreneurship. The States' Startup Ranking Framework 2019 has 7 broad reform areas, consisting of 30 action points ranging from Institutional Support, Easing Compliances, Relaxation in Public Procurement norms, Incubation support, Seed Funding etc.
- To establish uniformity and ensure standardisation in the ranking process, States and UTs have been divided into two groups, 'X' and 'Y'. Group 'X' has all the states and Delhi, except north-eastern states and other UTs, and Group 'Y' has all north-eastern states except Assam, and all UTs except Delhi.
 - **In Group X, Gujarat has emerged as the best performer** in developing the start-up ecosystem and in **Group Y, Andaman and Nicobar Islands has emerged as the best performer**.

Suspicious Activity Reports (SARs)

- The US financial watchdog, **Financial Crimes Enforcement Network (FinCEN)** of the treasury department, has received 3,201 red flags—or suspicious activity reports (SARs)—**involving Indian entities for suspected money laundering, terrorism, drug dealing or financial fraud**.
- **SAR is a document that financial institutions, and those associated with their business, must file with the FinCEN whenever there is a suspected case of money laundering or fraud.**
- SARs are filed with FinCEN **within 30 days of the transaction's occurrence**: criminal funds or any form of dirty money; insider trading; money laundering; terror financing etc.
- Non-filing of SARs can invoke hefty penalties. A SAR is not an accusation, it is a way to alert regulators and law enforcement to possible irregular activity and crimes.

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- **The Financial Intelligence Unit-India (FIU-IND)** performs the same functions as FinCEN in the US. Under the Finance Ministry, this was set up in 2004 as the nodal agency for receiving, analyzing and disseminating information relating to suspect financial transactions.
 - It is mandatory for banks in India to furnish a monthly cash transaction reports (CTRs) to the FIU on all transactions over Rs 10 lakh or its equivalent in foreign currency or a series of integrally connected transactions that add up to more than Rs 10 lakh.

Fugitive Economic Offender (FEO)

- A court in Delhi has declared four directors of Gujarat-based pharma firm Sterling Biotech as fugitive economic offenders in a Rs 8,100-crore bank fraud case.
- An FEO is defined by **The Fugitive Economic Offenders (FEO) Act, 2018** as “any individual against whom a warrant for arrest in relation to a scheduled offence has been issued by any court in India, who (i) **has left India so as to avoid criminal prosecution**; or (ii) **being abroad, refuses to return to India to face criminal prosecution**”.
- The FEO Act aims to provide for measures to deter fugitive economic offenders from evading the process of law in India by staying outside the jurisdiction of Indian courts.

National Authority for Recycling of Ships

- Central Government has notified the Directorate General of Shipping as National Authority for Recycling of Ships under the section 3 of the Recycling of Ships Act, 2019.
- As an apex body, DG Shipping is authorized to administer, supervise and monitor all activities relating to Ship Recycling. National Authority of Ship Recycling will be set up in **Gandhinagar, Gujarat**.
- Under Ship Recycling Act, 2019, India has acceded to **Hong Kong Convention for Ship Recycling** under International Maritime Organization (IMO).

Hong Kong Convention for Ship Recycling

- IMO adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships in 2009.
- The guidelines are aimed at ensuring that ships, being recycled after reaching the end of their operational lives, do not pose any unnecessary risks to human health, safety and the environment.
- **DG Shipping is a representative of India in the IMO** and enforces the conventions.

Multi-modal Logistic Park (MMLP)

- **The Ministry for Road Transport and Highways** laid the foundation stone for **country's first Multi-Modal Logistic Park at Jogighopa in Assam**. It will provide direct air, road, rail and waterways connectivity to the people. It will be developed under the ambitious **Bharatmala Pariyojana** of the Government of India.
- The park will have **direct connectivity with National Highway 17**, the proposed Jogighopa waterway terminal on Brahmaputra, the newly constructed Rupsi and Guwahati airports as well as the main railway route.

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- **To be completed by 2023**, the park will reduce trade cost by 10%, have cargo capacity of 13 million metric tons (MMT) per year and act as a single platform for cargo, warehousing, custom clearance, parking and maintenance services.
- **Bharatmala Pariyojana**: It is a new umbrella program for the highways sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions like development of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement etc.

Global Wealth Report 2020

- The Global Wealth Report 2020 was recently published by the **Credit Suisse Research Institute**. The Credit Suisse Group is a **Switzerland-based multinational investment bank**.
- The report generally **tracks both the growth and distribution of wealth** – in terms of the numbers of millionaires and billionaires and the proportion of wealth that they hold. It also **tracks the status of inequality around the world**.
- The 2020 report has analyzed the household wealth of 5.2 billion people across the world. **Wealth is defined in terms of “net worth” of an individual**. This, is calculated by adding up the value of financial assets (such as money) and real assets (such as houses) and then subtracting any debts an individual may have.

Highlights From India

- Wealth per adult in India stood higher at USD 17,300 by end December 2019, from USD 14,569 in June 2019. **Household wealth in India is dominated by property and other real assets**, although financial assets have grown over time, now forming 22 per cent of overall assets.
- Despite the pandemic and lockdowns, the **average wealth of Indian adults rose marginally by \$120 to \$17,420** by end-June 2020, against \$17,300 in December 2019. **Financial assets of Indians in 2019 grew by 8.6%**, non-financial assets grew by 12.5% and debts grew by 14.4%. The country had 9,07,000 adults in the top 1 per cent of global wealth holders, which is a 1.8 per cent share.

IFSCA Introduces Framework For Regulatory Sandbox

- The International Financial Services Centres Authority (IFSCA) has introduced a framework for regulatory sandbox. The regulatory sandbox will operate within the IFSC located at GIFT City in Gandhinagar (Gujarat, India).
- Under this Sandbox framework, entities operating in the capital market, banking, insurance and financial services space shall be **granted certain facilities and flexibilities to experiment with innovative FinTech solutions** in a live environment.
- Entities that want to participate in the sandbox to showcase their innovative fintech solutions, concepts and business models will have to apply to IFSCA. IFSCA shall assess the applications and extend suitable regulatory relaxations to commence limited purpose testing in the sandbox.

IFSCA

- It is the first IFSC in the country with its **headquarters in Gandhinagar Gujarat**. It is a unified authority to regulate all financial services in International Financial Services Centres (IFSCs) in the country.

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- The main function of the authority is to **regulate financial products** such as securities, deposits or contracts of insurance, financial services, and financial institutions which have been previously approved by any appropriate regulator in an IFSC. As per the Act, the regulators include SEBI, RBI, IRDAI and the The Pension Fund Regulatory and Development Authority.

Expansion Of Jute Packaging

- The Cabinet Committee on Economic Affairs has approved that **100% of the food grains and 20% of the sugar shall be mandatorily packed in diversified jute bags**.
- Further, the decision also mandates that initially 10 per cent of the indents of jute bags for packing food grains would be placed through reverse auction on the GeM portal. This will gradually lead to a regime of price discovery.
- The Government has expanded the scope of mandatory packaging norms under the Jute Packaging Material (JPM) Act, 1987. Under the JPM Act, the government is required to consider and provide for the **compulsory use of jute packaging material in the supply and distribution of certain commodities** in the interest of production of raw jute and jute packaging material.

Asafoetida Or Heeng Cultivation

- Scientists at CSIR-Institute of Himalayan Bioresource, Palampur (IHBT), are on a mission to **grow heeng in the Indian Himalayas**.
- Ferula asafoetida is a herbaceous plant of the umbelliferae family. It is a perennial plant whose oleo gum resin is extracted from its thick roots and rhizome. The plant stores most of its nutrients inside its deep fleshy roots.
- **Asafoetida is endemic to Iran and Afghanistan**, the main global suppliers. It thrives in dry and cold desert conditions. The plant can withstand a maximum temperature between 35 and 40 degree, whereas during winters, it can survive in temperatures up to minus 4 degree. During extreme weather, the plant can get dormant. European countries too use it for its medicinal properties.
- **Heeng is not cultivated in India**. Government data states that India imports about 1,200 tonnes of raw heeng worth Rs 600 crore from Iran, Afghanistan and Uzbekistan.

Mobile Application For Geo Tagging

- A Mobile application for Geo tagging the components of projects under **Pradhan Mantri Krishi Sinchayee Yojana- Accelerated Irrigation Benefits Programme (PMKSY-AIBP)** has been launched.
- **Geo-tagging** is the process of ascertaining the geographical location of an image. It is the process of adding geographical identification like latitude and longitude to various media such as a photo or video.
- The application is developed with the help of Bhaskaracharya National Institute of Space Applications & Geo-informatics (BISAG-N). It can be used by monitoring authorities to capture the image of project components along with other details such as location, type of canal/ structure, completion status, etc

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

- PMKSY is a **centrally sponsored** scheme launched in 2015. Its motto is to “Har Khet Ko Paani”.
- PMKSY has been conceived amalgamating ongoing schemes viz.

- Accelerated Irrigation Benefit Programme (AIBP)
 - Integrated Watershed Management Programme (IWMP)
 - On Farm Water Management (OFWM)
- **Objectives:** Achieve convergence of investments in irrigation at the field level, Enhance the physical access of water, Improve on - farm water use efficiency to reduce wastage etc.

Production Linked Incentive (PLI) Schemes

- The Ministry of Chemicals and Fertilizers has **revised the Production Linked Incentive Schemes** for promoting domestic manufacturing of bulk drugs and medical devices.
- In the revised guidelines, the **minimum threshold investment requirement has been replaced by committed investment** taking into account availability of technology choices which varies from product to product. The change has been made to encourage efficient use of productive capital.

PLI scheme

- In order to reduce India's dependence on China, the government announced a scheme that aims to give companies **incentives on incremental sales** from products manufactured in domestic units.
- The scheme is **applicable for mobile and allied equipment as well as pharmaceutical ingredients and medical devices manufacturing**. As these sectors are labour-intensive, it is expected to cater to the growing employment demands of the country.

Draft Coastal Shipping Bill 2020

- The Ministry of Shipping issued draft 'Coastal Shipping Bill, 2020' for public consultation in lieu of part XIV of the **Merchant Shipping Act, 1958**.
- The definition of coastal shipping and coastal waters has been expanded. It is proposed to **do away with the requirement of trading licence** for Indian flag vessels for coastal trade.
- The Bill seeks to **create a competitive environment and reduce transportation costs**, while encouraging Indian vessels to increase their share in coastal shipping.
- The Bill also proposes integration of coastal maritime transport with inland waterways. There is a provision for National Coastal and Inland Shipping Strategic Plan.

Dam Rehabilitation and Improvement Project (DRIP)

- The Union Cabinet has approved Phase II and Phase III of DRIP to improve the safety and operational performance of 736 dams in 19 states. **In terms of large dams, India ranks third** globally after China and the United States of America, with 5334 large dams in operation.
- The project is focused on **reducing the risks of dam failure and ensuring safety** of people, riverine ecology and property located downstream of these selected dams.
- The overall cost of the project is Rs 10,211 crore and it will receive **financial assistance from the World Bank (WB), and Asian Infrastructure Investment Bank (AIIB)**.
- Four per cent of the total cost of the project will be spent for **building tourism-based activities**, including water tourism at the existing dams.

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- **DHARMA** (Dam Health and Rehabilitation Monitoring), a system to monitor the health of dams, has been developed and is, at present, being used by 18 states.
- **SHAISSYS** (Seismic Hazard Analysis Information System) has also been developed under the first Phase. Seismic hazard analysis involves estimation of ground shaking hazards at a particular area.

Dobra Chanti Bridge

- The Chief minister of Uttarakhand inaugurated the **country's longest single-lane motorable suspension bridge**, Dobra Chanti in Tehri Garhwal district. The 725-metre-long bridge will connect Pratap Nagar town with Tehri Garhwal district headquarters.
- **Built over Tehri Lake**, the bridge would ensure that around three lakh population of Tehri would not have to traverse a distance of 100 km to reach the district headquarters. This will cut the travel time from 5 to 1.5 hours.

Kasturi Cotton

- **The Ministry of Textiles** has launched **the 1st ever brand and logo for Indian Cotton** on 2nd World Cotton Day.
- Now India's premium Cotton would be known as 'Kasturi Cotton' in the world cotton Trade. The Kasturi Cotton brand will represent whiteness, brightness, softness, purity, uniqueness and Indianness.
- **India is the 2nd largest cotton producer** and the largest consumer of cotton in the world.

World Fisheries Day

- The Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, recently celebrated the 'World Fisheries Day' on 21st November 2020.
- **India is the second major producer of fish through aquaculture** in the world. India contributes about **7.7% to the global fish production** and country ranks 4th in global exports of fish products.
- The fisheries sector has contributed about 1.24% to the national Gross Value Added (GVA) and about 7.28% of the agricultural GVA in 2018-19.

Gujarat Maritime Cluster (GMC)

- The Gujarat Maritime Cluster (GMC) will soon be set up at **GIFT City in Gandhinagar**.
- A maritime cluster is a **collection of firms, institutions, and businesses in the maritime sector** that are geographically located close to each other.
- This cluster will initially consist of Gujarat-based shipping lines, freight forwarders, shipping agents, bunker suppliers, stevedores, and ship brokers with chartering requirements.
- In the second stage, the cluster would attempt to bring Indian ship owners, ship operators, Indian charterers and technical consultants scattered in cities like Mumbai, Chennai, and Delhi to Gujarat.
- An **Alternate Dispute Resolution (ADR) Centre** will be set up under the aegis of the Gujarat Maritime University, which will come up at the maritime cluster. Such a centre does not currently exist in India.

Viability Gap Funding Scheme(VGF)

- The Cabinet Committee on Economic Affairs has approved continuation and **revamping of the VGF scheme, till 2024-25**, with a total outlay of ₹8,100 crore.
- The revamped scheme will provide **financial support to PPP projects in the infrastructure sector**. The earlier VGF scheme was limited to projects concerning economic infrastructure.
- The revamped VGF scheme will attract more PPP projects and facilitate private investment in the social sectors (health, education, waste water, solid waste management and water supply, among others). The new scheme will have two components.
 - **The sub-scheme-1** would cater to social sectors. The projects eligible under the sub-scheme-1 should have at least **100 per cent operational cost recovery**.
 - **The sub scheme-2** will support demonstration or pilot social sectors projects. The projects may be from health and education sectors where there is **at least 50% operational cost recovery**.
- The Department of Economic Affairs, introduced "the Scheme for Financial Support to PPPs in Infrastructure" (Viability Gap Funding Scheme) in 2006 with a view to support infrastructure projects undertaken through PPP mode.
- **Viability Gap Funding** means a grant to support projects that are **economically justified but not financially viable**.

Draft Model Act on Land Titling

- The Niti Aayog has released a draft model Act for States for regulation on conclusive land titling. Land Titling is the procedure followed for **providing Title over any type of immovable property**.
- The model Act and rules will provide state governments the power for establishment, administration and management of a system of title registration of immovable properties. The State Governments shall constitute the '**[Name of the State] Land Authority**'.
- The Land Authority will be a **body corporate and will have the power to acquire, hold and dispose a property**.
- A party aggrieved with an order of the land dispute resolution officer may file an appeal before the **Land Titling Appellate Tribunal** within 30 days of passing of such an order.

Composition of the Land Authority

- The Land Authority shall consist of a **Chairperson, the Commissioner Land Titling, and three other members**, to be appointed by the government.
- The **chairperson** will be: A serving or retired officer of the Indian Administrative Service not below the rank of Chief Secretary or Special Chief Secretary or Principal Secretary to the Government or A non-government expert from the fields such as law, land administration, registration, survey & settlement, and management of land records.
- The chairperson shall **hold office for not more than 3 three years** and shall be eligible for reappointment only once.

World Energy Outlook (WEO) 2020

The International Energy Agency (IEA) recently released the World Energy Outlook (WEO) 2020. It is widely recognised as the most authoritative source for global energy projections and analysis.

Highlights

- Under the **Stated Policies Scenario (STEPS)**, Covid-19 will be brought under control in 2021 and energy demand will rebound to its pre-crisis level in 2023. Under the **Delayed Recovery Scenario (DRS)**, the global economy would return to its pre-crisis size only in 2023 and the energy demand will not rebound until 2025.
- Energy demand was **projected to grow by 12 per cent between 2019 and 2030** before the pandemic struck. However, the growth over this period will now decline to 9% under the STEPS, and to four per cent in the DRS.
- Due to the ongoing impacts of Covid-19, the IEA expects global energy demand to fall by 5% in 2020, with oil and coal consumption falling 8% and 7%, respectively.
- Under STEPS, renewable sources will meet around 80% of the growth in electricity demand over the next 10 years.

International Energy Agency

- The IEA is a **Paris-based autonomous intergovernmental organization** established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.
- IEA consists of **30 member countries**, 8 association countries, and 2 accession countries. A **candidate country to IEA must be a member country of the OECD**.
- It acts as a policy adviser to its member states, but also works with non-member countries, especially China, India, and Russia. **India has joined** the IEA as an **associate member** in 2017.
- Reports published by IEA:** World Energy Outlook, World Energy Investment Report, The Future of Rail Report, Global Energy & CO2 Status Report, World Energy Statistics

World Economic Outlook 2020 report

- The International Monetary Fund (IMF)** recently released its World Economic Outlook 2020 report titled A Long and Difficult Ascent. It presents an analysis of global economic developments during the near and medium term.
- As per the report, **global growth would contract by 4.4 per cent this year**. It expects the global recovery at an uneven pace, with the advanced world now expected to contract less.

Highlights from India

- The Indian economy**, severely hit by the coronavirus pandemic, **is projected to contract by a massive 10.3 per cent this year**. India is expected to rebound in 2021 with 8.8 percent growth – an upgrade of 2.8 percentage points relative to the June update.
- The current account balance** is projected to grow by 0.3% this year and -0.9% (i.e., a contraction) next year. The report attributed this to lower oil prices and weak domestic demand.
- India's per capita GDP** is expected to fall to \$1,877 in 2020 from \$2100 in 2019 a decline of 10.3 per cent. However, per capita GDP of Bangladesh is projected to rise from \$1820 in 2019 to \$1890 in 2020, a rise of 4 per cent.
- The last time Bangladesh's per capita GDP was more than India's per capita GDP was in the year 1991. At that point, India was undergoing a severe crisis and its GDP grew just above 1%.

- The IMF is an international organization, **headquartered in Washington, D.C.**, consisting of 189 countries. Formed in 1944 at the **Bretton Woods Conference**, it came into formal existence in 1945 with 29 member countries.
- The IMF's primary purpose is to **ensure the stability of the international monetary system**—the system of exchange rates and international payments that enables countries and their citizens to transact with each other. The Fund's mandate was updated in 2012 to include all macroeconomic and financial sector issues that have an impact on global stability.
- It thus aims to encourage global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty.

Anti-trust laws

- **The US Department of Justice (DOJ)** has filed an anti-trust lawsuit against Google. As per the DOJ, Google has unlawfully maintained a monopoly in internet search, that harms competitors and consumers.
- Antitrust laws, also referred to as **competition laws**, are laws developed by governments to **protect consumers from unjust business practices** and to ensure fair competition.
- Antitrust laws are applied to a wide range of questionable business activities, including market allocation, bid rigging, price fixing, and monopolies. The goal of these laws is to provide an equal business environment to similar businesses that operate in a specific industry, while preventing them from gaining too much power over their competition.
- **The Competition Act, 2002** is India's antitrust law. It repealed and replaced the Monopolies and Restrictive Trade Practices Act, 1969 (MRTP Act).

New Development Bank (NDB)

- NDB has approved funds worth USD 741 million for infrastructure projects in India. The projects include **Delhi-Ghaziabad-Meerut Regional Rapid Transit System Project and Mumbai Metro Rail II Project**.
- Also referred to as the **BRICS Development Bank**, it is a multilateral development bank established by the BRICS states. At the fourth BRICS Summit in New Delhi (2012), the participating leaders considered the possibility of setting up a new Development Bank.
- It was during the **sixth BRICS Summit in Fortaleza (2014)** that the leaders signed the **Agreement establishing the New Development Bank (NDB)**.
- HQ- **Shanghai**, China. The **first regional office of the NDB is in Johannesburg**, South Africa
- The Agreement on the NDB specifies that **every member will have one vote no one would have any veto powers**.

Asian Development Bank (ADB)

- ADB and India have signed a \$270 million loan to improve service delivery in the state of Madhya Pradesh.

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- ADB (founded in 1966) is an international development finance institution whose mission is to help its developing member countries reduce poverty and improve the quality of life of their people.
- **Headquartered in Manila**, and established in 1966, ADB is owned and financed by its 67 members, of which 48 are from the region and 19 are from other parts of the globe. The two **largest shareholders** of the ADB are the **United States and Japan**.
- ADB is an official United Nations Observer.
- **Voting rights in ADB are distributed** in proportion with members' capital subscriptions.

Global Innovation Index(GII)

- The Global Innovation Index was recently released. The top-performing economies in GII, 2020, are still from the high-income group. **Switzerland continues to be the most innovative nation** in the world, followed by Sweden, US, UK and Netherlands.
- **From Asia, Korea became the second country** to move into the top 10, pushing Israel down by one rank to the 11th position. Singapore maintained its 8th rank.
- **India has moved ahead by four positions** from the last year and is **ranked at the 48th position**. India improved the most in **three pillars**: Institutions (61st), business sophistication (55th), and creative outputs (64th).
 - Three clusters - Bengaluru, Delhi and Mumbai - feature in the top 100 science & technology hotspots.
- China at the 14th position is the only middle-income country in the GII top 30.

About Global Innovation Index (GII)

- GII, 2020 was released by the **World Intellectual Property Organization (WIPO), Cornell University and INSEAD Business School**.
- Launched in 2007, the index, presents the **latest global innovation trends and annual innovation ranking** of various economies.
- GII 2020 **includes 131 countries/economies**, which represent 93.5% of the world's population and 97.4% of the world's GDP.
- GII is computed by taking an average of the scores in **two sub-indices**:
 1. **The Innovation Input Sub-Index** considers elements of the national economy that enable innovative activities.
 2. **The Innovation Output Sub-Index** provides information about outputs that are the result of the innovative activities of economies.

State Business Reform Action Plan (BRAP)

- The Union government recently released the State Business Reform Action Plan 2019 (BRAP) ranking. It shows how **various Indian states have performed in improving Ease of Doing Business** in their respective states.
- It is an annual exercise **conducted by the Department for Promotion of Industry and Internal Trade (DPIIT) in collaboration with the World Bank**.

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- Andhra Pradesh for the third time in a row has topped the rankings. Registering an improvement of 10 places in the rankings, Uttar Pradesh occupied the second position in 2019 as against 12th in 2018.
- Lakshadweep, Delhi and UP saw the highest improvement in their rankings. Odisha, Sikkim and Tripura remained the three states with the worst performance on the list.
- The Business Reform Action Plan 2018-19 includes **180 reform points covering 12 business regulatory areas** such as Access to Information, Single Window System, Labour, Environment, etc.
- State rankings will help attract investments, **foster healthy competition and increase Ease of Doing Business in each State.**

One Product One District Programme

- The Union Government is also planning to launch the ‘one product one district programme’. Under this programme, every district in the country will be focusing on the production of special products in the district.
- The government has already identified 24 products jointly with the private sector to increase manufacturing.
- It is expected that this programme will add at least ₹20 lakh crore worth of manufacturing output in India in the next five years.

Department for Promotion of Industry and Internal Trade (DPIIT)

- DPITT is a central government department under the **Ministry of Commerce and Industry**.
- It is responsible for formulation and implementation of promotional and developmental measures for growth of the industrial sector.

Revised Priority Sector Lending Guidelines.

- Reserve Bank of India (RBI) has released the revised priority sector lending guidelines.
- **Fresh categories eligible for finance under the priority sector:** Bank finance for start-ups (up to ₹50 crore), loans to farmers for installation of solar power plants for solarisation of grid connected agriculture pumps and loans for setting up Compressed Bio Gas (CBG) plants.
- Higher weightage has been assigned to incremental priority sector credit in ‘identified districts’ where priority sector credit flow is comparatively low.
- **Loan limits for renewable energy have been doubled** and for improvement of health infrastructure, credit limit for health infrastructure (including those under ‘Ayushman Bharat’) has been doubled.

Priority Sector Lending

- As per priority sector lending norms, commercial banks, including foreign banks, are required to give 40 % of their loans to certain specified sectors.
- Similarly, Regional Rural Banks and Small Finance Banks have to allocate 75 % of their loans for priority sector lending.
- While the rate of interest on PSL varies from sector to sector, it’s considered cheaper and more accessible when compared to normal loans.
- The rate of interest on loans is decided as per the directives issued from time to time by the Department of Banking Regulation of the RBI.

Zero Coupon Bonds (ZCBS)

- Recently, the government has used a financial innovation to recapitalise Punjab & Sind Bank by issuing the bank Rs 5,500-crore worth of non-interest bearing bonds. The bonds are being referred to as special types of zero coupon bonds issued by the government.
- A coupon is a periodic interest received by a bondholder from the time of issuance of the bond till the maturity of the bond.
- Zero coupon bonds, also known as discount bonds, **do not pay any interest to the bondholders**. Instead, the holders get a large discount on the face value of the bond.

Municipal Bonds

- The Vadodara Municipal Corporation (VMC) is expected to launch municipal bonds soon. **Ahmedabad was the first city in south Asia to launch a municipal bond** in 1998.
- A municipal bond is a kind of **debt instrument where investors give loans to local Urban Local Bodies (ULBs)**. It helps to raise funds from the stock market. Bidding takes place on an electronic trading platform after the bond is listed on the exchange.
- Municipal bonds are **issued by civic bodies for specific projects** and usually have a **10-year tenure**. The ULB pays the annual interest on the bonds to the investor at the decided rate. The face value (cost) of each instrument slot (piece) of a municipal bond is a **minimum of Rs 10 lakh**.

Foreign Direct Investment (FDI) in Defence Sector

- The Central government has increased the FDI limit in the defence sector **from 49 % to 74 % under automatic route** and beyond 74 % through the government route.
- However, foreign investments in the defence sector would be subject to scrutiny on the grounds of national security and the government reserves the right to review any foreign investment in the sector that affects or may affect national security.
- The national security clause is in addition to the existing conditions specific to FDI in the defence manufacturing sector, including security clearance and some guidelines of the Ministry of Defence.

Revised DTH Guidelines

- The Union Cabinet has approved **100% Foreign Direct Investment (FDI) in direct-to-home (DTH) service**. So far the FDI was limited to 49%.
- The licences will now be issued for 20 years with a renewal provision after every 10 years. At present, DTH licences are issued for 10 years.
- The licence fee has also been lowered from 10 per cent of gross revenue to 8 per cent.

Green National Highway Corridors

- The World Bank and the Indian government recently signed a pact for a \$500-million project to build safe and green national highway corridors.
- The \$500-million loan from the International Bank for Reconstruction and Development (IBRD) has a maturity of 18.5 years including a grace period of five years.

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- The highway corridors will be developed in Rajasthan, Himachal Pradesh, Uttar Pradesh and Andhra Pradesh.

The Aircraft (Amendment) Bill, 2020

- The Aircraft (Amendment) Bill, 2020 which was introduced to amend the Aircraft Act, 1934 has been passed in the Parliament. The Act regulates the manufacture, possession, use, operation, sale, import and export of civil aircrafts, and licensing of aerodromes.
- **Authorities:** The Bill converts three existing bodies under the Ministry of Civil Aviation into statutory bodies under the Act. These three authorities are: (i) the Directorate General of Civil Aviation (DGCA), (ii) the Bureau of Civil Aviation Security (BCAS), and (iii) the Aircraft Accidents Investigation Bureau (AAIB).
- **Power Of Centre To Make Rules:** Under the Act, the central government may make rules registration of aircraft, regulating air transport services, and prohibition of flight over any specified area. The Bill adds the regulation of air navigation services to this list.
- **Adjudicating officers:** The Bill provides for the appointment of designated officers, not below the rank of Deputy Secretary to adjudicate penalties under the Bill.

Infrastructure Investment Trusts (InvIT)

- The National Highways Authority of India (NHAI) is preparing to launch its Infrastructure Investment Trust (InvIT) issue.
- Infrastructure investment trusts are **institutions similar to mutual funds**. Its objective is to **facilitate investment into the infrastructure** sector in India.
- InvITs collect investment from various categories of investors and invest them into completed and revenue-generating infrastructure projects. It thus enables investment of money from individual and institutional investors in infrastructure projects to earn a small portion of the income as return.
- InvITs are **regulated by Securities and Exchange Board of India (SEBI)**. SEBI had notified the **SEBI (Infrastructure Investment Trusts) Regulations, 2014** for registration and regulation of InvITs.

The Farmers Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020 (FPTC)

- Farmers in various parts of the country have been protesting against three ordinances promulgated by the Centre. The bills are: The Farmers' Produce Trade And Commerce (Promotion And Facilitation) Bill; The Farmers Agreement on Price Assurance and Farm Services Bill; and The Essential Commodities (Amendment) Bill.
- Their concerns are mainly about sections relating to “**trade area**”, “**trader**”, “**dispute resolution**” and “**market fee**” in the FPTC bill.
- The FPTC defines a ‘**trade area**’ as any area or location that does not include the physical boundaries of market yards managed and run by the market committees formed under each state APMC Act.
- FPTC defines a “**trader**” as a person who buys farmers' produce through inter-State trade or intra-State trade or a combination of both. Thus, it includes processor, exporter, wholesaler, miller, retailer etc
- FPTC states that **no market fee or cess or levy** (applicable under any State APMC Act or any other State law) shall be levied on any farmer or trader for trade in a ‘trade area’.

- In case of a dispute arising out of a transaction between the farmer and a trader, the parties may seek a mutually acceptable solution through conciliation by filing an application to the Sub-Divisional Magistrate.

CAROTAR 2020

- The **Customs (Administration of Rules of Origin under Trade Agreements) Rules 2020**, notified on August 21, recently came into force from September 21.
- CAROTAR 2020 specify **detail disclosures to be made by importers to claim concessional duty benefits** under trade pacts such as Free Trade Agreements (FTAs).
- In order to claim a preferential rate of duty the importer will have to make a detailed declaration in the bill of entry that the **imported goods originate from an FTA country** and qualify for preferential treatment.
- The importer will also be required to possess all the relevant information related to the country of origin criteria – such as the manufacturing process, regional value content etc
- The importer is required to **maintain all supporting documents for at least five years** from the date of filing of the bill of entry.

Hybrid Renewable Energy Park

- The Prime Minister recently laid the foundation stone for a 30,000 MW (megawatt) hybrid renewable energy park close to the **Indo-Pak border in Kutch district**.
- One of the largest of its kind in the world the energy park will come up on more than 70,000 hectares area, which is equal to the size of countries like Bahrain and Singapore and will be bigger than the biggest metro cities in India.

E-20 Fuel

- The Ministry of Road Transport and Highways has published a draft notification inviting public comments for introducing adoption of **E20 fuel to promote green fuel like ethanol**.
- Adoption of E20 fuel means **blending of 20% of ethanol with gasoline** as an automotive fuel. The **current permissible level of blending is 10%** of ethanol though India reached only 5.6% of blending in 2019.
- **Benefits:** Help in **reducing emissions of carbon dioxide**, hydrocarbons, etc.; help **reduce the oil import bill**; help **reduce Rs 8 lakh crore crude import dependence**.

Ethanol: It is a biofuel and a common by-product of biomass left by agricultural feedstock such as corn, sugarcane, hemp, potato, etc.

Biofuel: Also known as green fuel, is a type of fuel distilled from plants and animal materials, believed to be more environmentally friendly than the widely-used fossil fuels. The two most common types of biofuel are **bioethanol and biodiesel**.

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Petroleum and Natural Gas Regulatory Board (PNGRB)

- **PNGRB** has notified a **unified tariff structure for 14 natural gas pipelines**. The move is aligned with the government's emphasis on boosting the consumption of natural gas in the country.
- PNGRB is a **statutory body** constituted under the Petroleum and Natural Gas Regulatory Board Act, 2006. PNGRB was established to protect the interests of consumers and entities involved in activities relating to petroleum, petroleum products and natural gas.
- Its primary functions include **regulation of refining, transportation, distribution**, storage, marketing, supply and sale of petroleum products and natural gas. It has the power to monitor prices and take corrective measures.

Dedicated Freight Corridor

- The Prime Minister recently inaugurated the 351-km 'New Bhaupur- New Khurja section' in Uttar Pradesh of the Eastern Dedicated Freight Corridor (EDFC).
- The Dedicated Freight Corridor consists of two arms - Eastern Dedicated Freight Corridor (EDFC) and Western Dedicated Freight Corridor (WDFC).
- EDFC starts in Punjab and ends at in West Bengal. It passes through Haryana, Uttar Pradesh, Bihar and Jharkhand. WDFC is from Uttar Pradesh to Mumbai, touching all major ports along the way. It passes through the states of Haryana, Rajasthan, Gujarat and Maharashtra.
- **The World Bank is funding** majority of the EDFC and the WDFC is being funded by the **Japan International Cooperation Agency**. The DFC is being constructed by the **Dedicated Freight Corridor Corporation of India Limited (DFCCIL)**.

Recognition of Prior Learning (RPL) Program

- Ministry of Skill Development and Entrepreneurship (MSDE) recently conducted a special Recognition of Prior Learning (RPL) program for workers.
- The programme is implemented under **SANKALP Programme of MSDE** and supported by **World Bank**.
- RPL recognizes the value of learning acquired outside a formal setting and provides a government certificate for an individual's skills. It aims to align the competencies of the pre-existing workforce of the country to the standardized framework.

SANKALP Programme

- SANKALP is an outcome-oriented centrally sponsored programme of MSDE. It focuses on the overall skilling ecosystem covering both Central & State agencies.
- It aims to implement the mandate of the National Skill Development Mission (NSDM) by identifying **four key result areas:** (i) Institutional Strengthening (ii) Quality Assurance of skill development programs (iii) Inclusion of marginalised population in skill development (iv) Expanding skills through Public Private Partnerships.

RTGS and NEFT Payment Systems

- RBI has allowed round the clock (24x7) transfer of funds through Real-Time Gross Settlement (RTGS).

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- **RTGS** : It is a payment system in which the **money is transferred to the beneficiary's account in realtime and on a gross basis**. Real Time means the processing of instructions takes place at the same time, when they are received. Gross Settlement means that the settlement of fund transfer instructions occurs individually. RTGS is meant for large-value instantaneous fund transfers. The minimum amount to be transferred through RTGS is Rs 2 lakh, with no maximum transfer limit.
- National Electronic Funds Transfer (NEFT): It is a nation-wide centralised payment system owned and operated by the RBI. The NEFT system is **available round the clock throughout the year on all days** and it operates in batches of half-hourly intervals throughout the day. Thus, **fund transfers through the NEFT system do not occur in realtime basis** and the fund transfer is settled in half-hourly batches.
- **NEFT fund transfer** starts from Re. 1 and there is no maximum limit imposed by the RBI for funds transfer through NEFT.

Technical Textiles

- Ministry of Textiles has invited proposals for constitution of a dedicated Export Promotion Council (EPC) for Technical Textiles.
- Technical textiles are textile **materials and products manufactured primarily for technical performance and functional properties** rather than aesthetic characteristics.
- **Divided into 12 broad categories:** Agrotech, Buildtech, Clothtech, Geotech, Hometech, Indutech, Mobiltech, Meditech, Protech, Sportstech, Oekotech, Packtech depending upon their application areas.
- **Applications:** agriculture, roads, railway tracks, sportswear, health on one end to bullet proof jackets, fire proof jackets, high altitude combat gear and space applications on other end of spectrum.

Unified Payments Interface (UPI)

- The National Payments Corporation of India (NPCI) has given its approval to WhatsApp to 'go live' on the Unified Payments Interface (UPI) in the multi-bank model.
- UPI is **an instant real-time payment system** developed by National Payments Corporation of India, facilitating inter-bank transactions.
- The interface **is regulated by the Reserve Bank of India** and works by instantly transferring funds between two bank accounts on a mobile platform.
- The UPI interface **allows multiple bank accounts to be added** into a single mobile application.

Technical Recession

- India's economy contracted by 7.5% in the July-September quarter following a record contraction of 23.9% in the previous quarter. With the contraction in two successive quarters, **India has entered into a technical recession** for the first time in the history.
- A technical recession is a term used to describe **two consecutive quarters of decline in output**. In the case of a nation's economy, the term usually refers to back-to-back contractions in real GDP.
- **Difference between a 'technical recession' and a 'recession'**: While the former term is mainly used to capture the trend in GDP, the latter expression encompasses a more broad-based decline in

Participatory Notes

- Investments through participatory notes (P-notes) in the domestic capital market rose to Rs 63,288 crore.
- P-notes are issued by registered foreign portfolio investors (FPIs) to overseas investors who wish to be part of the Indian stock market without registering themselves directly.
- **These instruments are used for making investments in the stock markets. Since, they are used** outside India for making investments in shares listed in the Indian stock market, they are also called offshore derivative instruments. Thus, P-Notes are Offshore Derivative Investments (ODIs) with equity shares or debt securities as underlying assets.
- Participatory notes are issued by brokers and FPIs **registered with SEBI**.

Pradhan Mantri Kisan Sampada Yojana (PMKSY)

- The Inter-Ministerial Approval Committee (IMAC) held a meeting to consider the proposals received under the Scheme for Creation of Infrastructure for Agro-Processing Cluster (APC), which was approved in 2017 under the PMKSY
- **Implementation:** PMKSY is implemented by the **Ministry of Food Processing Industries**.
- **Objective** of PMKSY is to supplement agriculture, modernize processing and decrease agriwaste.
- **Schemes Under PMKSY:** Mega Food Parks, Integrated Cold Chain, Creation/Expansion of Food Processing/Preservation Capacities, Infrastructure for Agro Processing Clusters etc.
- The implementation of PMKSY will result in creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet.

National Strategy For Financial Inclusion

- **The RBI recently released the National Strategy for Financial Education** document for spreading of financial education in the country in which it came out with a '**5-Core Actions**' approach for promoting **financial education**. The five Core actions, outlined by the strategy paper, are: **Content, Capacity, Community, Communication and Collaboration**.
- The NSFE intends to empower various sections of the population to develop adequate knowledge, skills, attitudes and behaviour which are needed to **manage their money better and to plan for the future**.
- This NSFE for the period 2020-2025, the second one after the 2013-18 NSFE, has been prepared by the National Centre for Financial Education (NCFE) in consultation with all the Financial Sector Regulators (RBI, SEBI, IRDAI and PFRDA) and other stakeholders.
- The **Technical Group on Financial Inclusion and Financial Literacy (TGFIFL)** would be responsible for periodic monitoring and implementation of National Strategy for Financial Education.

- The Government has signed a loan agreement of USD 500 million dollars with AIIB for Mumbai Urban Transport Project-III.
- AIIB is a multilateral development bank with a **mission to improve social and economic outcomes in Asia. Headquartered in Beijing**, it began operations in January 2016 and have now grown to 102 approved members worldwide.
- Fourteen of the G-20 nations are AIIB members including France, Germany, Italy and the United Kingdom.
- **India is the second-largest shareholder in AIIB**, contributing USD 8.4 billion. China is the largest shareholder with voting shares of 26.61 % followed by India (7.6%).

INTERNATIONAL AFFAIRS

WHO Foundation

- World Health Organization announced the creation of a foundation that will support the organization's efforts to address the most pressing global health challenges by raising **new funding from "non-traditional sources"**.
- Headquartered in **Geneva** and **legally independent from the WHO**.
- **Function:** It will **facilitate contributions from the general public, individual major donors and corporate partners** to WHO and trusted partners to deliver on high-impact programmes.
- Foundation will support global public health needs by providing funds to WHO and trusted implementing partners to **deliver on the Organization's "triple billion" goals**. These goals aim to:
 - Protect 1 billion people from health emergencies;
 - Extend universal health coverage to 1 billion people;
 - Assure healthy lives and wellbeing to 1 billion people by 2023.

Mission SAGAR

- India launched Mission Sagar as part of the **government's outreach initiative towards five Island nations in the Indian Ocean** amidst the ongoing COVID-19 pandemic.
- As part of Mission, **Indian Naval Ship Kesari** has departed for five Island Nations - **Maldives, Mauritius, Seychelles, Madagascar and Comoros**. India will provide food items, COVID related Medicines including HCQ Tablets and Special Ayurvedic Medicines with Medical Assistance Teams to these nations.
- The deployment is in consonance with the Prime Ministers' vision of **Security and Growth for All in the Region 'SAGAR'** promulgated in March 2015.

Spratly and Paracel Islands Disputes

Recently, China unilaterally renamed 80 islands and other geographical features around the **Spratly and Paracel Islands (in South China Sea)**, drawing criticism from neighboring countries.

Spratly Islands dispute

- There has been an ongoing territorial dispute between **China, Taiwan, Vietnam, the Philippines, and Malaysia concerning the ownership of the Spratly Islands** archipelago and nearby geographical features like corals reefs, cays etc. in the South China Sea.
- Since 1968, these nations have engaged in varying kinds of **military occupation of the islands and the surrounding waters**, with the exception of Brunei, that has contained its objections to the use of its maritime waters for commercial fishing.



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- Although the Spratly Islands are largely uninhabited, there is a possibility that they may have **large reserves of untapped natural resources** including Oil.

Paracel Islands dispute

- The Paracel Islands archipelago is a collection of 130 islands and coral reefs and **is located in the South China Sea, almost equidistant from China and Vietnam.**
- Beijing says that references to the Paracel Islands as a part of China sovereign territory can be found in 14th century writings from the Song Dynasty. Vietnam on the other hand, says that historical texts from at least the 15th century show that the islands were a part of its territory.
- Since 2012, China, Taiwan and Vietnam have attempted to reinforce their claims on the territory by engaging in construction of government administrative buildings, tourism, land reclamation initiatives and by establishing and expanding military presence on the archipelago.

World Health Organization (WHO)

- President Joe Biden has announced that US is joining WHO, reversing the decision of his predecessor Donald Trump. US has been a party to WHO Constitution since June 1948.
- Why US Decided To Pull Out:** As per US, China has total control over WHO. It also accused the WHO of siding with China on the outbreak of the virus, which originated in the Chinese city of Wuhan. WHO has failed to initiate reforms which is need of the hour.
- The US is the single largest contributor to the WHO**, providing over USD 450 million per annum. China's contribution to the global health body is about USD 40 million.

About WHO

- WHO is a **specialized agency of the United Nations** responsible for international public health. It was established On 7 April 1948, which is commemorated as **World Health Day**.
- It is **headquartered in Geneva**, Switzerland.
- World Health Assembly (WHA)** composed of representatives from all 194 member states, serves as the agency's **supreme decision-making body**. The main functions of the Assembly, are to determine WHO policies, appoint the Director-General, approve the programme budget etc
- Its flagship publication, the **World Health Report**, provides expert assessments of global health topics and health statistics on all nations.
- Funding:** Voluntary donations from member states (such as the US) contribute 35.41%, assessed contributions are 15.66%, philanthropic organisations account for 9.33%, UN organisations contribute about 8.1%; the rest comes from myriad sources. The US contributes almost 15% of the WHO's total funding and almost 31% of the member states' donations, the largest chunk in both cases. **India contributes 1% of member states' donations.**
- India became a party to the WHO Constitution on January, 1948.

Japan Renames Area Containing Senkaku Islands

- The Ishigaki Municipal Assembly (A local council in southern Japan) has passed a bill to change the name of an administrative area covering the disputed uninhabited island chain to **Tonoshiro Senkaku from Tonoshiro**.



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- The Senkakus island chain, which China calls **Diaoyus**, has been **administered by Japan since 1972**, but its legal status has remained disputed until now.
- The Senkaku Islands are located in the **East China Sea**. The sovereignty on this island is claimed by **Japan, the People's Republic of China, and the Republic of China (Taiwan)**.

Constitution of Nepal (Second Amendment) Bill 2077

- Nepal's Lower House has unanimously passed the Constitution of Nepal (Second Amendment) Bill 2077 (Vikram era).
- The bill contains proposal to a new map of the country that **includes Indian areas of Kalapani, Limpiyadhura and Lipulekh**.
- India has stated that the artificial enlargement of claims is not based on historical fact or evidence and is not tenable.
- It is also violative of current understanding to hold talks on outstanding boundary issues.

Shwe Project In Myanmar

- ONGC Videsh Ltd (OVL) will be investing an additional \$121.27 million towards further development of **Shwe oil & gas project in Myanmar**.
- OVL has been associated with exploration and development of Shwe gas project in Myanmar since 2002. The first gas from Shwe Project was received in July 2013 and plateau production was reached in December 2014.

Uyghur Human Rights Policy Act of 2020

- US President Donald Trump has signed the Uyghur Human Rights Policy Act of 2020.
- The Act require various United States government bodies to **report on the treatment of Uyghurs in Xinjiang, China**, including internment in the Xinjiang re-education camps.
- It calls for sanctions against those responsible for **repression of Uyghurs and other Muslim groups in China's Xinjiang province**, where the United Nations estimates that more than a million Muslims have been detained in camps.
- The Bill also calls on U.S. firms operating in Xinjiang region to **ensure their products do not include parts using forced labour**.
- It represents the most significant action to date by any country to punish China.

China Passes Hong Kong Security Law

- China has formally adopted a controversial security law, giving it **new powers over Hong Kong**.
- It is set to **criminalize secession, subversion and collusion with foreign forces**, but will also effectively curtail protests and freedom of speech.
- The new security law has been added to Hong Kong's Basic Law, the 50-year mini-constitution agreed when the territory's **sovereignty was returned to China by the UK in 1997**.
- Its terms are not yet clear. I.e. residents still do not know the measures they will have to abide by.

- Pakistan will allow Afghanistan to send goods to India using the Wagah border from July 15. The decision is a part of Islamabad's commitment under **APTTA**.
- APTTA is a bilateral trade agreement **signed in 2010** by Pakistan and Afghanistan that calls for greater facilitation in the movement of goods amongst the two countries.
- The 2010 APTTA allows for both countries to **use each other's airports, railways, roads, and ports for transit trade** along designated transit corridors.
- The 2010 agreement supersedes the 1965 Afghanistan Transit Trade Agreement, which granted Afghanistan the right to import duty-free goods through Pakistani seaports.

Chabahar Project

- **Iran drops India from Chabahar rail project citing delays** from the Indian side in funding and starting the project. The development comes as China finalizes a massive 25-year, \$400 billion strategic partnership deal with Iran, which could cloud India's plans.
- The railway project to **construct a rail line from Chabahar port to Zahedan**, was being discussed between the Iranian Railways and the Indian Railways Construction Ltd (IRCON), was meant to be part of India's commitment to the **trilateral agreement between India, Iran and Afghanistan to build an alternate trade route to Afghanistan and Central Asia**.
- The project not only gives India an alternative route to Afghanistan, bypassing Pakistan, but also has the potential to provide an **Indian strategic counter to Pakistan's Gwadar port being developed by China** right next door to Chabahar.
- The **Chabahar Port is located on the Gulf of Oman**. It is the only oceanic port of Iran.

Visiting Forces Agreement (VFA)

- The government of the Philippines has suspended its plan to abrogate the bilateral Visiting Forces Agreement with the United States.
- Visiting Forces Agreement (VFA) **allows the entry of large numbers of American forces for joint combat training with Filipino troops** and lays down the legal terms for their temporary stay. It VFA plays a fundamental role in normal military activities within the confines of the alliance.
- Also, without a VFA, the implementation of the 2014 Enhanced Defense Cooperation Act, or EDCA, would be impossible.

Kohala Hydropower Project

- China will set up a 1,124-megawatt **Kohala Hydropower project in Pakistan-occupied Kashmir**. This project will be executed under the **China-Pakistan Economic Corridor (CPEC)** framework.
- The project will be **built on the Jhelum River** and aims at annually providing more than five billion units of clean and low-cost electricity for consumers in Pakistan.
- **India has opposed this project** on the grounds that the entire territory of the Union Territories of Jammu and Kashmir and Ladakh are integral and inalienable parts of India.

India Clears 'RELOS' Deal with Russia

- The Indian government has cleared the signing of '**RELOS' (Reciprocal Exchange Of Logistics) agreement with Russia**. This means Indian ships or aircraft can now use Russian ports or airfields without having to take permission or make immediate payments.
- So far, India has signed four military logistics support agreements with partner countries:
 - Logistics Exchange Memorandum of Agreement (**LEMOA**) with the **United States** in 2016.
 - Implementing Arrangement Concerning Mutual Coordination, Logistics and Services Support with **Singapore** in 2018.
 - Agreement for the Provision of Reciprocal Logistics Support between the Armed Forces with **France** in 2018.
 - Agreement to Extend Logistical Support to each other's navies with **Republic of Korea** in 2019.

India Elected to UNSC's Non-Permanent Member Seat

- India has been elected to the UN Security Council (UNSC) as **non-permanent member** with 184 of the 192 votes. It has been elected for a **two-year term** starting January 1, 2021.
- Along with India, **Ireland, Mexico and Norway** obtained the requisite two-thirds majority in the General Assembly. The fifth African seat remained vacant and will go into second round with Kenya and Djibouti fighting it out.
- The UNSC has **five permanent members – China, France, Russia, the United Kingdom, and the United States**. Ten non-permanent members are elected by the General Assembly for a term of two years. To get elected, a country has to secure 2/3rd of the votes casted.
- **India was the endorsed candidate of the Asia-Pacific Group** of UN member countries and faced no competition. The last time India was elected to the UNSC was in 2010 (tenure started from 2011).

China To Join UN Arms Trade Treaty

- The People's Republic of China has decided to join the UN Arms Trade Treaty. The treaty is a global pact to **regulate arms sales in the world**.
- The UN General Assembly adopted Arms Trade Treaty in 2013 and entered into force on December 2014. This is the first-ever global treaty to establish international norms aiming to **prevent conventional weapons** from being used for **war crimes and human rights abuses**, or being diverted for illegal use by criminals.
- The world's largest arms traders including the **United States, China and Russia** have not joined the treaty. Now China has decided to join the treaty.
- **India is not a member** of this treaty.

Open Sky Agreement

- Recently **UAE showed interest to have an open sky agreement with India**.
- There are about 1,068 flights a week between India and the UAE operated by the airlines of the two countries under the **bilateral Air Service Agreement**.

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- The **National Civil Aviation Policy, 2016**, allows the government to enter into an 'open sky' air services agreement on a reciprocal basis with **SAARC nations as well as countries beyond a 5,000 kilometre radius from New Delhi**. UAE wants India to revisit this policy.
- Open Sky Agreement allow airlines to **operate unlimited number of flights between the two countries**. India has already signed open sky agreements with *Japan, US, Greece, Jamaica, Guyana, Czech Republic, Finland, Spain and Sri Lanka*.

Expat Quota Bill

- Kuwait's National Assembly has approved the draft expat quota bill, according to which **Indians should not exceed 15% of the population**.
- Of the 4.3 million population of Kuwait, expats account for 3 million. The Indian community constitutes the largest expat community in Kuwait, totaling 1.45 million.
- Kuwait is a top source of remittances for India. In 2018, India received nearly USD 4.8 billion from Kuwait as remittances.

Natanz Nuclear Facility

- A fire at **Iran's underground Natanz nuclear facility** has caused significant damage that could slow the development of advanced centrifuges used to enrich uranium.
- Natanz, also known as the **Pilot Fuel Enrichment Plant**, is among the sites now **monitored by the International Atomic Energy Agency** after Iran's 2015 nuclear deal with world powers.
- Natanz includes underground facilities buried under 7.6 m of concrete, which offers protection from airstrikes.

About IAEA

- Widely known as the world's "**Atoms for Peace and Development**" organization **within the United Nations family**, the IAEA is the international centre for cooperation in the nuclear field.
- Headquartered at **Vienna**, IAEA was established as an autonomous organisation on 29 July 1957.
- Though established independently of the United Nations through its own international treaty, the IAEA Statute, the IAEA reports to both the United Nations General Assembly and Security Council.

Naval Liaison Officers at Madagascar and Abu Dhabi

- India is planning to post Navy Liaison Officers at the Regional Maritime Information Fusion Centre (**RMIFC**) in Madagascar and also at the European Maritime Awareness in the Strait of Hormuz (**EMASOH**) in Abu Dhabi.
- **RMIFC**: Based in Madagascar, it functions under the aegis of the **Indian Ocean Commission**. It aims to deepen maritime domain awareness by monitoring maritime activities and promoting information sharing and exchange.
- **EMASOH**: Started by France in February 2020, it is based at the French naval base in Abu Dhabi. It aims to monitor maritime activity and guarantee freedom of navigation in the Persian Gulf and the Strait of Hormuz.
- **Indian Ocean Commission**: It is particularly unique and is the only **African regional organisation** composed entirely of islands: **Comoros, France/Reunion, Madagascar, Mauritius and Seychelles**. India had joined the Indian Ocean Commission (IOC) as an **observer in March 2020**.

H-1B Visa Programme

- The US has blocked H1-B and certain other non-immigrant worker visas until the end of the year.
- H-1B visa is an **employment-based, non-immigrant visa category** for temporary workers. It was launched in 1990 to help American firms deal with labor shortages in rapidly growing fields that **demand specialized skills**.
- Apart from the H-1B visas, the US government also issues **L1 visas which allows companies to transfer highly skilled workers to US for a period of up to seven years**. H-2B visas allow food and agricultural workers to seek employment in the US.

Kholongchhu Hydro Electric Project

- India and Bhutan have signed a pact for the construction of the **600 MW Kholongchhu project**.
- It will be the first joint venture hydroelectric project in Bhutan that is to be completed in five years (by 2025).
- It is a joint venture between Bhutan's Druk Green Power Corporation (DGPC) and India's Satluj Jal Vidyut Nigam Limited (SJVN).
- The 600 MW run-of-the-river project is located on the lower course of the **Kholongchhu River in Trashiyangtse district in eastern Bhutan**.

Malathion 95% ULV Insecticides to Iran

- State-owned insecticide manufacturer HIL (India) Ltd has supplied about 25 tonnes of Malathion 95 per cent ULV to Iran to help the country control the locust menace.
- **Malathion is a chemical mainly used to protect food-producing plants from insects**. It has been supplied to Iran on government-to-government basis.
- India had recently approached Iran and Pakistan for coordinated response to counter desert locust menace in the region.

Victory Day Parade

- Recently, Indian Defence Minister attended the Victory Day Parade in Moscow, Russia on the occasion of the **75th anniversary of the Soviet victory over Nazi Germany**.
- The Indian contingent participated in the parade along with the armed forces personnel from 17 other countries, including China.

Mary Jackson

- NASA decided to name its headquarters in Washington DC after its **first black female engineer, Mary Jackson**. Jackson had helped to break down barriers for African Americans and women in engineering and technology.
- Mary Jackson was recruited in 1951 by the **National Advisory Committee for Aeronautics which was succeeded by Nasa in 1958**. Jackson died in 2005 and in 2019 she was posthumously awarded the Congressional Gold Medal.

VAJIRAM & RAVI **Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG)**

- India attended the virtual 32nd special Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG) plenary meeting.
- EAG is a FATF-style regional body established in 2004, which comprises **9 countries: Belarus, China, Kazakhstan, Kyrgyzstan, India, Russia, Tajikistan, Turkmenistan and Uzbekistan.**
- EAG is an **associate member of the Financial Action Task Force (FATF).**
- Observer status has been granted to 15 countries and 23 international organizations.

Israel-UAE Peace Deal

- US President Donald Trump announced that the **United Arab Emirates and Israel have agreed to establish full diplomatic ties** as part of a deal to halt the annexation of occupied land sought by the Palestinians for their future state.
- With this announcement, the **UAE became the first Gulf Arab state to do so and only the third Arab nation to have active diplomatic ties with Israel**. Under the deal, **Israel would suspend its plans to annex large parts of the occupied West Bank.**
- Among Arab nations, **only Egypt and Jordan have active diplomatic ties with Israel**. Mauritania recognized Israel in 1999, but later ended relations in 2009 over the Israel's war in Gaza.
- The UAE is a US-allied federation of seven sheikhdoms on the Arabian Peninsula. Formed in 1971, the country like other Arab nations at the time did not recognize Israel over its occupation of land home to the Palestinians.

1947 Tripartite Agreement On Gurkha Soldiers

- Nepal Foreign Minister recently said that the **1947 agreement among India, Nepal and the United Kingdom** that deals with the military service of Gorkha soldiers has become “redundant”.
- It was the first window open for Nepali youths to go abroad. The 1947 agreement **divided the Gorkha regiments of the British empire between India and the United Kingdom.**
- It also assured that the Gorkha soldiers of Nepal while serving in the British military will draw perks and privileges equivalent to their counterparts. However, Gorkha veterans have been alleging that the U.K. has been discriminating against them.
- Gorkha soldiers from Nepal have been an **integral part of the Indian Army for over six decades** and currently, there are 39 battalions serving in 7 Gorkha regiments. **Indian Army Chief is granted the honorary post of a General in the Nepal Army.**
- The objection from Nepal regarding the Gorkhas serving in the Indian military has been heard more prominently in the recent months in the backdrop of Nepal-India territorial dispute over the Kalapani region.

Operation Breathing Space

- A team of researchers from **Israel** arrived in Delhi with a mission, code-named Operation Breathing Space **to work with Indian authorities in the fight against the pandemic.**
- The delegation will carry out the final stages of research in India to determine the effectiveness of advanced Israeli technologies developed for the rapid diagnosis of COVID-19.

- The team is working on four different kinds of technologies that have the **potential to detect COVID-19 in as less as 30 seconds.**

U.K. To Issue Coin In Honour Of Mahatma Gandhi

- Britain is considering minting a coin to commemorate Mahatma Gandhi, amid growing interest in recognising the contributions of people from the Black, Asian and other minority ethnic communities.
- Gandhiji's birthday, October 2, is observed as the International Day of Non-Violence.

Pakistan's New Map

- The Ministry of External Affairs has termed Pakistan's announcement of a new political map, which asserts its claims on **Jammu and Kashmir, Siachen, Sir Creek, and Junagadh**, as an exercise in "political absurdity".
- The new map depicts the **entirety of Jammu and Kashmir as a disputed territory** while also **incorporating Siachen as part of Pakistan**. It does not show any borders in the east of Kashmir, where China illegally occupied Aksai Chin. It also **incorporates Sir Creek into Pakistani territory as well as parts of the erstwhile princely state of Junagadh**. The map also shows the Federally Administered Tribal Areas as being part of Khyber Pakhtunkhwa province.
- This is not the first time Pakistan has tried to portray Junagadh as part of its territory. The **2012 Atlas of Islamic Republic of Pakistan** also portrayed Junagadh as a separate territory.
- The Pakistan cabinet also approved the decision to rename a major road in Islamabad as Srinagar Highway. The road was previously called Kashmir Highway.

Constitutional Amendments in Russia

In a recently held referendum, Russian citizens supported a set of constitutional amendments. It was put to vote on 1 July, 2020.

Key Changes

- **Presidential Term:** Current Constitution allows for two consecutive terms as president. The new constitution does not change the two-term limit. However, it hits the reset button. In other words, with the enactment of new constitution, **Putin will be eligible for two additional six-year terms** after the current term expires in 2024. As a result, Putin can stay in power until 2036.
- **Stronger-man Presidentialism:** Recent amendments cement further centralisation of power. They give the President new powers, including the **authority to remove judges, appoint some members of the parliament for life and name regional prosecutors**.
- **Constitutional Patriotism:**
 - It gives the **Russian Constitutional Court constitutional power to nullify the decisions of international tribunals**.
 - It also place strict **limitations on Russians who hold foreign citizenship or residency from serving public office**. These constitutional restrictions block any individual who has ever held foreign residency or citizenship from ever running for President.
 - The amendments also **declare the importance of a belief in God**. It has also termed **Russia as the successor state to the Soviet Union**.

Bhutan Issues Demarches to China

- Bhutan has issued a demarche to China over its **attempt to declare a Bhutanese wildlife sanctuary as a disputed territory**. The demarche was a follow-up to protests earlier against Beijing's attempt to make a non-dispute into a quarrel.
- **Background:** At the 58th Global Environment Facility Council held recently, the Chinese member raised objections to the **Sakteng Wildlife Sanctuary project** and argued that it was in a disputed area between China and Bhutan. Sakteng lies in a zone of Bhutan that **borders Arunachal Pradesh and China**. At the meeting, Bhutan strongly objected to the references made by China against its sovereignty. The GEF Secretariat objected to the Chinese claim and made it clear that Sakteng was well within Bhutan.
- China claims that the boundary between China and Bhutan has never been delimited. There have been disputes over the eastern, central and western sectors for a long time.
- Thimphu has made it clear that Sakteng is Bhutan's sovereign territory and that there is no dispute.

China Tells USA to Close Consulate in Chengdu

- **China ordered the United States to close its consulate in Chengdu** in an increasingly rancorous diplomatic conflict. The order followed the U.S. closure of the Chinese consulate in Houston.
- In recent days, Washington and Beijing have been fighting over a slew of issues ranging from trade to the Coronavirus pandemic and China's policies on Hong Kong, Xinjiang and the South China Sea.
- Earlier, the Trump administration had ordered the Houston consulate closed within 72 hours. It alleged **Chinese agents tried to steal data from facilities in Texas** including the Texas A&M medical system.
- The United States has an embassy in Beijing and consulates in five other mainland cities — Shanghai, Guangzhou, Chengdu, Shenyang and Wuhan. It also has a consulate in Hong Kong, a Chinese territory.

China Halts Hong Kong Extradition Pacts With Canada, Australia, U.K.

- China announced the suspension of Hong Kong's extradition treaties **with Canada, Australia and Britain** in a tit-for-tat move following similar decisions by those countries over a controversial new security law.
- The three countries had all suspended extradition treaties with Hong Kong. This was done after **Beijing imposed a broad new security law that criminalises many forms of political dissent**. China termed this as an interference in its internal affairs.

Turkey Approves Social Media Law

- Turkey's parliament approved a law that gives authorities greater **power to regulate social media**.
- The law requires major social media companies such as Facebook and Twitter to keep representative offices in Turkey to deal with complaints against content on their platforms.
- If a social media company refuses to designate an official representative, the **legislation mandates steep fines, advertising bans and bandwidth reductions**. With a court ruling, bandwidth would be halved, and then cut further. Bandwidth reductions mean social media networks would be too slow to use.

- The legislation also requires social media providers to **store user data in Turkey**.

Britain Bans China's Huawei From 5G

- The United Kingdom has banned Huawei from its 5G telecom network thereby reversing its earlier decision to allow the Chinese tech company a limited role in building the country's super-fast wireless infrastructure.
- Operators such as BT and Vodafone have been given until 2027 to remove existing Huawei equipment from their 5G networks.
- In the lead up to this complete removal of all Huawei kit from UK networks, there will be **a total ban on purchase of any new 5G kit after December 31, 2020**.

Parcel Train to Bangladesh

- The Indian Railways has operated its **first-ever special parcel train to Bangladesh**. It transported dry chillies from Andhra Pradesh's Guntur district to the neighbouring country.
- Earlier, the mode of transportation was road. However, due to lockdown, railways was pressed into service.
- It also helped in reducing the cost of transportation. Sending the chillies to the neighbouring country by road cost around ₹7,000 per tonne while the expense for carrying the same by goods trains has come out to be ₹4,608 per tonne.

India-Bhutan Open New Trade Route

- India and Bhutan have opened a new trade route between Jaigaon in West Bengal and Pasakha in Bhutan.
- An additional Land Customs station has been opened at Ahllay, Pasakha by Gol in this regard.
- It will boost bilateral trade and commerce and lead to decongestion of vehicular traffic along the Jaigaon-Phuentsholing route.
- **India is Bhutan's largest trading partner**. The bilateral trade stood at Rs 9,227 crore in 2018.

Cotton Warehouse In Vietnam

- The Cotton Corporation of India (CCI) is planning to set up its own warehouse in Vietnam with an **aim to increase exports to Vietnam**.
- CCI has surplus stocks of cotton ahead of the next harvest season and is trying to boost exports to Vietnam and Bangladesh.
- **Bangladesh and Vietnam have duty-free access to markets of US, Europe, and China**. This gives them competitive advantage over Indian Yarn and garment exporters who pay comparatively higher duties. Also, the Bangladesh and Vietnam have higher demand for Indian cotton.

Loya Jirga

- Afghanistan began a three-day 'Loya Jirga' to decide on freeing about **400 Taliban fighters convicted for "serious crimes"**.

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- The Loya Jirga is a **highly respected traditional consultative body of Afghanistan**. It is the most powerful constitutional forum, in fact, the strong legacy of the modern state of Afghanistan derives from this forum.
- Despite a decade or more of democracy, and years of being a republic, Afghanistan still gives its tradition of Loya Jirgas the kind of respect that allows even an elected head of state to defer to it. Since at least 1709, Jirgas have brought together tribal elders to settle issues of national crises in Afghanistan.

GCC Backs UN Arms Embargo on Iran

- The **Gulf Cooperation Council** sent a letter to the U.N. Security Council backing an extension of an arms embargo that's kept Iran from purchasing foreign-made weapons like fighter jets, tanks and warships.
- The GCC alleged Iran had "not ceased or desisted from armed interventions in neighboring countries, directly and through organizations and movements armed and trained by Iran."
- **The U.N. banned Iran from buying major foreign weapon systems in 2010** amid tensions over its nuclear program. That blocked Iran from replacing its aging equipment, much of which had been purchased by the shah before the 1979 Islamic Revolution. An earlier embargo targeted Iranian arms exports.

Gulf Cooperation Council (GCC) is a political and economic alliance of six Middle Eastern countries—Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman. The GCC was established in Riyadh, Saudi Arabia, in May 1981.

75th Anniversary Of Hiroshima Atomic Bombing

- Japan on 6th August, 2020 marks **75 years since the world's first atomic bomb attack**, with the coronavirus pandemic forcing a scaling back of ceremonies to commemorate the victims.
- The bomb attack on Hiroshima killed around 1,40,000 people. Three days later, the United States dropped a **second atomic bomb on Nagasaki**, where 74,000 people were killed.
- The **United States has never apologised for the bombings**, which many in the US see as having ended the war. Japan announced its surrender just days later on August 15, 1945, and some historians argue the bombings ultimately saved lives by avoiding a land invasion that might have been significantly more deadly.

High Impact Community Development Projects (HICDP)

- India handed over a symbolic cheque to the **Maldivian government** to begin the implementation of **nine projects** under the High Impact Community Development Projects (HICDP).
- This follows India and the Maldives signing a **bilateral pact on HICDPs in March 2019**. Under the pact, a total grant of \$ 5.6 million was announced for executing high-impact grant projects and a cash grant of about \$ 7 million for the execution of small projects.
- The HICDPs are chosen by the Government of Maldives through the Ministry of Foreign Affairs and are those with a high-level of community impact and participation in the areas of livelihood and income generation, health, education, gender and child empowerment, sports and sustainable development.

- The foreign affairs committee of the US House of Representatives has passed a legislation - Gandhi-King Scholarly Exchange Initiative Act – to **promote the legacies of Mahatma Gandhi and Martin Luther King Jr.**
- The act would:
 - Create an **annual educational forum** held in the U.S. and India that focuses on the social justice, civil and human rights legacies of Mohandas Gandhi and Martin Luther King, Jr.;
 - Create a **student exchange program** for students in the U.S. and India at all academic levels;
 - Establish a professional development training program called the **Gandhi-King Global Academy** within the U.S. Institute of Peace (USIP);
 - Establish the **U.S.-India Gandhi-King Development Foundation** within the U.S. Agency for International Development (USAID) which would provide grants to private nongovernmental entities to address critical humanitarian, environmental, and development issues in India.

15th India-EU Summit

- The 15th Summit between India and the European Union (EU) was held in virtual format on 15th July 2020.
- The leaders adopted the "**India-EU Strategic Partnership: A Roadmap to 2025**" to guide cooperation between India and the EU over the next five years.
- They welcomed the signing of the **India-EURATOM Agreement** on research and development cooperation in the peaceful uses of nuclear energy.
- They also adopted a **Joint Declaration on Resource Efficiency and Circular Economy** and welcomed the upcoming renewal of the **India-EU Science and Technology Agreement** for another five years.
- They welcomed the ongoing activity in India of the **European Investment Bank** and the upcoming planned investments of Euros 550 million in the **Pune and Bhopal Metro Rail Projects**.
- India and the EU will reinforce their cooperation in the **International Solar Alliance (ISA)** to promote the deployment of solar energy, and in the **International Platform on Sustainable Finance (IPSF)** to mobilise private capital towards environmentally sustainable investments.
- The EU looks forward to cooperating with the **Coalition for Disaster Resilient Infrastructure (CDRI)** launched by India to ensure that infrastructures are resilient to climate change.

Additional Information: *EU is India's largest trading partner for goods with trade exceeding \$100 billion. India also has a large services trade of approximately \$40 billion. Despite this, India represents only about 2% of EU external trade.*

Istanbul Convention

- It is a **European treaty aimed at preventing violence against women**
- **Recently Poland left the treaty** citing "harmful" because it required schools to teach children about gender.
- The convention sets minimum standards for governments to meet when tackling violence against women. When a government ratifies the Convention, they are legally bound to follow it.

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- It is a human rights **treaty of the Council of Europe** against violence against women and domestic violence which was opened for signature on 11 May **2011**, in Istanbul, Turkey. **Effective from 2014.**
- **Ratified by 34 countries (India has neither signed nor ratified).**

Council of Europe

- The Council of Europe was **founded on 5 May 1949**.
- It is an international organisation whose stated **aim is to uphold human rights, democracy and the rule of law in Europe**.
- Membership is open to any European country, provided they meet specific democratic and human rights standards. Currently it has a total of 47 member states.

Weibo Diplomacy

- After the government banned 59 Chinese apps, Prime Minister Narendra Modi has decided to quit the **Chinese microblogging website Sina Weibo**, which he had joined a few years ago.
- This marks a **sudden end to Mr. Modi's "Weibo diplomacy"** in China that was launched with much fanfare in 2015 as a means to directly communicate with the people of China before his first visit there as Prime Minister.
- **Weibo diplomacy: Foreign embassies communicating on Chinese social media.**

United Nation Peacekeeping Operations

The United Nation has suspended the rotation and deployments of the peacekeepers until June 30. The **Special Committee on Peacekeeping Operations** of the United Nations is known as the '**C34**'.

Milk Tea Alliance

It is a **social media evolved** term used to describe an **online democratic solidarity movement** from **Thailand, Hong Kong and Taiwan against** the authoritarianism of the **Chinese Government** and questioned whether CoronaVirus had emerged in a laboratory in Wuhan.

Oil Exploration in South China Sea

- **Philippine government** has decided to resume oil exploration in the disputed South China Sea.
- The government has approved the lifting of a six-year moratorium on oil exploration in the **Palawan Island**.
- The moratorium was imposed in 2014 in the light of tensions between the Philippines and China due to overlapping territorial claims.



South China Sea

- The South China Sea is a marginal sea that is **part of the Pacific Ocean**, encompassing an area from the **Karimata and Malacca Straits to the Strait of Taiwan**.

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- The South China Sea is **bordered by** Brunei, Cambodia, China, Indonesia, Malaysia, the Philippines, Singapore, Taiwan, Thailand and Vietnam.

India-France to Launch Constellation of Maritime Surveillance Satellites

- The constellation of maritime surveillance satellites for the Indian Ocean Region, to be jointly launched by India and France. The main purpose of this is to **trace illegal spillage of oil by ships**.
- The satellites will be operated jointly by France and India to monitor ships in the Indian Ocean. **TRISHNA, a thermal infrared observer** will also be a part of the constellation. Both TRISHNA and Oceansat-3 Argos Mission will augment the maritime surveillance constellation.
- France and India are also collaborating on the **Gaganyaan**, India's first manned space mission. **France will also be part of ISRO's mission to Venus**. So far, the two agencies have put up two climate and ocean weather monitoring satellites — **Megha-Tropiques in 2011 and SARAL-AltiKa in 2013**.

Flash Flood Guidance Services for South Asia

- India has launched first of its kind Flash Flood Guidance services for India and other South Asian countries -- Bangladesh, Bhutan, Nepal, and Sri Lanka -- to issue **impact-based forecasting at the watershed and also city level, of floods** which are very sudden and of short duration.
- The Flash Flood Guidance is a robust system **designed by the India Meteorological Department (IMD)** to provide the necessary products in real-time to support the development of warnings for flash floods about 6-12 hours in advance.
- **Flash Floods are highly localized events of short duration** with a very high peak and usually have less than six hours between the occurrence of the rainfall and peak flood. There is a general lack of flash flood warning capabilities and capacities of the nations across the world.

Quad Ministerial Meeting

- India's External Affairs Minister (EAM) visited Japan to participate in the Second India-Australia-Japan- USA (also known as Quad) Ministerial Meeting.
- They reaffirmed their collective vision of maintaining a free, open and inclusive Indo-Pacific and also reiterated their firm support to ASEAN centrality in the region.

Quad Grouping

- The grouping of four democracies –**India, Australia, US and Japan**– is known as the quadrilateral security dialogue or quad. The aim of this grouping is to ensure a **free and open international order based on the rule of law in the Indo- Pacific**.
- It was **first mooted by Japanese Prime Minister Shinzo Abe** in 2007. However, due to Chinese resistance and reluctance shown by India, it could not move ahead.
- The **first Quad ministerial meeting took place in New York** in September 2019.

India-US 2+2 Ministerial Dialogue

- India hosted the third India-U.S. 2+2 Ministerial Dialogue in New Delhi. The first two 2+2 Ministerial dialogues were held in New Delhi in September 2018 and in Washington DC in 2019.

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- This 2+2 Ministerial is the **highest-level institutional mechanism** between the two countries. It provides for a **review of the security, defence and strategic partnership** between India and the United States.

India–Australia Circular Economy Hackathon (I-ACE)

- AIM (Atal Innovation Mission), in association with Commonwealth Scientific and Industrial Research Organisation (CSIRO), is organizing a two-day hackathon on circular economy.
- The idea of I-ACE was conceived during a virtual summit on 4 June 2020, between the Indian and Australian prime ministers.
- The **four key themes** for the hackathon are: Innovation in packaging reducing packaging waste, Innovation in food supply chains avoiding waste, Creating opportunities for plastic waste reduction and Recycling critical energy metals and e-waste.



Circular Economy – A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

In Circular Economy, the products are designed for reuse and recyclability. Almost everything gets reused, remanufactured, and recycled into a raw material or used as a source of energy.

G20 Banknote Depicting J&K As Separate Entity

- India urges Saudi Arabia to take urgent corrective steps on **G20 banknote depicting J&K as separate entity**.
- The banknote, **a new 20 Riyal currency**, was released on October 24 to **commemorate Saudi Arabia's presidency of organizing the G20**.
- The note features Saudi King Salman bin Abdulaziz Al Saud and the 2020 G20 Summit logo on one side while the other highlights the G20 nations.

Azerbaijan vs Armenia: An Old Regional Conflict

- Recently a military action in **Nagorno-Karabakh, a region disputed between Armenia and Azerbaijan**, has resulted in the death of at least 100 civilians and Armenian combatants.
- Straddling western Asia and Eastern Europe, Nagorno-Karabakh is **internationally recognised as part of Azerbaijan**, but most of the region is **controlled by Armenian separatists**. Nagorno-Karabakh has been part of Azerbaijan territory since the Soviet era. When the Soviet Union began to collapse in the late 1980s, Armenia's regional parliament voted for the region's transfer to Armenia; the Soviet authorities turned down the demand.



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- The countries fought a bloody war over the region in the late 1980s and early 1990s. Although they declared a ceasefire, brokered by Russia in 1994, they have never managed to agree a peace treaty.

China-Bangladesh Friendship

- Chinese President Xi Jinping has expressed his willingness to work with Bangladesh in order to better align development strategies between the two countries. He also urged Bangladesh to jointly promote the construction of Belt and Road Initiative (BRI).
- Belt and Road Initiative (BRI) is a strategy initiated by the People's Republic of China that seeks to connect Asia with Africa and Europe via land and maritime networks with the aim of improving regional integration, increasing trade and stimulating economic growth.
- The BRI has been associated with a very large programme of investments in infrastructure development for ports, roads, railways and airports, as well as power plants & telecommunications networks.

Chinese Assistance to Sri Lanka

- China has announced a **USD 90 million grant to Sri Lanka** for medical care, education and water supplies in Sri Lanka's rural areas.
- China considers Sri Lanka to be a critical link in its massive Belt and Road global infrastructure building initiative & has provided billions of dollars in loans for Sri Lankan projects over past decade.
- In 2017, Sri Lanka leased out a **Chinese-built port in Hambantota** to a Chinese company for 99 years to recover from the heavy burden of repaying the Chinese loan the country received to build it.

Thailand Anti-Government Protests

- Thailand is witnessing **pro-democracy demonstrations** with protesters demanding that the monarchy be reformed and that Prime Minister Prayuth Chan-ocha resign.
- **Until 1932, Thailand was an absolute monarchy.** It was converted to a constitutional monarchy in 1932. Following a coup in 1947, Thailand has been ruled by the military for the most part. The current ruler, Maha Vajiralongkorn, became king in December 2016. PM Chan-ocha came to power through a coup in 2014.
- Chan-ocha, endorsed by the king, is alleged to have meddled with electoral laws during the 2019 elections, which has enabled him to remain in power.
- Traditionally, Thailand's political divide has been between the "**red shirts**" (populists and supporters of Shinawatra) and "**yellow shirts**" (loyalists of the royalty). Populist leader Thaksin Shinawatra was ousted as Prime Minister by the military in 2006 and has been in exile since.



India-Central Asia Dialogue

- The 2nd meeting of the India-Central Asia Dialogue was held in the digital video-conference format, under the chairmanship of the External Affairs Minister of India. 1st meeting of the Dialogue was held in January 2019 in Samarkand (Uzbekistan).

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- During the dialogue, India extended a \$1-billion line of credit to Central Asian countries for projects in connectivity, energy, IT and health care.
- The Ministers welcomed the launch of the **India-Central Asia Business Council (ICABC)** in New Delhi in February 2020. It will help in expansion of trade and economic cooperation.
- India's efforts to modernize the infrastructure of the **Chabahar port in Iran** was also appreciated.

G-20 Anti-Corruption Working Group Meeting

The 1st ever Ministerial Meeting of G-20 Anti-Corruption Working Group was held recently. It was **hosted by Saudi Arabia**, who is the current Chair of the organisation.

Anti-Corruption Working Group of G-20

- It was **established in June 2010 at the G20 summit** held at Toronto. Its primary goal is to prepare comprehensive recommendations for consideration by leaders on how the G20 could continue to make practical and valuable contributions to international efforts to combat corruption.
- The group works with the OECD, United Nations Office on Drugs and Crime, World Bank, Financial Action Task Force (FATF) and IMF.
- The G-20 countries had agreed on the Anti-Corruption plan for 2019-2021 at Buenos Aires in 2018.

Sri Lanka: Controversial 20th Amendment Passed

- The controversial 20th Amendment to Sri Lanka's Constitution was passed in Parliament with two-thirds majority.
- The amendment envisages **expansive powers and greater immunity for the Executive President**. The 20th Amendment rolls back Sri Lanka's 19th Amendment that sought to clip presidential powers, while strengthening Parliament.
- The new legislation in turn **reduces the Prime Minister's role to a ceremonial one**.

Israel-Sudan Peace Deal

- Sudan and Israel have agreed to **normalise relations in a US-brokered deal** to end decades of hostility. **Sudan has technically been at war with Israel** since its 1948 foundation.
- It makes **Sudan the 3rd Arab country to forge diplomatic relations** with the Jewish state in two months.
- In 1979, **Egypt became the first Arab state to make peace with Israel**. Recently, the United Arab Emirates and Bahrain had signed a normalization deal with Israel.
- Days before Sudan signed a peace deal with Israel, it has been removed from **US' State Sponsor of Terrorism List**. Sudan was added to the list in 1993 after it was accused of harboring groups such as Hezbollah and Palestinian militant outfits. Now only three countries are there in the list. These are – **Syria, Iran and North Korea**.



Five Eyes Group of Nations

- India is among seven countries to back a UK-led **campaign against end-to-end encryption of messages by social media giants** such as Facebook, which they say hinder law enforcement by blocking all access to them. It marks an expansion of the so-called "**Five Eyes**" group of nations.
- "**Five Eyes**" group of nations is a **global alliance on intelligence issues**. It was originally an intelligence-sharing agreement between the United States and the UK aimed at decrypting Soviet Russian intelligence during cold war era.
- By the late 1950s, Canada, Australia, and New Zealand had also joined the Alliance. The intelligence-sharing agreement between these five countries has only strengthened over time, as it has extended to surveillance of online activity.

France Encourages EU Allies to Take Measures Against Turkey

- France encouraged EU allies to **adopt measures against Turkey** after Turkish President Recep Tayyip Erdogan questioned French President Emmanuel Macron's mental health. Turkey also called for a boycott of French goods.
- French President is being heavily criticized in the Middle East and in Muslim world for making controversial remarks on Islam. In early October, the French President described Islam as a "religion in crisis".



UK Accuses China Of Treaty Breach In Hong Kong

- Kingdom has accused China of breaking its international treaty obligations, after four prodemocracy lawmakers were ousted from Hong Kong's legislature on security grounds.
- UK has termed this incident as a clear breach of the legally binding Sino-British Joint Declaration.
- Sino-British Joint Declaration:** It was an agreement signed by Britain and China in 1984 to settle the future of Hong Kong. It gave control of Hong Kong, which was occupied by Britain after the Opium War in 1840, to China from July 1, 1997. The agreement states that China's basic policies regarding Hong Kong which "will remain unchanged for 50 years", including the promise that the city would retain a high degree of autonomy.

China Passes Export Law

- China Export Law has been passed and it will come into effect on December 1.
- The law stipulates **export controls over items of both civilian and military use**, military and nuclear products, as well as "goods, technologies and services" that are related to national security, including data related to them.
- Under the law, China can take reciprocal measures if any country or regions abuse their export controls in ways that hurt its national security and interest. Violation of the new export control law will lead to **fines of as much as five million yuan (\$746,500)** and revocation of export licenses.

Sichuan-Tibet Railway line

- China is set to begin the construction of the Sichuan-Tibet Railway line **close to the border in Arunachal Pradesh.**
- The railway line would come up **between Linzhi in Tibet and Ya'an in southwest Sichuan.** It would begin from Sichuan's capital city Chengdu and shorten the time taken to travel to Lhasa from 48 hours to 13 hours.
- This would be **China's second major railway project on the Tibetan plateau.** It has already built and operationalised the Qinghai-Tibet line on the plateau, which is one of the world's most geologically active areas.

12th BRICS Summit

- 12th BRICS Summit was held in a virtual format. It was hosted by the **current Chair Russia.**
- **Theme** - "Global Stability, Shared Security and Innovative Growth.
- **India will be taking over the Chairmanship of the BRICS in 2021.** It which would be the third BRICS Presidency for India since its inception (after 2012 and 2016).
- In order to strengthen fight against terrorism, the Summit finalized the BRICS Counter-Terrorism Strategy.

17th ASEAN-India Summit

- 17th India-ASEAN summit was held online. It was co-chaired by Indian PM Modi and PM of Vietnam Nguyen Xuan Phuc (**Vietnam is the current Chair of ASEAN**).
- India highlighted that a cohesive, responsive and prosperous ASEAN is central to India's Indo-Pacific Vision and contributes to Security And Growth for All in the Region (SAGAR).
- India underscored the importance of strengthening convergence between India's Indo-Pacific Oceans Initiative and the ASEAN Outlook on Indo-Pacific, to ensure a free, open, inclusive and rules-based Indo-Pacific region.

ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of **the ASEAN Declaration (Bangkok Declaration)** by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.

India-Luxembourg Virtual Summit

- A Virtual Summit was held between PM Modi and PM of Luxembourg Xavier Bettel. This was the first stand-alone Summit meeting between India and Luxembourg in the past two decades.
- **Luxembourg Stock exchange** and funds based out of Luxembourg are the **third largest investors in India.** Foreign Portfolio investments from Luxembourg total more than Rs. 3 lakh crore. It is largest after the US and Mauritius.
- Luxembourg is the 5th largest investor from the EU after the Netherlands, Germany, France, Cyprus and the **15th largest investor in India.**



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India Assumes Chairmanship Of Governing Body Of ILO

- After a **gap of 35 years**, India has assumed the chairmanship of the governing body of the International Labour Organisation (ILO).
- **The Governing Body (GB)** is the apex executive body of the ILO, which decides policies, programmes, agenda, budget, and elects the Director-General.

About ILO

- It is a **United Nations agency** whose mandate is to advance social and economic justice through setting international labour standards.
- It was created in 1919, **as part of the Treaty of Versailles** (that ended World War I).
- In 1946, the ILO became a specialized agency of the newly formed United Nations. It is the first and oldest specialized agency of the UN. At present, ILO has 187 members.
- It sets labour standards, develop policies and devise programmes promoting decent work for all women and men.
- **HQ- Geneva**, Switzerland

UAE Widens Its Golden Visa Programme

- The United Arab Emirates (UAE) has approved granting **“golden” visas allowing 10-year residency** to certain professionals, specialised degree holders and others.
 - All holders of doctorate degrees, medical doctors, and also computer, electronics, programming, electrical, and biotechnology engineers are now eligible.
 - Also eligible are those with specialised degrees in artificial intelligence, big data, and epidemiology, as well as high school students living in the UAE who rank top in the country and university students with a Grade Point Average (GPA) of 3.8 or higher.

Golden Card Permanent Residency Scheme

- It was launched by UAE to **woo wealthy individuals and exceptional talents** from all over the world.
- The “Golden Card” visa includes categories:
 - General investors who will be granted a 10 year permanent residency visas .
 - Real Estate Investors, who can get a visa for 5 year visa.
 - Entrepreneurs and Talented Professionals like doctors, researchers and innovators can get 10 years visa.
 - ‘Outstanding students’ will also be permitted 5 years permanent residency visas

Pakistan on ‘Enhanced Follow-up List’

- The Asia Pacific Group (APG) of Financial Action Task Force (FATF) has kept Pakistan in its **‘Enhanced Follow Up’ list**. The status of Pakistan was degraded from “regular follow-up” to “enhanced follow up” in August 2019.
- APG released the **first Follow-Up Report on Mutual Evaluation of Pakistan**. It is a **peer-review system** to determine whether countries meet the compliance standards for money laundering and terror financing. After a country submits a Mutual Evaluation report, APG members can decide to

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place a member either through regular or enhanced follow-up. While a regular follow-up means just biennial reports, a country put under enhanced follow-up has to send four reports of compliance the following year.

Financial Action Task Force (FATF)

- **Mandate:** It is an intergovernmental organization to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering and terrorist financing.
- **Established:** 1989; HQ: Paris, France.
- **Members:** The FATF currently comprises 37-member jurisdictions and 2 regional organisations (GCC, and European Commission). While India, Russia and China are members, Pakistan is only an associate member of Asia Pacific Group-FATF.
- **FATF has 2 types of lists:**
 1. **Black List:** Countries knowns as **Non-Cooperative Countries or Territories (NCCTs)** are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.
 2. **Grey List:** Countries that are considered **safe haven for supporting terror funding** and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Mega Trade Bloc RCEP Takes Off

- The Regional Comprehensive Economic Partnership (RCEP), a mega trade bloc comprising 15 countries, signed the world's biggest free trade deal.
- The Association of Southeast Asian Nations (ASEAN) and its five-dialogue partner - Australia, China, Japan, Korea and New Zealand - met virtually in November 2020 and signed the agreement.

About RCEP

- Conceptualised in 2012, the RCEP is a proposed **free trade agreement (FTA) between ASEAN nations and its FTA partners**. The ten ASEAN member nations include Singapore, Thailand, Vietnam, the Philippines, Cambodia, Brunei, Laos, Malaysia, Myanmar and Indonesia.
- **The FTA partners of the ASEAN** nations included China, Japan, Australia, New Zealand, South Korea and India. After India's pull out, ASEAN nations only have five FTA partners now.
- **Its principal purpose** is to "achieve a modern, comprehensive, high-quality and mutually beneficial economic partnership agreement among the ASEAN Member States and ASEAN's FTA Partners."
- **The agreement would cover** a market of 2.2 billion people, or almost 30 per cent of the world's population, with a combined GDP of US\$ 26.2 trillion or about 30 per cent of global GDP, and accounts for nearly 28 per cent of global trade (based on 2019 figures).

15th East Asia Summit

15th East Asia Summit (EAS) was held virtually in November 2020. The Summit was chaired by the PM of Vietnam in his capacity as ASEAN Chair.

About East Asia Summit

- It is the premier forum in the Asia-Pacific region to **deal with issues relating security and defence**. Since its inception in 2005, it has played a significant role in the strategic, geopolitical and economic evolution of East Asia.
- EAS comprises the ten member states of the ASEAN as well as Australia, China, Japan, India, New Zealand, the Republic of Korea, Russia and the United States.
- The 18 member of EAS together represent 54% of the world population and account for 58% of the global GDP.

New Caledonia Rejects Independence From France

- The South Pacific territory of New Caledonia **chose to remain French**. It rejected independence in a tightly-fought referendum marked by a high turnout.
- A French overseas territory in the Pacific**, New Caledonia has seen deep divisions between its indigenous Kanak population and Europeans. New Caledonia was colonised by France in the mid-19th century and won greater autonomy and the right to hold up to three referendums on its political status under the **Noumea Accord**, signed between French and local leaders in 1998
- Kanaks represent around 39% of the population, while Europeans, most of whom were born in the territory, make up about 27%.
- New Caledonia is rich in resources and accounts for around **10% of the world's nickel reserve**.



United Nations Human Rights Council (UNHRC)

- China, Russia and Cuba won seats** on the U.N.'s premiere human rights body. General Assembly also elected Ivory Coast, Gabon, Malawi, Cuba, Bolivia, Uzbekistan, France and Britain to the 47-member council.
- Senegal, Nepal, Pakistan, Ukraine and Mexico were re-elected for a second three-year term. **Council members cannot serve more than two consecutive terms**.
- UNHRC is an inter-governmental body within the United Nations system made up of 47 States responsible for the promotion and protection of all human rights around the globe.
- The Human Rights Council replaced the former United Nations Commission on Human Rights. The Council was created by the United Nations General Assembly on 15 March 2006 by resolution.

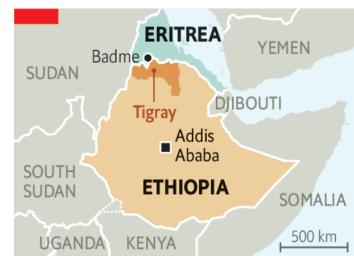
Armed Clashes In Ethiopia's Tigray

- Violence has escalated in Ethiopia and it is on the brink of a civil war. A domestic conflict is going on in the country's northern **Tigray region**. The long-simmering tensions between Prime Minister Abiy

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Ahmed's government in Addis Ababa and leaders from the country's northern Tigray region spilled into the open.

- Conflict started in September 2020, when Tigray held local elections in insubordination of the Ethiopian federal government. These **elections were considered illegal by the federal government**, further leading to conflict with Tigray authorities.
- The structure of Ethiopia's federal system allows the **ten regions of the country significant autonomy**. These regions also have their own parliaments, their own security forces, and the right to a referendum for independent rule.



Puerto Rico Votes In Favor Of Statehood

For the third time in ten years, The United States territory of Puerto Rico has voted in favour of statehood. Thus, through referendum, it demanded to be treated with the current 50 states of the country. **Currently it enjoys the commonwealth status.**

Puerto Rico

- The Spanish-speaking island is **located in the Caribbean Sea**, about 1600 km southeast of the US state of Florida. Since its discovery by Christopher Columbus in 1493, Puerto Rico was a **part of the Spanish Empire for over 4 centuries** until 1898, when it was annexed by the USA.
- In 1917, **Puerto Ricans were granted US citizenship**. However, the island itself was never made a full state and continues to remain a "US territory". Puerto Rico gets only one member in the House of Representatives, the lower chamber of the US congress – but who has no voting power. Puerto Ricans also can't vote in US presidential elections.

New START Treaty

- Russian President proposed that Russia and the United States extend their New START arms control treaty for at least a year without imposing any conditions. The treaty is about to expire in February 2021. However, the proposal has been rejected by the USA.
- The New START treaty (Strategic Arms Reduction Treaty) accord was **signed in 2010 by US President Barack Obama and Russian President Dmitry Medvedev**.
- The pact limits each country to **no more than 1,550 deployed nuclear warheads** and 700 deployed missiles and bombers, and envisages sweeping on-site inspections to verify compliance.
- It had **replaced the Treaty of Moscow (SORT)**, which was to expire in 2012.

Bhutan Establish full-fledged Diplomatic Ties with Germany

- Bhutan and Germany have established full-fledged diplomatic relations** during a ceremony held in the Bhutanese mission in New Delhi. The two sides have had consular relations since July 2000.
- Bhutan now has diplomatic relations with 53 countries** and the European Union. It is interesting to point out that Thimphu does not have any formal diplomatic relation with any **P5 countries - -US, Russia, UK, France or China**.
- Bhutan's capital Thimphu hosts only 3 foreign missions – those of **India, Bangladesh and Kuwait**.
- It **joined the United Nations** in September 1971.

Second Management Positions Act

- Germany's coalition government will introduce a **mandatory quota for the number of women working as senior management** in the country's listed companies. The legislation has been named as "Second Management Positions Act".
- It proposes that in case executive boards of **listed companies have more than three members, one must be a woman**. Companies in which the federal government has a stake will require a supervisory board quota of at least 30 per cent and minimum participation in executive boards.
- Since 2015, Germany has had a voluntary quota of 30% for women on supervisory boards.

Tibetan Parliament-In-Exile

- The election for the 17th Tibetan Parliament-in-Exile will be held in 2021. It will be held to elect the fifth directly elected Sikyong or president of the CTA and the 17th Tibetan Parliament-in-Exile (TPiE). TPiE has its **headquarters in Dharamsala**, in the Kangra district of Himachal Pradesh.
- The voting will be held in **two rounds**. In the preliminary round, there will be no official candidates, i.e. a **voter can choose any person of his choice**, which is expected to be one of several candidates who have started campaigning among the electorate.
- Unless a person **secures 60% of the vote**, the two top contenders of the first round will become the official candidates for the second round. Tibetans aged above 18 as per one's identity document called **Tibetan Green Book** is eligible to vote following registration.
- **TPiE is not recognized officially by any country, including India**. But a number of countries including the USA, EU deal directly with the Sikyong (Political leader) and other Tibetan leaders through various forums.

Provincial Status For Gilgit Baltistan

- Pakistan has officially announced its decision to **convert the disputed territory of Gilgit Baltistan (GB) into a full-fledged province**. When this happens, Gilgit-Baltistan will become the fifth province of Pakistan.
- It province will grant the region Pakistan's constitutional rights, comprising representation in the upper and lower houses of the (Pakistani) parliament. Gilgit-Baltistan is mostly governed by an executive fiat. Until 2009, the region was called the Northern Territory.
- It got its current name only with the Gilgit-Baltistan (Empowerment and Self-Governance) Order, 2009, which replaced the Northern Territory Legislative Council from the Legislative Assembly.
- India has clearly conveyed to Pakistan that the entire union territories of Jammu and Kashmir and Ladakh, including the areas of Gilgit and Baltistan, are an integral part of the country by virtue of its fully legal and irrevocable accession.



Pangda Village

- A new border village has been **built by China near Bhutan**. Although Chinese authorities claim that the village is situated on their territory, the released images of the village show its location **on territory disputed by Bhutan and China**.

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- Pangda is east of the India-Bhutan-China trijunction on the Doklam plateau, which was the site of a 72-day stand-off in 2017.
- It is for the first time since 2017 that a Chinese residential area has been noticed near the Doklam region, which is strategically important for India.

Skal International Asia Area (SIAA) Congress

- The UT of **Jammu & Kashmir** will host the 50th annual SIAA congress in 2021.
- Skål International was founded in 1934. It is the **only professional organization promoting global Tourism and friendship**, uniting all sectors of the Tourism industry.
- It holds an annual World Congress each year in a different country. It is an **Affiliated Member of the World Tourism Organization (UNWTO)**.
- It is **headquartered in Spain**.

Food and Agriculture Organisation (FAO)

India released a **commemorative coin of Rs 75 denomination** to mark the 75th anniversary of the FAO.

FAO

- Founded in October 1945, FAO is a **specialized agency of the United Nations** that leads international efforts to defeat hunger.
- The FAO is **headquartered in Rome, Italy** and maintains regional and field offices around the world.
- FAO and the World Health Organization created the **Codex Alimentarius Commission** in 1961 to develop food standards, guidelines and texts such as codes of practice under the Joint FAO/ WHO Food Standards Programme.

FAO Launches Food Coalition

- Food and Agriculture Organization (FAO) has launched a Food Coalition.
- **Proposed by Italy and led by FAO**, the alliance aims to **increase resilience of agricultural food systems**, ensure global food access.
- It will also help countries get back on track to achieve the UN-mandated Sustainable Development Goals by 2030, especially the ones on ending hunger and poverty.
- More than 30 countries have already expressed interest in joining the coalition.

Good Laboratory Practice of OECD

- India has been designated the **Vice-Chair of Good Laboratory Practice (GLP)** Working Group of the Organisation for Economic Co-operation and Development (OECD).
- **GLP is a quality system**, which has been evolved by OECD to ensure that **safety data generated on various chemicals** like industrial chemicals, pharmaceuticals, cosmetic products and medical devices can be relied upon by regulatory authorities.

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- In March 2011, India became full adherent to the **Mutual Acceptance of Data (MAD)** in the OECD. The MAD status has given global recognition to India's non-clinical safety data.

Organisation for Economic Co-operation and Development (OECD)

- OECD is a group of 37 member countries that discuss and develop economic and social policy. OECD members are typically democratic countries that support free-market economies.
- It was established in Dec. 1960, by 18 European nations, plus the United States and Canada. It is **headquartered in Paris, France**.
- The OECD maintains a so-called "**black list**" of nations that are considered uncooperative tax havens, although there are not any nations currently on the list since by 2009.

Bongosagar Exercise

- The 2nd edition of the **bilateral naval exercise** Bongosagar was held between **India and Bangladesh** in Northern Bay of Bengal. The first edition of the Exercise Bongosagar, was held in 2019.
- The exercise was aimed at developing interoperability and joint operational skills through conduct of maritime exercises and operations.
- Bongosagar was followed by the 3rd edition of **India Bangladesh Coordinated Patrol (CORPAT)**, wherein both countries carried out joint patrolling along the International Maritime Boundary.

Oaxaca

- In his recent Mann ki baat address, the PM made a reference to the region of **Oaxaca (pronounced O-aa-ha-ka) in Mexico**.
- He said khadi was being manufactured in Oaxaca, and narrated an anecdote about how khadi reached Latin American country after a local resident became influenced by a film on Mahatma.

India – Denmark Virtual Summit

- Virtual bilateral summit between Indian Prime Minister and his Danish counterpart Mette Frederiksen took place.
- India proposed the creation of "**India-Denmark energy parks**" and a "**India-Denmark skill institute**" to train Indian manpower.
- India has invited Denmark to join the **supply chain resilience initiative**, which is proposed between Japan, Australia to diversify supply chains and reduce dependence on any one nation. Indian PM also accepted the invitation to attend the **2nd Nordic summit in Copenhagen**. On its part, Denmark agreed to join the International Solar Alliance.
- The issue of **Danish national Kim Davy**, the main accused in the **1995 Purulia arms drop case** (which had taken India-Denmark ties to an all-time low in 2012) also figured in the meeting.

India & Israel to Develop hi-tech Weapon Systems

- India and Israel have formed a new sub working group to promote co-development and coproduction of high-tech weapon systems.

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- This sub working group will explore defence industrial cooperation with focus on areas like transfer of technology, technology security, artificial intelligence etc.
- This comes at a time when India is inducting **Barak-8 surface-to-air missile systems** under three joint DRDO-Israeli Aerospace Industries (IAI) projects worth over Rs 30,000 crore. **Israel has been among the top four arms suppliers to India** for almost two decades now, notching military sales worth around \$1 billion every year.

India-Angola First Joint Commission Meeting

- India and Angola held the first Joint Commission Meeting online.
- During the meeting, two sides agreed to diversify their trade relationship and discussed cooperation in health, pharmaceuticals, defence, agriculture, food processing, digitization and telecom.
- It was agreed that the 2nd session of the Angola-India Joint Commission would be held in New Delhi in 2022.
- **Angola is the second largest crude oil supplier after Nigeria in the sub Saharan desert.** Hence, it assumes significance for India's energy security.

BRICS Culture Ministers' Meet

- The 5th BRICS Culture Ministers' Meeting was held online under the Chairpersonship of Russian Federation.
- **India proposed** to explore possibilities of hosting a Digital Online Exhibition on a Shared theme towards end of 2021 and opening the **BRICS Corner** under the of BRICS Alliance of Libraries. The Corner will disseminate information related to the history and culture of BRICS countries.

BRICS

- BRICS is the group composed by the five major emerging countries - Brazil, Russia, India, China and South Africa -, which together represent about 42% of the population, 23% of GDP, 30% of the territory and 18% of the global trade.
- The **acronym BRIC was coined by Goldman Sachs** in 2001. In 2011, with South Africa joining the group, the BRICS reached its final composition.
- At the **Fortaleza Summit** (2014), in Brazil, important institutions were created: the **New Development Bank (NDB)** and the **Contingent Reserve Arrangement (CRA)**. The CRA is an important financial stability mechanism for countries affected by crises in their balance of payments.
- BRICS cooperation has two pillars including consultations on issues of mutual interest through meeting of leaders and ministers and cooperation through meeting of senior officials in areas including trade, finance, health, education etc. The **Sherpa mechanism** is also an important mechanism at senior officials level to take stock and give direction.

World Solar Technology Summit

- **The first-ever World Solar Technology Summit** was held in September 2020. It was organised by the **International Solar Alliance (ISA)** in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI).

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- Aim – To focus on state-of-the-art technologies and next-generation technologies that will help boost efforts towards harnessing solar energy more efficiently.
- ISA also launched its technology journal, **Solar Compass 360**.
- Globally, **India ranks 4th** in terms of renewable power. India has **enhanced its installed renewable capacity by 2.5 times** and increased the **solar installed capacity by more than 13 times**.

International Solar Alliance (ISA)

- ISA was conceived as a coalition of solar-resource-rich countries (**which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn**) to address their special energy needs.
- The launch of ISA was announced by H.E. Mr. Narendra Modi, the Hon'ble Prime Minister of India and H.E. Mr. Francois Hollande, former Hon'ble President of France on 30th November 2015, at the **21st session of United Nations Climate Change Conference of the Parties (COP-21) in Paris, France**.
- The ISA has 122 sun-belt countries that lie between the two tropics as its prospective member countries and currently boasts a membership of 86 countries globally.

G7 Backs Extension of G20 Debt Service Suspension Initiative (DSSI)

G7 finance ministers backed an extension of a **G20 bilateral debt relief initiative for the world's poorest countries**. The online meeting hosted by US Treasury Secretary.

Debt Service Suspension Initiative (DSSI)

- In April 2020, G20 nations agreed to **freeze bilateral government loan repayments for low-income countries** until the end of the year. This decision was a part of a plan to tackle the health and economic crises triggered by the coronavirus pandemic and prevent an emerging markets debt crunch.
- To receive DSSI relief, the **eligible countries have to apply for an arrangement with the International Monetary Fund (IMF)**. This could either be a regular program or a shorter-term emergency facility.
 - The eligible countries would include all the International Development Association (IDA) countries and the least developed countries, as defined by the United Nations (UN), which are currently on debt service to the World Bank and IMF.

G7

- The Group of Seven (G-7) is an intergovernmental organization set up in 1975, that meets periodically to address international economic and monetary issues.
- **Member countries are:** Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
- The G-7 was formerly referred to as the G-8 until **Russia was suspended from the group in 2014** after illegally annexing Crimea.
- **The G-7 is not an official, formal entity** and, therefore, has no legislative or authoritative power to enforce the recommended policies and plans it compiles.



- A virtual meeting of G20 Education Ministers was held recently. It was **hosted by the Saudi Arabia, current chair of G20**.
- In 2021 **Italy will chair the Group of Twenty (G20)** for the first time since it started its gatherings in 1999. The 2022, 2023 and 2024 summits will be hosted by **Indonesia, India and Brazil** respectively.

About G-20

- The Group of Twenty (G20) is the premier international forum for **global economic cooperation**.
- Established in 1999, G20 was elevated from a forum of Finance Ministers and Central Bank Governors to that of Heads of State/Government in 2008 to **effectively respond to the global financial crisis of 2008**.
- G20 members account for **85 per cent of the world economy**, 75 per cent of global trade, and two-thirds of the world's population.
- **Members:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and the **European Union**.
- **G-20 is a forum, not a legislative body, its agreements and decisions have no legal impact**, but they do influence countries' policies and global cooperation.

International Day of Peace

- Each year the International Day of Peace/ World Peace Day is observed around the world on 21 September.
- It was **established in 1981 by the United Nations General Assembly**. Two decades later, in 2001, the General Assembly unanimously voted to designate the Day as a period of non-violence and cease-fire.
- The United Nations invites all nations and people to honour a cessation of hostilities during the Day. '**Shaping Peace Together**' is the theme for world peace day this year.

The 1619 Project

- President Donald Trump recently criticised an educational curriculum based on '**The 1619 Project**' that teaches the **impact of slavery in the US as "revisionist history"**, and threatened to withhold federal funding from public schools using the resource.
- The 1619 Project is a special **initiative of The New York Times Magazine**, launched in 2019 to mark the completion of 400 years since the first enslaved Africans arrived in colonial Virginia's Jamestown in August 1619
- The edition consists of 30 written and visual pieces by journalists, historians etc. examining **how social structures that developed in the US as a consequence of slavery affect present-day laws**, policies, systems and culture, and the contributions of Black people in America's nation-building
- The collection aims "to reframe US history by considering what it would mean to regard 1619 as nation's birth year.

US-Maldives Defence Cooperation Agreement

- Maldives government signed a military agreement “**Framework for a Defence and Security Relationship**” with the U.S., the first that Male has signed with any country other than India.
- The Agreement talks of **maintaining peace and security in the Indian Ocean** and promoting a rules-based order that promotes stability and prosperity in the Indo-Pacific region.
- Trump administration is looking for strengthening alliances in the Indo-Pacific to **counter China's growing presence in the region**. It is significant that the Maldives has taken a strategic position, and signed this agreement with the U.S. and not with China, despite the fact that it is part of BRI (Belt and Road Initiative).

New Changes In Qatar's Labour Laws

- Recently, Qatar has brought about a change in its labour laws. The key changes are
- **Abolished 'kafala system'** or requirement for a “no objection certificate” that migrant workers needed to get from their employers before changing jobs. Now, workers will have to serve a one-month notice period if they have worked for less than two years and notice period of two months if they have worked longer.
- **Increasing the minimum wage by 25 per cent** to \$274 or 1000 Qatari riyals and an additional 300 QAR for food and 500 QAR for accommodation in case not provided by the company. **These reforms will be applicable to workers** of all nationalities and in all sectors. It will also include domestic workers who were previously excluded.
- **Why were they changed:** **Qatar is hosting the 2022 FIFA World Cup** and in the run-up to the sporting event that is viewed by more than half of the global population, the country has faced flak for its labour laws, seen by many as being exploitative of migrant labourers.

UK Signs First Major post-Brexit Trade Deal with Japan

- Britain and Japan formally signed a trade agreement, marking the **UK's first big post-Brexit deal on trade**. Britain has said the deal meant 99% of its exports to Japan would be tariff-free, and that it could increase trade by \$19.9 billion in the long run, compared with 2018.
- **Britain had formally left EU in January 2020**. Since then it has focused on negotiating new trade deals with countries around the world.
- Japan welcomes Britain's interest in joining the 11-member **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)** free trade deal. Japan is already a member of the CPTPP, which also links Canada, Australia, Brunei, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.

Shanghai Cooperation Organization (SCO) Meet

- The SCO Defence Ministers meeting and SCO meeting of the **Council of Foreign Ministers (CFM)** were held separately. It was the 3rd CFM meeting that India attended as a full member of SCO.
- The SCO meeting will be chaired by the **current Chair of SCO, Russia**.

Shanghai Cooperation Organization

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- The SCO was founded at a summit in Shanghai in 2001 by the Presidents of Russia, China, Kyrgyz Republic, Kazakhstan, Tajikistan and Uzbekistan.
- **India and Pakistan** were admitted as observers of the grouping in 2005. Both the countries were admitted as full members of the bloc in 2017.

SCO- Council of Foreign Ministers (CFM)

- The SCO-CFM is the highest forum of SCO after the Council of Heads of State (CHS) and the Council of Heads of Government (CHG). It deliberates on important regional and international issues and considers documents for approval and adoption by the Council of Heads of State.

SAARC Virtual Meet of Foreign Ministers

The virtual meeting of Foreign Ministers of the South Asian Association for Regional Cooperation (SAARC) took place. The meeting indicate the revival of SAARC cooperation amidst the COVID-19 pandemic and creation of an India-led SAARC COVID-19 Emergency Fund.

About SAARC

- It was established with the signing of the **SAARC Charter in Dhaka** on 8 December 1985.
- **The objectives of the Association are:** to promote the welfare of the peoples of South Asia and to improve their quality of life; to accelerate economic growth, social progress etc.
- **Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- **The Secretariat** of the Association was set up in **Kathmandu** on 17 January 1987.
- Decisions at all levels are to be taken on the basis of unanimity; and bilateral and contentious issues are excluded from the deliberations of the Association.

India Wins Three Elections To Key UN Bodies

- India beat China to win a four-year term on the **UN's Commission on the Status of Women (CWS)**, a prestigious wing of the world body of UN Economic and Social Council (ECOSOC). India will be a member of the commission **for four years from 2021**.
- India also won a seat each, to two other ECOSOC bodies — the **Committee for Programme and Coordination (CPC)** and the **Commission on Population and Development (CPD)**.

UN's Commission on the Status of Women (CWS)

- The CWS is the principal global intergovernmental body **exclusively dedicated to the promotion of gender equality** and the empowerment of women.
- It was **established in June 1946** as a functional commission of the Economic and Social Council. Forty-five of the UN's member states serve as members of the commission at any one time.
- The members are elected by the ECOSOC on the basis of equitable geographical distribution — 13 members from Africa, 11 from Asia, nine from Latin America and the Caribbean, eight from Western Europe and other states and four from Eastern Europe.

UN Women

- The United Nations Entity for Gender Equality and the Empowerment of Women, also known as UN Women, works for gender equality and the empowerment of women.

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- Headquartered in New York City, it is a member of the United Nations Development Group, which became operational in 2011.
- The organization works with governments and civil society to design laws, policies, programmes and ensure it truly benefit women and girls worldwide.

Afghan Peace Process

- External Affairs Minister of India attended virtual meeting on Afghan peace negotiations at Doha. The Afghan peace process comprises the **proposals and negotiations in a bid to end the ongoing war in Afghanistan**.
- In February 2020, the **United States reached an agreement with the Taliban**, and with the government of Afghanistan to start an intra-Afghan peace process. Some of the important elements of the deal include the **withdrawal of US troops along with bringing down NATO or coalition troop numbers** within 14 months from when the deal was signed.
- Taliban gave the commitment that “Taliban will not allow any of its members, other individuals or groups, including al-Qaeda, to use the soil of Afghanistan to threaten the security of the United States and its allies”.



US-India Strategic Partnership Forum (USISPF)

- Indian Prime Minister delivered the special key Note Address at the USISPF 3rd Annual Leadership Summit.
- **Theme of the summit - “US-India Navigating New Challenges”**. It covered various subjects such as India’s potential in becoming a Global Manufacturing Hub, Opportunities in India’s Gas Market, Ease of Doing Business to attract FDI in India, Opportunities and Challenges in Tech Space.
- **The USISPF is a non-profit organization established in 2017** with an objective to strengthen the USA-India bilateral and strategic partnership. To achieve these goals, it works closely together with businesses and government leaders, both at the local as well as federal levels.

India-UK Defence Logistics Pact

- India and the UK are in the final stages of agreeing on a key defence logistics pact. The pact will help in **reciprocal use of airfields, bases, spares and supplies**.
- This reflects a policy shift in London as the UK government finalises its Integrated Review of Britain’s foreign policy, defence and international development in the post-Brexit world.
- After the pact, India can access ports and military bases from the **Garrisons in the Gulf to Keeling Island in the South Indian Ocean** and strategic military locations such as Busan and Okinawa. India will also be able to access **Naval facilities in the Atlantic**.
- India already has logistics sharing pacts with the US, France, Singapore, South Korea, Australia and Japan.



India -Sri Lanka Virtual Bilateral Summit

- India Prime Minister and his Sri Lankan counterpart Mahinda Rajapaksa held a virtual bilateral summit.
- India emphasized the implementation of the "**13th amendment to the Sri Lankan Constitution**". The 13th amendment, an outcome of the **1987 India-Sri Lanka peace accord**, is aimed at devolving **more powers to the Tamil minority**.
- India has announced **USD 15 million grant** assistance to Sri Lanka for the **promotion of Buddhist ties** between the two countries. India will facilitate the visit of a delegation of Buddhist pilgrims from Sri Lanka in the first inaugural flight to **Kushinagar in Uttar Pradesh**.
- **Jaffna Cultural Centre**, an iconic project built with Indian assistance, is almost complete and PM Rajapaksa extended an invitation to PM Modi to inaugurate the project.

India - Japan Reciprocal Provision of Supplies and Services

- **India and Japan** have signed **Acquisition and Cross-Servicing Agreement (ACSA)**, which establishes a framework such as the settlement procedures for the reciprocal provision of supplies and services between the **Self-Defense Forces of Japan and the Indian armed forces**.
- The agreement will cover the reciprocal provision of supplies and services during joint exercises, UN peacekeeping operations, humanitarian relief operations, operations to cope with disasters, and evacuation of nationals of India and Japan from overseas in exigencies.
- The agreement will **remain in force for 10 years** and will be automatically extended for periods of 10 years unless one of the parties decides to end it.
- India has similar agreements with the **US, Australia, France, Oman and Singapore**. On the other hand, India is only the second country after Australia with which Japan has such an agreement.

India-Japan Cooperation in 5G tech, AI and Critical Information Infrastructure

- India and Japan have finalised an **agreement on cyber-security to boost cooperation on 5G technology, Artificial Intelligence, Internet of Things (IoT)** and critical information infrastructure.
- Cooperation in critical information infrastructure would include infrastructure for banks and payment systems, telecommunications and internet, nuclear reactors etc.
- Japan also agreed to be the lead partner in the connectivity pillar of the **Indo-Pacific Oceans' Initiative (IPOI)**. The IPOI is an **India-backed framework aimed at making meaningful efforts to create a safe and secure maritime domain in the Indo-Pacific**, a region where China has been expanding its military assertiveness triggering global concerns.

India-Norway Joint Commission Meeting

- The Sixth Session of the India-Norway Joint Commission was held on a virtual platform.
- Both sides reviewed the progress of the Dialogue on Trade and Investment (DTI), progress made in the Ocean Dialogue and the initiatives undertaken by the Task Force on Blue Economy for Sustainable Development.

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- India and Norway are incoming elected members of the United Nations Security Council. In this context, both sides agreed to engage in regular consultations at senior officials level on Security Council issues during the membership period 2021-22.
- **Norway-India Partnership Initiative (NIPI)** - to provide effective health care to the rural population, especially tribal groups including women and children, by improving access, enabling ownership and demand for services. NIPI works within the National Rural Health Mission (NRHM) of India.

India-Mexico High level Group on Trade, Investment and Cooperation

- The fifth meeting of India-Mexico bilateral high-level group on trade, investment and cooperation was held virtually.
- **Mexico was the first Latin American nation that recognised the independence of India in 1947.** Both sides established their diplomatic relation on August 1, 1950.
- Bilateral trade between these two countries stand at \$10 billion. India mainly exports gems, jewellery, Textiles, software and leather to Mexico. India imports, fertilizers, machinery, petroleum and Chemicals from Mexico.

China Opposes India-Taiwan Trade Ties

China said it would “firmly oppose” any official exchanges between New Delhi and Taipei. The statement from China’s Foreign Ministry came in response to reports that **India and Taiwan were considering going forward with talks on a trade deal**.

India- Taiwan

- **India does not have formal diplomatic ties with Taiwan.** Like most countries, it maintains commercial ties with Taiwan.
- In 1995, New Delhi set up the **India-Taipei Association (ITA)** in Taipei to promote interactions between the two sides and to facilitate business, tourism, and cultural exchanges.
- **The Taiwan-Asia Exchange Foundation (TAEF)**, a leading think tank from Taiwan has signed a memorandum with India’s National Maritime Foundation (NMF) in order to foster cooperation in the Indo-Pacific region as part of Taiwan’s South bound policy. The island nation named India as one of its New Southbound Policy target countries in 2016.

India-Uzbekistan Virtual Bilateral Summit

- A Virtual Summit was held between PM Modi and President of Uzbekistan Mr. Shavkat Mirziyoyev. This was the first bilateral ‘Virtual Summit’ meeting between India and a Central Asian country.
- India and Uzbekistan have continued to maintain high level exchanges in the recent past. The visits of Prime Minister Modi to Uzbekistan in 2015 and 2016 and President Mirziyoyev to India in 2018 and 2019 have imparted a new dynamism to the strategic partnership.



Singapore Convention on Mediation

- The Singapore Convention on Mediation recently came into force on 12th September, which marks a significant development in **international commercial dispute resolution** through mediation.
- Also known as the United Nations Convention on International Settlement Agreements Resulting from Mediation, this is **the first UN treaty to be named after Singapore**.
- With the Convention, businesses can rely on mediation as a dispute resolution option for their cross-border transactions, with greater certainty and assurance that their mediated outcomes are enforceable.
- As on September 1, 2020, the Convention has **53 signatories, including India, China and the U.S.** Six countries have ratified the Convention till now, which include, Ecuador, Singapore, Fiji, Qatar, Saudi Arabia and Belarus.

G4 Countries

- Foreign Ministers of G4 countries met virtually and called for a decisive **push for UNSC reforms** during 75th United Nation General Assembly (UNGA).
- The move is in line with India's position on the reforms of the UN, including the expansion of the permanent and non-permanent membership of the Security Council, its main decision-making organ.
- The G4 nations comprising **Brazil, Germany, India, and Japan** are four countries which support each other's bids for **permanent seats on the United Nations Security Council**.

International Atomic Energy Agency (IAEA)

- Iran has agreed to give IAEA inspectors access to two suspected former nuclear sites. IAEA had long been demanding the access of these two site, however, Iran kept blocking the access.
- The latest row over access comes as a landmark deal between Iran and world powers in 2015. Under the deal, known as the **Joint Comprehensive Plan of Action (JCPOA)**, Iran committed to curtailing its nuclear activities in return for sanctions relief and other benefits.
- But Iran has slowly abandoned its commitments in retaliation for U.S' decision to renounce the deal and reimpose sanctions.

About International Atomic Energy Agency (IAEA)

- It is an autonomous intergovernmental organization dedicated to increasing the contribution of atomic energy to the world's peace and well-being.
- It also ensures that agency assistance is not used for military purposes.
- It was set up as the world's "Atoms for Peace" organization in 1957 within the United Nations family.
- The IAEA Secretariat is headquartered at the Vienna International Centre in Vienna, Austria.

Foreign Agents Registration Act (FARA)

- The US affiliate of the BJP, which is known as the Overseas Friends of BJP-USA (OFBJP-USA), registered itself as the official representative of India's ruling party under the American government's

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FARA. It has become the **first affiliate of an Indian political party** to have been registered under FARA.

- Enacted in 1938, FARA requires the **registration and disclosure of individuals or entities engaged in political activities** on behalf of a foreign principal. Foreign principals are defined as a foreign government, a foreign political party, any person outside the US etc.
- Disclosure of the required information facilitates evaluation by the government and the American people of the activities of such persons in light of their function as foreign agents. It is considered a tool to **identify foreign influence in the US** and address threats to its national security.

Arab League

The Palestinian Authority quit its rotating chairmanship of Arab League. This step came after the Palestinians were unable to persuade the Arab League to condemn member nations that break ranks and normalize relations with Israel

About Arab League

- The Arab League is a regional multi-national organization of *Arabic-speaking countries* on the African and Asian continents. It has **22 member nations and 4 observer nations**.
- The Arab league's mission is to promote trade and economic growth as well as sovereignty and political stability in the region.
- After Egypt signed a peace treaty with Israel in 1979, the other members of the Arab League voted to suspend Egypt's membership and to transfer the league's headquarters from Cairo to Tunis.
- Egypt was reinstated as a member of the Arab League in 1989, and the league's headquarters returned to Cairo in 1990.

Queen's Counsel

- Pakistan rejected India's demand that an Indian lawyer or a Queen's counsel should be appointed for death-row prisoner Kulbhushan Jadhav to ensure a free and fair trial.
- Queen's Counsel is a **barrister or advocate, appointed Counsel to the UK Crown** on the recommendation of the Lord Chancellor.
- Queen's counsels are **recognised in almost all courts around the world**.

Conference on Interaction and Confidence-Building Measures in Asia (CICA)

- India's External Affairs Minister participated in the Special Ministerial Meeting of Foreign Ministers of the CICA. CICA is the Conference on Interaction & Confidence Building Measures in Asia.
- The meeting was held virtually and Kazakhstan has assumed the Chair of CICA.

About CICA

- It is an **inter-governmental forum** for enhancing cooperation towards promoting peace, security and stability in Asia.
- Secretariat** - Nur-Sultan, Kazakhstan.

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- The CICA Summit is **convened every four years**. For becoming a member of CICA, a state must have **at least a part of its territory in Asia**.
- **India has been a member of CICA** since its inception in 1999. India also co-chairs two CICA CBMs on 'Development of Secure and Effective Systems of Transportation Corridors,' and 'Energy Security'.

France's New National Security Bill

- France has been rocked by street protests after the government introduced a controversial security bill in the Parliament.
- Article 21 and 22 of the proposed "global security" law allow the police and the paramilitary forces to **use body cameras and drones to film citizens**. It also allows the recorded footage to be livestreamed to the command post.
- Article 24 **penalises publishing "the image of the face or any other element of identification"** of a police or paramilitary official who is acting in a "police operation".
- If the dissemination is done with the intent of harming their physical or mental integrity, the punishment will be imprisonment for up to 1 year, with a maximum fine of 45000 euros.

Bangladesh Relocates Rohingyas To Bhasan Char Island

- The Bangladesh government has relocated 1,642 Rohingya to Bhasan Char, an island in the Bay of Bengal under the Hatiya upazila of Noakhali.
- The relocation is part of a phased shift of over 100,000 refugees from the overcrowded camps in Cox's Bazar.
- **Bhasan Char:** Located **near the mouth of the river Meghna** where it flows into the Bay of Bengal, **Bhasan Char surfaced only in 2006** from the sediment deposited by the river. Located close to the much larger Sandwip, Bhasan Char spans 40 sq km.
- The **Rohingyas** are the **predominantly Muslim ethnic minority group** with Benagli dialect.

Tibetan Policy and Support Act

- The US Congress has passed The Tibetan Policy and Support Act of 2020 (TPSA). The act reaffirms the **right of Tibetans to choose a successor** to their spiritual leader, the **Dalai Lama**.
- The act calls for **establishing a US consulate in Tibet**. It also emphasised on building an international coalition to ensure that the **next Dalai Lama is appointed solely by the Tibetan Buddhist community** without China's interference.
- It places **restrictions on new Chinese consulates in the United States** until a US consulate has been established in Lhasa, Tibet.

Bribery for Presidential Pardon Scheme

- The US Justice Department is investigating an alleged bribery scheme that was directing money to officials in the White House in exchange for a presidential pardon or commutation.

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- The Constitution gives Presidents of USA the constitutional right to **pardon or commute the sentence of people who have broken federal laws.**
- The Supreme Court had held that this power is “**granted without limit**” and can’t be restricted by Congress. The President has the power **to pardon individuals for nearly any crime committed** and is not answerable for his pardons.
- However, there are a few **limitations**. The power **only applies to federal crimes and not state crimes**. Also, the President cannot issue a pardon in the case of impeachment of officials.

India-Vietnam Virtual Bilateral Summit

PM Modi held Virtual Summit with his counterpart of Vietnam Nguyen Xuan Phuc.

Announcements Made

- Implementation of the **High-Speed Guard Boat Manufacturing Project** for Vietnam Border Guard Command under the US\$ 100 million Defence Line of Credit extended by India to Vietnam.
- Completion and handing over of seven Development Projects with Indian **‘Grant-in-Aid’ Assistance of US\$ 1.5 million** for the benefit of local community in Vietnam’s Ninh Thuan province.

UNSC 1267 Sanctions Committee

- Pakistan had initiated a move to list two Indians - Angara Appaji and Gobinda Patnaik – as designated terror operatives under the **UNSC's 1267 Committee for Counterterrorism Sanctions**.
- **UNSC 1267 Sanctions Committee:** This committee - in pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning ISIL (Da’esh), Al-Qaida, and associated individuals, groups, undertakings and entities - oversees the sanctions measures imposed by the Security Council.
- It is one of the most important and active UN committee working on efforts to combat terrorism, **particularly in relation to Al Qaeda and the Islamic State group**.

SCO Meet In India

- India chaired the 19th meeting of the Council of Heads of Governments (CHG), i.e., Prime Ministers, of the Shanghai Cooperation Organisation (SCO) in a virtual format.
- This was **the first summit meeting of the SCO to be hosted by India** since it became its member in 2017.
- It should be noted that **India refused to endorse Belt Road Initiative (BRI) of China** at the summit.

Organisation for the Prohibition of Chemical Weapons (OPCW)

- Germany has claimed that **Novichok was used to poison Alexei Navalny** (a critic of Russian President Vladimir Putin who is in a coma in a Berlin hospital).
- **Novichok:** It is used for a family of **highly toxic nerve agents** with a composition slightly different from the better-known poison gases VX and sarin. Novichok agents are believed to be five to 10 times more lethal than these substances. In 2019, members of the OPCW agreed to expand its list of banned “Schedule 1” chemicals to include Novichok agents. That ban went into effect in June 2020.

Chemical Weapons Convention (CWC)

- It is a **multilateral treaty that bans weaponization of chemical weapons** and requires their destruction within a specified period of time. It is **implemented by OPCW**.
- So far it has 193 members. Egypt, Israel, North Korea and South Sudan are not the member of convention.

Organisation for the Prohibition of Chemical Weapons (OPCW)

- It is an international organization established by the Chemical Weapons Convention (adopted 1992, entered into force 1997). Its aim is to implement and enforce the terms of the international treaty, which prohibits the use, stockpiling, or transfer of chemical weapons by signatory states.
- The OPCW was **awarded the Nobel Peace Prize in 2013**. Its headquarters are located in The Hague, Netherlands
- It is **not part of United Nation**. The OPCW reports on its inspections and other activities to the UN through the office of the secretary-general.

Association of World Election Bodies (AWEB)

- India has completed one year of chairmanship at A-WEB. During 4th general assembly of A-WEB in 2019, India took over as the chair of A-WEB for 2019-21.
- A-WEB is **the largest association of Election Management Bodies worldwide**. It was established in October 2013 in South Korea.
- It aims to foster efficiency and effectiveness in conducting free, fair, transparent and participative elections worldwide.
- **HQ - Seoul**, South Korea.
- In 2019, an India A-WEB Centre has been established at New Delhi.

Asia-Pacific Broadcasting Union

- Prasar Bharati CEO Shashi Shekhar Vempati has been elected as the vice president of Asia-Pacific Broadcasting Union (ABU).
- ABU was established in 1964. It has **Secretariat in Kuala Lumpur, Malaysia**.
- It is a **non-profit, non-governmental, professional association** of broadcasting organisations. It assists development of broadcasting in region.
- ABU is also **member of the World Broadcasters' Union**.

United Nations Conference on Trade and Development (UNCTAD)

- UNCTAD has declared **Invest India** as a winner of the United Nations Investment Promotion Award 2020.
- UNCTAD was **established by the United Nations General Assembly** in 1964, as a permanent intergovernmental body. With a **permanent secretariat in Geneva**, the UNCTAD reports to the UN General Assembly and United Nations Economic and Social Council.

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- The creation of UNCTAD was based on concerns of developing countries over the international market, multi-national corporations, and great disparity between developed nations and developing nations.

Invest India is the **National Investment Promotion and Facilitation Agency** of India and act as the first point of reference for investors in India. It is a non-profit venture set up in 2009 **under the Department for Promotion of Industry and Internal Trade**, Ministry of Commerce and Industry.

United Nations Population Award

- The UN Population Award for 2020 were recently awarded. The Award was established by the **UN General Assembly in 1981**, and was first presented in 1983.
- This year's winners are **HelpAge India**, in the institutional category, and Queen Mother of Bhutan Gyalyum Sangay Choden Wangchuck, in the individual category.

ASEAN Defence Ministers' Meeting Plus (ADMM Plus)

- The 14th ASEAN Defence Ministers' Meeting Plus was organized online. It was **hosted by Vietnam, the current chair** of the forum. Brunei Darussalam has been elected as a new Chair for 2021.
- The ADMM-Plus is a **platform for ASEAN and its eight Dialogue Partners**. Dialogue Partners are - Australia, China, India, Japan, New Zealand, ROK, Russian Federation and the United States. The aim of ADMM-Plus is to **strengthen security and defence cooperation** for peace, stability, and development in the region.
- ADMM is the highest defence consultative and cooperative mechanism in ASEAN. It was established in 2006 and includes the 10 members of ASEAN.

United Nations Alliance of Civilizations (UNAOC)

- Recently, UN General Assembly organized "Culture of Peace" session. During the session, India raised concerns over UN Alliance of Civilizations (UNAOC) resolutions. India criticized UNAOC for its "selectivity" in seeking to protect Abrahamic religions — Islam, Christianity and Judaism over others.
- The UNAOC was established in 2005, as the **political initiative of Mr. Kofi Annan**, former UN Secretary-General and co-sponsored by the Governments of Spain and Turkey. Since its inception, it is devoted to **promoting understanding across diverse communities**.
- UNAOC features programming in the areas of **Education, Youth, Migration and Media**.

US Currency Watch List

- The United States has once again **included India in its currency manipulation watch list**. India had been placed on this watch list in 2018 but was removed in 2019.
- The new watch list also names China, Japan, Korea, Germany, Italy, Singapore, Malaysia, Taiwan and Thailand. Switzerland and Vietnam have been declared as outright currency manipulators.
- The term currency manipulator is given by the US government to countries it feels are **engaging in unfair currency practices by deliberately devaluing their currency** against the dollar.

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- Three pre-conditions need to be satisfied for a country to be named as currency manipulator and two of the three conditions to be placed on the watchlist; They are
 - A bilateral trade surplus of more than \$20 billion with the US;
 - A current account surplus of at least 3 percent of GDP; and
 - Net purchases of foreign currency of 2 percent of country's GDP over a 12-month period.

Legion of Merit Award

- US President Donald Trump has conferred The Legion of Merit, **Degree Chief Commander — to Prime Minister Narendra Modi**, along with Australian PM Scott Morrison and former Japanese PM Shinzo Abe.
- The Legion of Merit, in the **highest degree of the Chief Commander**, is a prestigious award conferred by the President of the US, typically upon **Heads of State or Heads of Government of other countries**. The award is being given since 1943.
- There have been **two Indian recipients** of the honour in the past: Field Marshal K M Cariappa in 1950, and Gen S M Srinagesh in 1955.

Djibouti Code of Conduct (DCOC)

- India has joined DCOC, also known as **Jeddah Amendment (JA), as an Observer**. India joins Japan, Norway, the UK and the US as Observers to the DCOC/JA.
- DCOC/JA is a **grouping on maritime matters comprising 18 member states** adjoining the Red Sea, Gulf of Aden, the East coast of Africa and Island countries in the IOR.
- It was **established under the International Maritime Organization (IMO)** in January 2009 with an aim of repression of piracy and armed robbery against ships in the Western Indian Ocean Region, the Gulf of Aden and the Red Sea
- It provides a framework for capacity building in the Gulf of Aden and Western Indian Ocean to combat the threat of piracy.

Shaheen-IX

- The air forces of **Pakistan and China** have conducted a joint exercise, **Shaheen (Eagle)-IX**, designed to deepen practical cooperation and improve the actual-combat training level of two sides.
- Shaheen-IX is the ninth in the series of Joint Air Exercises which is conducted each year in both countries on alternate basis. The first such drill was held in Pakistan in March 2011.

Indra Exercise

- **India and Russia** held the 11th edition of bilateral naval exercise, Indra 2020, in the Andaman Sea, close to the strategic Strait of Malacca.
- In July, the Indian Navy had conducted a **Passage Exercise (PASSEX)** with the US aircraft carrier USS Nimitz strike group in the same area near the Andaman and Nicobar (A&N) Islands.

Ind-Indo Corpat

- The 35th edition of **India-Indonesia Coordinated Patrol (IND-INDO CORPAT)** between the Indian Navy and the Indonesian Navy was conducted in December 2020.
- Indian Naval Ship (**INS**) **Kulish**, an **indigenously built missile corvette**, along with **P8I Maritime Patrol Aircraft (MPA)** undertook coordinated patrol with their Indonesian counterparts.

PASSEX

- The Indian Navy (IN) has conducted a Passage Exercise (PASSEX) **with Russian Federation Navy (RuFN)** in the Eastern Indian Ocean Region (IOR) in December 2020.
- Indian Navy is being represented by **indigenously constructed guided missile frigate Shivalik** and anti-submarine corvette Kadmat alongwith integral helicopters.

SITMEX-20.

- **India, Singapore and Thailand**, recently, concluded their trilateral naval exercise SITMEX-20. This was the second edition of SITMEX and was hosted by the Singapore Navy.
- The Indian Navy was represented by **two indigenous warships -- an ASW corvette, INS Kamorta, and a guided Missile corvette, INS Karmuk.**

Military Exercise Between India and Thailand- MAITREE (Army), SIAM BHARAT (Air Force), Indo-Thai CORPAT (Navy)

Military Exercise Between India and Singapore- Bold Kurukshetra (Army), Joint Military Training (Air Force), SIMBEX (Navy)

Organization of Petroleum Exporting Countries Plus (OPEC+)

- OPEC+ has agreed to increase production by 500,000 barrels/ day beginning in January 2021.
- **OPEC+ is a group of 24 oil-producing nations.** It is made up of the 14 members of the Organization of Petroleum Exporting Countries (OPEC), and 10 other non-OPEC members, including Russia.
- **The 10 non-OPEC members are** - Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan
- The OPEC bloc is nominally led by Saudi Arabia, the group's largest oil producer, while **Russia is the biggest player among the non-OPEC countries.**
- The format was born in 2017 with a deal to coordinate oil production among the countries in a bid to stabilize prices. OPEC accounts for around one-third of the world's oil supply, with the non-OPEC members bringing the total share of global oil covered by the deal to just under half.

Organisation of Islamic Cooperation (OIC)

- India has hit out at the OIC for making factually incorrect and unwarranted references to Jammu and Kashmir.
- OIC is the **second largest inter-governmental organization after the United Nations** which has **membership of 57 states** spread over four continents.

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- The Organization is the **collective voice of the Muslim world** and ensuring to safeguard and protect the interests of the Muslim world.
- The Organization was established upon a decision of the historical summit which took place in Rabat, Kingdom of Morocco on 25 September 1969 as a result of criminal arson of Al-Aqsa Mosque in occupied Jerusalem.
- It has a permanent secretariat in **Jeddah, Saudi Arabia**.

Asia-Pacific Economic Cooperation (APEC)

- A virtual meeting of the 21-member APEC forum was held in November 2020. It was **hosted by Malaysia**.
- APEC leaders adopted the **Putrajaya Vision 2040**. It is a **new 20-year growth vision** which would **replace the Bogor Goals** (named after the Indonesian town where leaders agreed in 1994 to free and open trade and investment).
- APEC is a **regional economic forum** established in 1989 to leverage the growing interdependence of the Asia-Pacific.
- It aims to create greater prosperity for the people of the region by promoting balanced, inclusive, sustainable, innovative and secure growth and by accelerating regional economic integration.
- APEC has 21 members and its **Secretariat is based in Singapore**. **India is not a member** of APEC.

UN Advisory Committee on Administrative and Budgetary Questions (ACABQ)

- Indian diplomat Vidisha Maitra has been elected to the UN ACABQ.
- ACABQ is a **subsidiary of the General Assembly** responsible for "**expert examination of the programme budget of the United Nations**" and assists the Fifth Committee (which deals with administrative and budgetary issues).
- The Committee is an expert Committee of **sixteen Members elected by the General Assembly for a period of 3 years**, on the basis of a broad geographical representation.
- It examines and reports on the budget submitted by the Secretary-General to the General Assembly.

Inter Parliamentary Union (IPU)

- Duarte Pacheco of Portugal has been elected as the new President of IPU for the period 2020-2023.
- The IPU is the **global organization of national parliaments**. It was established in 1889. IPU is the focal point for world-wide parliamentary dialogue and works for peace and cooperation among peoples and for the firm establishment of representative democracy.
- It has **179 Member Parliaments**, 13 Associate Members.
- **Slogan** - "For democracy. For everyone."
- **Headquarter** – Geneva, Switzerland.

INTERNAL SECURITY

Spike-LR Anti-Tank Guided Missiles

- The Army is set to place a repeat order for **Spike-LR (Long Range) Anti-Tank Guided Missiles (ATGM) from Israel** as part of emergency procurement.
- Spike LR is a **4TH generation missile** that can engage a target with precision at **ranges up to 4 km**.
- In addition to **fire and forget capability**, the missile also has the ability to **fire, observe and update**, providing substantial flexibility to the firer to pinpoint the impact point.
- The missile has an inbuilt seeker, which gives the firer the flexibility to use any of two modes: **Day (CCD) and Night (IIR)**. The dual seeker adds to the missile's reliability.

DAC Approved New Weapons

- Defence Acquisition Council (DAC) cleared proposals worth close to Rs 39,000 crore that will boost the combat capabilities of Army, Navy and the Air Force. It includes the following-
- **Pinaka missile system for the Army:** It is an **all-weather, indirect fire, free flight artillery rocket** system. It consists of Rocket, Multi Barrel Rocket launcher, Battery Command Post, Loader cum Replenishment Vehicle, Replenishment Vehicle and Digicora MET Radar.
- **Astra Missiles** with Beyond Visual Range (BVR) capability will serve as a force multiplier. It is designed to be mounted on fighter aircraft. It can be launched in autonomous and buddy mode of operation with features for Lock-On-Before Launch (LOBL) and Lock-On After Launch (LOAL).
- **MIG 29 & Su-30 MKI Fighter jets:** DAC approved procurement of **21 MIG-29 from Russia**. It is a twin-engine, multirole fighter jets, developed by the Soviets in 1970s, but has been upgraded since.
- **Development of Long-Range Land Attack Cruise Missile Systems (LRLACM):** It is aimed at enhancing India's firing range from between 400 km and 500 km of the Brahmos to 1000 km.

Sprinklr Controversy

- The State government has issued a set of guidelines for the collection and processing of personal information in the wake of the Sprinklr controversy.
- Kerala government went into a **deal with a US-based tech firm “Sprinklr” to handle the health related data of 1.75 lakh people under quarantine in the state**. According to the government, this was done as an emergency measure to collate the health data in order to understand how the pandemic would behave in Kerala.
- However, opposition slammed the move as government did not follow the procedures in appointing Sprinklr and thereby **risked the transfer of crucial health data of thousands of people to pharmaceutical companies**. They allege that the individual consent of people under quarantine was not taken.

Operation Desert Chase

- Operation Desert Chase - **an anti-espionage operation was started by Military Intelligence** in early 2019. It successfully culminated on June 8, 2020 with the arrest of two men. Both the men were civil defence employees.

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- They were on the payrolls of ISI and allegedly passed information relating to the trains transporting ammunition across the country.

Naval Innovation and Indigenisation Organisation (NIIO)

- **Ministry of Defence** launched NIIO to **boost self-reliance in the defence manufacturing sector**.
- The NIIO puts in place dedicated structures for the end users to interact with academia and industry towards fostering innovation and indigenisation for self-reliance in defence in keeping with the vision of Atmanirbhar Bharat.
- The NIIO is a **three-tiered organisation**. **Naval Technology Acceleration Council (N-TAC)** will bring together the twin aspects of innovation and indigenisation and provide apex level directives. A working group under the N-TAC will implement the projects. A **Technology Development Acceleration Cell (TDAC)** has been created for induction of emerging disruptive technology in an accelerated time frame.

OPV Sarthak

- An Offshore Patrol Vessel (OPV) for the Indian Coast Guard was launched and re-christened as **Indian Coast Guard Ship 'Sarthak'**.
- OPV Sarthak is the **4th in the series of five OPVs**. It has been designed & built indigenously by **Goa Shipyard Limited (GSL)** in line with the vision of 'Make in India'.
- **Features:** The Ship is fitted with state-of-the-art Navigation and Communication equipment, sensor and machinery. It is designed to embark and **carry a twin-engine helicopter, four high speed boats and one inflatable boat** for swift boarding and Search & Rescue operations. It is also capable of carrying limited pollution response equipment to **undertake oil spill pollution response** at sea.
- The ship will be deployed extensively for **EEZ surveillance and Coastal Security**.

Draft Defence Production and Export Promotion Policy (2020)

- Ministry of Defence released draft Defence Production and Export Promotion Policy 2020.
- **Goals and Objectives:**
 - To achieve a turnover of Rs 1,75,000 Crores (US\$ 25Bn) including export of Rs 35,000 Crore (US\$ 5 Billion) in Aerospace and Defence goods and services by 2025.
 - To develop a dynamic, robust and competitive Defence industry, including Aerospace and Naval Shipbuilding industry to cater to the needs of Armed forces with quality products.
 - **To reduce dependence on imports** and take forward "Make in India" initiatives through domestic design and development.
 - **To promote export of defence products** and become part of the global defence value chains.
 - **To create an environment that encourages R&D**, rewards innovation, creates Indian IP ownership and promotes a robust and self-reliant defence industry.
- **Focus areas:** Procurement Reforms, Indigenization & Support to MSMEs/Startups, Optimize Resource Allocation, Investment Promotion, FDI & Ease of Doing Business, Innovation and R&D, DPSUs and OFB, Quality Assurance & Testing Infrastructure Export Promotion.

APT29

- UK and its allies publicly blamed APT29 for **cyber-attacks on organizations involved in coronavirus vaccine development.**
- APT29, also known as **Cozy Bear**, is a **cyberespionage group allegedly linked to Russian state intelligence agencies**. Earlier, this group had hacked into election networks before the 2016 U.S. presidential election.
- The cyberespionage groups dubbed **APT28 (aka Fancy Bear) and APT29 (aka Cozy Bear and The Dukes)** are believed to correspond to Russia's military intelligence agency GRU and its state security organization FSB, respectively.
- These warriors have been involved in many sophisticated cyber-attacks in the past. **They attacked critical systems in Estonia in 2007** over the relocation of a Soviet-era memorial. The 2015 cyberattack on three of Ukraine's regional power distribution companies knocked out power to almost a quarter-million people.

Anti-tank Guided Missile 'Dhruvastra'

- Defence Research and Development Organisation conducts flight trials of the anti-tank guided **Nag Missile (HELINA)**, which has been **named now as Dhruvastra**.
- This is categorized as the **third-generation, fire-and-forget, anti-tank guided missile** and is meant to support both the air borne forces of the Indian Army as well as the Mechanised infantry.
- The missile in the helicopter-launched configuration has been designated as **Helicopter-launched NAG (HELINA)**.
- DRDO has developed this missile under the **Integrated Guided Missile Development Programme (IGMDP)**.

Arad and Carmel

- Two latest Israeli assault rifles — the Arad and the Carmel — are set to be manufactured in India.
- The assault weapons are to be produced under the 'Make in India' initiative. A plant had been set up in Madhya Pradesh in 2017 by Israel Weapons System (IWI) in a joint venture called PLR Systems.

Kargil Vijay Diwas

- 21st Kargil Vijay Diwas was celebrated on 26 July to **commemorate the victory of the Indian soldiers over the infiltrating Pakistani troops**.
- The Kargil War fought between May-July of 1999 in the Kargil district of Jammu and Kashmir along the Line of Control. **Operation Vijay was launched by the Indian army** to throw back the intruders.
- On July 26, 1999, India successfully regained command over all the high outposts.

BlackRock

- Security firm ThreatFabric has alerted about a new **malware, called BlackRock**, which can **steal information like passwords and credit card information** from about 377 smartphone applications, including Amazon, Facebook, Gmail.

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- BlackRock isn't exactly a new malware. In fact, it is based on the leaked source code of the Xeres malware, **itself derived from malware called LokiBot**. The only big difference between BlackRock and other Android banking trojans is that it **can target more apps than previous malwares**.
- When the malware is first launched on the device, it hides its icon from the app drawer, making it invisible to the end-user. It then asks for accessibility service privileges. Once this privilege is granted, BlackRock grants itself additional permissions required to fully function without having to interact with the victim.

T-90 Tanks

- The Acquisition Wing of the Ministry of Defence (MoD) signed a ₹557-crore contract with the Bharat Earth Movers Limited (BEML) for the procurement of 1,512 **mine ploughs for T-90 Tanks**.
- These mine ploughs will be fitted on T-90 Tanks of the Indian Armoured Corps which will facilitate individual mobility to the tanks while negotiating mine field. The **mobility of the tank fleet will enhance manifold** which in turn would extend the reach of the armoured formations deep into enemy territory without becoming a mine causality.
- As per the procedure, the contract **has Buy and Make (Indian) categorisation** with a minimum of 50% indigenous content in the Make portion.

Negative Imports List for Defence

- The Defence Ministry announced a list of 101 items that the Defence Ministry will stop importing. It essentially means that the Armed Forces—Army, Navy and Air Force—**will only procure all of these 101 items from domestic manufacturers**. The manufacturers **could be private sector players or defence Public Sector Undertakings (DPSUs)**.
- Government intends to reach a turnover of \$25 billion through indigenously manufactured defence products and also expects to export products worth \$5 billion.
- Government has also decided that in **any government contract over ₹200 crore, no foreign company can participate in the tendering process**.

SRIJAN Portal

- Ministry of Defence (MoD) launched Department of Defence Production, MoD's portal SRIJAN.
- It is a 'one stop shop online portal that provides **access to the vendors to take up items that can be taken up for indigenization**.
- The portal displays information in a structured way, which includes the item name, image and specification, values of imports, NATO Classification (indicative), etc.
- On this portal, DPSUs/OFB/SHQs can display their items which they have been importing or are going to import which the Indian Industry can design, develop and manufacture as per their capability or through joint venture with OEMs.

Draft 'Aids to Navigation Bill 2020'

- The draft bill is proposed to **replace the Lighthouse Act, 1927** to incorporate the best global practices, technological developments and India's International obligations in the **field of Aids to Marine Navigation**.

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- This initiative is part of the **proactive approach** adopted by the **Ministry of Shipping** by repealing colonial laws and replacing them with modern and contemporary needs of the maritime industry.
- The bill **aims to regulate state-of-the-art technologies of marine navigation**.
- It provides for **identification and development of heritage lighthouses**.
- **Directorate General of Lighthouses and Lightships** is empowered with additional power such as Vessel Traffic Service, Wreck flagging, training and certification.

SLINEX-20

- The eighth edition of the annual bilateral maritime exercise **SLINEX between the Indian Navy and Sri Lanka Navy** was conducted at Trincomalee in Sri Lanka. The previous edition of SLINEX was conducted off Visakhapatnam in September 2019.
- The exercise aims to enhance inter-operability, improve mutual understanding and exchange best practices between both navies.
- Synergy developed during SLINEX exercises resulted in seamless coordination of joint Sri Lanka – India efforts in September 2020 to render assistance to MT New Diamond, a Very Large Crude Carrier (VLCC), which had caught fire off the East Coast of Sri Lanka.

Sprut Light Tanks

- **India is in advanced talks with Russia** to acquire a newly developed Sprut light tank that could be **useful in high altitude areas** like the Line of Actual Control (LAC) in eastern Ladakh.
- India has a robust tank force, but all of them are heavy main battle tanks — T72s, T90s and the indigenously developed Arjun — considered more suitable for operations in the plains.
- The Sprut SDM1 is designed to be airdropped from an aircraft with its crew of three sitting inside the tank. India has operated light tanks in the past and it has come in handy during the 1947-48 Kashmir operations as well as the 1962 war with China, but these have been slowly phased out.

Supersonic Missile Assisted Release of Torpedo (SMART)

- India successfully flight-tested its indigenously developed Supersonic Missile Assisted Release of Torpedo (SMART) from Wheeler Island off the coast of Odisha.
- SMART is a **missile assisted release of lightweight Anti-Submarine Torpedo System** for Anti-Submarine Warfare (ASW) operations far beyond Torpedo range. It takes off like a regular supersonic missile when launched from a warship or a truck-based coastal battery. When it approaches close to a submerged submarine, the missile would eject the torpedo system into the water and the **torpedo will start moving towards its target to hit the submarine**.
- It has a **maximum range of 650 km**, a first for such a class of weapon in the world giving the Indian Navy a significant leap in engagement capabilities.
- It also **provides the exact location of the hostile submarine** to correct its flight path midway. One of the most potent threats to surface ships is an undetected submarine and now with the SMART, it is possible to remove the surface ship from the weapon danger zone of a submarine.

BrahMos Successfully Flight Tested

- BrahMos missile, featuring indigenous Booster and Airframe Section along with many other 'Made in India' sub-systems, were successfully flight tested for designated range, taking one more major step in enhancing the indigenous content.
- BRAHMOS is a universal **long-range supersonic cruise missile system** that can be launched from land, sea and air. It has a capacity to achieve the speed of **Mach 2.8**. A newer version, called **hypersonic cruise missiles**, under development is aimed at flying at speeds greater than **Mach 5**.
- The name BrahMos is the amalgamation of the names of two rivers, the **Brahmaputra of India and the Moskva of Russia**. It has been jointly **developed by DRDO, India, and NPOM, Russia**.
- BRAHMOS Weapon Systems has been inducted and is operational with Indian Navy (IN) as well as Indian Army (IA). The first version of the BrahMos supersonic cruise missile was inducted into the Indian Navy in 2005.

Integrated Theatre Command

- As a next step in defence reforms, after the appointment of the Chief of Defence Staff (CDS), the formation of integrated theatre commands is being considered.
- **Theaterisation** means putting specific number of personnel from the three services army, navy and air force **under a common commander for a unified military approach** through rationalisation of manpower and resources.
- Its formation will synergise the capabilities and combat potential of the three Services during war and peace. **The integrated theatre commander will not be answerable to individual Services**, and will be free to train, equip and exercise his command to make it a cohesive fighting force.
- In the present structure, there are 17 commands, divided among the three services. The Army and the Air Force have seven commands each, while the Navy has three commands.

INS Kavaratti

- INS Kavaratti, Anti-Submarine Warfare (ASW) stealth corvette, **built under Project 28 (Kamorta Class)** was commissioned into the Indian Navy.
- It is last of the four ASW Corvettes, indigenously designed by the Indian Navy's in-house organisation, Directorate of Naval Design and constructed by Garden Reach Shipbuilders & Engineers Ltd (GRSE). **The other three ASW Corvettes are INS Kamorta, INS Kadmat and INS Kiltan.**
- The ship has enhanced stealth features making it less susceptible to detection by the enemy. The ship is the reincarnation of the erstwhile Arnala Class missile corvette of the same name (INS Kavaratti – P 80) which participated in the 1971 war for the liberation of Bangladesh and many other operational deployments.

Raising Day of Indo-Tibetan Border Police (ITBP)

- 59th Raising Day of the Indo-Tibetan Border Police (ITBP) was celebrated on 24th October, 2020.
- **ITBP was raised in, 1962 during India-China War** for reorganizing the frontier intelligence and security set up along the Indo-Tibetan border. Apart from guarding the border; the force is also deployed for Anti Naxal operations and other internal security duties.

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- ITBP was initially raised under the CRPF Act. However, in 1992, Parliament enacted the ITBPF Act and the rules there under were framed in 1994.
- In the year 2004, in pursuance of GoM recommendations on “One Border One Force”, the entire stretch of India-China Border comprising 3488 Kms was assigned to the ITBP for Border Guarding duty and, accordingly, **ITBP, replaced Assam Rifles in Sikkim and Arunachal Pradesh in 2004.**

Stand-Off Anti Tank (SANT) Missile

- India successfully test-fired the Stand-off Anti-tank (SANT) Missile off the coast of Odisha.
- The Missile was **developed by DRDO** for the Indian Air Force (IAF) and will have both Lock-on After Launch and Lock-on Before Launch capability. It is, reportedly, an **upgrade on India's Helina missile** believed to have a range of 7 to 8km.
- The new missile is said to have a **range of between 15 and 20km** and comes equipped with a **nose-mounted active radar seeker**, enabling the launch platform to be located at a safe distance from the target area.
- Before the upgrade, the Nag was considered a ‘fire-and forget,’ lock-on-before-launch missile. With the **lock-on-after-launch capability**, missile operators no longer need to lock on to the target before firing the missile.

Corporatisation of OFB

- The Cabinet Committee on Security, has approved to convert Ordnance Factory Board (OFB), into one or more than one 100% Government owned corporate entities, registered under the Companies Act 2013.
- OFB products are priced on a cost based methodology without charging any profit over the cost of production for supply to the armed forces. The Corporatisation of OFB will improve its autonomy, accountability and efficiency in Ordnance Supplies.

Ordnance Factory Board (OFB)

- Dating back to 1775, the OFB is a very old organisation comprising of 41 ordnance factories, 13 ordnance research and development (R&D) centres, and 9 ordnance institutes of learning.
- Presently functioning **under the Department of Defence Production of the Ministry of Defence**, it is the key supplier of a wide variety of products to the armed forces, which include armaments, ammunition, equipment, clothing, and also troop comfort items.
- OFB is **headquartered at Kolkata.**

Tsirkon Hypersonic Missile

- Russia successfully test-fired a Tsirkon hypersonic cruise missile in the Arctic.
- The Tsirkon program began in 2011 and entered the active testing stage in 2015.
- Tsirkon ground- and sea-based hypersonic rocket can **fly at nine times the speed of sound** and hit underwater and ground targets more than **1,000 kilometers away.**

Shaurya Missile

- India successfully test fired its **indigenously developed nuclear capable hypersonic missile** 'Shaurya' with a **strike range of around 1,000 km.**
- Shaurya is a **land variant of short-range Submarine Launched Ballistic Missiles (SLBMs) K-15 Sagarika**, which has a range of at least 750 kilometres.
- Shaurya, like many of the modern missiles, is a **canister-based system**, which means that it is stored and operated from specially designed compartments.
- India has also developed and successfully tested multiple times the **K-4 missiles** from the family which has a range of 3500 km.

The K Family of Missiles

- The K family of missiles are primarily Submarine Launched Ballistic Missiles (SLBMs), launched from the Arihant class of nuclear submarines. They have been **indigenously developed by DRDO**.
- Because these missiles are to be launched from submarines, they are lighter, smaller and stealthier than their land-based counterparts.

Anti-Tank Guided Missile (ATGM)

- The final user trial of 3rd generation **Anti-Tank Guided Missile (ATGM) NAG** was carried out from Pokhran range in Rajasthan. ATGM NAG has been **developed by DRDO**.
- ATGMs are the missile systems that can **strike and neutralize armoured vehicles** such as tanks.
- DRDO has been working on ATGMs that can be launched from different platforms as part of the Integrated Guided Missile Development Programme. The missile has the capability of engaging with the target even if it is not in the line of sight, thus further enhancing its capability.
- The missile uses a '**tandem**' **High Explosive Anti-Tank (HEAT)** warhead. The term tandem refers to the missiles using more than one detonation in order to effectively penetrate the protective armours.

SAI (Secure Application for Internet)

- **The Indian Army has launched** a messaging app called SAI that will provide secure voice, text and video calling services to its soldiers. It will facilitate **secure messaging within the service**.
- It is similar to commercially available messaging applications like WhatsApp, Telegram, SAMVAD and GIMS and utilises **end-to-end encryption messaging protocol**.
- It was developed by Colonel Sai Shankar, the commanding officer of a signals unit in Rajasthan, and then upgraded to military-grade standards.

RUDRAM

- DRDO successfully tested the **new-generation anti-radiation missile**, called RUDRAM. It is the **first indigenous anti-radiation missile of the country**.
- The missile is a potent weapon for suppression of enemy air defence effectively from large stand-off ranges. It does so by taking out radars, communication sites, and other radio frequency emitting targets, thereby foiling any plans to launch surface-to-air missiles.

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- It has INS-GPS navigation with **Passive Homing Head** for the final attack. The RUDRAM hit the radiation target with pin-point accuracy. The Passive Homing Head can detect, classify and engage targets over a wide band of frequencies as programmed.

RUSTOM-2

- DRDO has flight tested the Rustom-2 **medium altitude long endurance indigenous drone**.
- Rustom-2 **surveillance drone** is expected to match the specifications of the Israeli Heron unmanned aerial vehicle currently used by the Indian Air Force and Navy.
- Rustom-2 is capable of carrying different combinations of payloads depending on the mission objectives including synthetic aperture radar, electronic intelligence systems and situational awareness systems.
- The push to Rustom-2 program was given after the Chinese Army tried to occupy Indian territory in Ladakh on the basis of a 1959 cartographical claim on the LAC.

Supersonic Missile Assisted Release of Torpedo (SMART)

- India successfully flight-tested the Supersonic Missile Assisted Release of Torpedo (SMART) from Wheeler Island off the coast of Odisha.
- SMART is a missile assisted release of lightweight Anti-Submarine Torpedo System for antisubmarine warfare operations for far beyond torpedo range.

Sagar Kavach

- Sagar Kavach is a **coastal security exercise** conducted by Indian Navy along with Indian Coastal Guard.
- It is a half-yearly exercise to check **coastal security mechanism** and validate Standard Operating Procedure.

Matla Abhiyan Exercise

- The Matla Abhiyan Exercise is a **five-day coastal security exercise** conducted by the **Indian Navy** in Matla river. The river forms a wide estuary in and around the Sundarbans.
- The exercise was conducted in Sunderbans region in order to **create awareness about the coastal security to the local community**.

Army Aviation Corps

- Recently, the Army Aviation Corps (AAC), the **youngest Corps of Indian Army**, celebrated its 35th Corps Day on November 1.
- The origin of AAC can be traced back to the raising of Army Aviation wing of the Royal Air Force in India in 1942. Subsequently, the first Indian Air Observation Post was formed in August 1942. Finally, the AAC was raised as a separate formation on November 1 in 1986.
- AAC primarily acts as artillery spotters – which are the elements that help the artillery in directing the fire and also giving air support to ground forces. It also provides logistical support to the Indian army.

Frontier Highway Project

- Arunachal Pradesh has been pushing for the ambitious Frontier Highway project along the “**India-Tibet border**”. The project would facilitate **faster movement of troops if a war-like situation arises**.
- The project is also called as the Arunachal Frontier Highway and Mago-Thingbu– Vijaynagar Border Highway. It is **2,000-kilometre-long road which follows the McMahon Line**.
- It accompanies the Trans-Arunachal Highway (through the middle) and the Arunachal East-West Corridor (in the foothills along the Assam border) as major highways spanning Arunachal Pradesh, pursuing the Look East connectivity concept.

Global Conference on Criminal Finances and Cryptocurrencies

- The 4th Global Conference on **Criminal Finances and Cryptocurrencies** was held virtually.
- **Organised by** - Interpol, Europol and the Basel Institute on Governance.
- **The aim** of this conference was to strengthen knowledge, expertise and best practices for investigations into financial crimes and intelligence on virtual assets and cryptocurrencies.

Uttar Pradesh Special Security Force (UPSSF)

- The Uttar Pradesh government has notified the creation of a special force named the UP Special Security Force. It will be responsible for the **security of courts, airports, banks, the Metro, industrial units, places of worship, as well as individuals**.
- It has been created under the provisions of the **Uttar Pradesh Special Security Force Act, 2020**.
- The provisions of the UPSSF has been widely criticized as it allow **arrests or search “without warrant” or the “order of the magistrate”**.
- The CISF Act, the Maharashtra State Security Corporation Act and Odisha Industrial Security Force Act have created similar special force. All three of them have power to arrest without a warrant.

Golden Arrows Squadron

- The Indian Air Force inducted the newly acquired Rafale fighter jets into the Golden Arrows squadron of the IAF at the Ambala airbase.
- The IAF had recently resurrected the Golden Arrows squadron, which was originally raised at Air Force Station, Ambala on Oct 1, 1951. The 17 Squadron has many firsts to its credit; in 1955 it was **equipped with the first jet fighter**, the legendary **De Havilland Vampire**.
- The Rafale jets, known for air-superiority and precision strikes, are India's first major acquisition of fighter planes in 23 years after the Sukhoi jets were imported from Russia.
- The first batch of five Rafale jets arrived in India on July 2020, nearly four years after India signed an inter-governmental **agreement with France to procure 36 of the aircraft** at a cost of Rs 59,000 crore.

Special Frontier Force (SFF)

- There have been reports about Special Frontier Force (SFF) being involved in the operation to **occupy previously unoccupied heights in Chushul sector** in eastern Ladakh.

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- The SFF was **raised by the Intelligence Bureau** in the immediate aftermath of the 1962 China-India war. It recruited Tibetan exiles (now it has a mixture of Tibetans and Gorkhas).
- It falls **under the purview of the Cabinet Secretariat**. On the ground, it is **headed by an Inspector General** who is an Army officer of the rank of Major General.
- The SFF units are **not part of the Army** but function under its operational control. SSF units have their own rank structures, of equivalent status with Army ranks. However, they are special forces personnel highly trained for a variety of tasks.

Assam Rifles

- The Delhi High Court has granted 12 weeks to the Union government to decide on whether to scrap or retain the **dual control structure for Assam Rifles**.
- Under the existing mechanism, **Assam Rifles comes under both the MoD and Ministry of Home Affairs (MHA)**. The MHA only exercises administrative control of the Assam Rifles; its operational control is with the MoD (Army).
- Assam Rifles is one of the six Central Armed Police Forces (CAPFs) that come under the MHA's administrative control. The others are the BSF, CRPF, CISF, ITBP and the Sashastra Seema Bal (SSB).
- Its history dating back to 1835 when its precursor, **Cachar Levy**, was formed in the Northeast to protect British Tea estates and their settlements against tribal raids.
- Besides maintaining law and order in the Northeast (a task it performs together with the Army), the Assam Rifles **also guards the border with Myanmar** in the region.

ABHYAS - High-speed Expendable Aerial Target (HEAT) vehicles

- India has successfully conducted the flight test of ABHYAS - High-speed Expendable Aerial Target (HEAT) vehicles.
- The vehicle is a drone that will be **used as a target for various missile systems**. It can also be used as a decoy aircraft, if needed. This can be used as a target for evaluation of various Missile systems.
- ABHYAS has been **designed and developed by the Aeronautical Development Establishment of the DRDO**.

Enhanced Pinaka Mk-1 Missile

- Enhanced PINAKA rocket, **developed by DRDO**, was successfully flight tested. It eventually replace the Pinaka Mk-1 missiles, which are currently used by regiments of the Indian Army along India's frontiers with China and Pakistan.
- While the Mark-1 has a range of 38 km, the **enhanced version of Mark-1 tested has a range of 45 km**.
- The Pinaka, a multi-barrel rocket-launcher (MBRL) system named after Shiva's bow, produced in India and developed by the DRDO for the Indian Army in the late 1980s. It can fire a salvo of 12 rockets over a period of 44 seconds.
- DRDO has also developed and successfully tested the Mk-II and guided variants of the Pinaka, which has a range of around 60 km, while the **Guided Pinaka system has a range of 75 km**.

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Quick Reaction Surface-to-Air Missile (QRSAM)

- India successfully test-fired the QRSAM. The QRSAM is a **short-range surface-to-air missile (SAM)** system, designed and developed by DRDO to provide a **protective shield to moving armoured columns** of the Army from enemy aerial attacks.
- It is a **canister-based system**, which means that it is stored and operated from specially designed compartments. It has been designed for induction into the Army **to replace the 'Akash' missile defence system and has a range of 25 to 30 km.**
- The missile system was **fully indigenous** with active radio frequency seekers, electromechanical actuation systems sourced from various industries.

Export of Akash Missiles

- The govt has approved the export of **indigenously developed surface-to-air** Akash missile system.
- The missile has been **designed by DRDO** and has been produced by defence PSU Bharat Electronics Ltd (BEL). It has an **indigenous content of 96%**.
- The missile has a **range of 25 km**. It was inducted into the Indian Air Force in 2014 and in the army a year later.
- It has the capability to **engage multiple targets** in Group Mode or Autonomous Mode, simultaneously.

INS Vagir

- Indian Navy's **Kalvari-class Diesel Electric attack submarine** Indian Naval Ship (**INS**) **Vagir** was launched at Mazgaon Dock Ltd. (MDL). **INS Vagir is the fifth among the six Kalvari-class submarines** being constructed by the public sector shipbuilder MDL. The other vessels in the class are **INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer**.
- The ship is **designed by French naval company** Direction des Constructions Navales (DCNS) as part of **Indian Navy's Project-75**.

Kalvari Class of Submarines

- These submarines are built under **project 75** and their design is based on Scorpene class of submarines, designed and developed by formerly DCNS and Spanish state-owned entity Navantia.
- This class of submarines have Diesel Electric transmission systems and these primarily attack submarines or 'hunter-killer' types which means they are designed to target and sink adversary naval vessels.
- The Kalvari class is capable of offensive operations across the entire spectrum of naval warfare.

Project 75 India (P75I)

- The P75I project is part of a 30-year submarine building plan that ends in 2030. As part of this plan, India was to build 24 submarines — 18 conventional submarines and six nuclear-powered submarines (SSNs) — as an effective deterrent against China and Pakistan.
- India possesses 14 submarines belonging to three classes of **Diesel Electric category** — **Kalvari, Shishumar and Sindhughosh**. It also has two nuclear-powered submarines —
 - INS Arihant (SSBN, a ballistic missile submarine)

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- INS Chakra (SSN, a nuclear-powered one) leased from Russia.
- The project is given support by the Department of Defence Production (MoD) and Indian Navy throughout its various phases of construction.

MQ-9B Sea Guardian Unarmed Drones

- The Indian Navy has inducted two MQ-9B Sea Guardian unarmed drones procured from the U.S. on lease. The Defence Acquisition Procedure (DAP) 2020 has introduced an option for leasing military platforms.
- The Guardian is the maritime variant of the Predator MQ-9 Unmanned Aerial Vehicle (UAV). It has a maximum **endurance of 40 hours** and a maximum **flying altitude of 40,000 feet**. It also has a 3600 maritime surveillance radar and an optional multimode maritime surface search radar.
- The drone can perform over-the-horizon long-endurance, medium-altitude Intelligence, Surveillance and Reconnaissance (ISR) missions.

Microwave Weapons

- The Indian Army has rejected reports that China had used ‘microwave weapons’ to drive Indian soldiers away from their positions in eastern Ladakh.
- “Microwave weapons” are supposed to be a **type of direct energy weapons, which aim highly focused energy** in the form of sonic, laser, or microwaves, at a target.
- The weapon works by **heating the water molecules** under the skin, in the same way as the kitchen appliance, to painful temperatures, forcing people out of the area. The weapon, also used for crowd control, can be used to target up to 0.6 miles away.
- China had first put on display its “microwave weapon”, called **Poly WB-1**, at an air show in 2014. The United States has also developed a prototype microwave-style weapon, which it calls the **“Active Denial System”**.

National Maritime Domain Awareness Centre (IMAC)

- The Information Management and Analysis Centre (IMAC) of the Indian Navy is set to become a National Maritime Domain Awareness (NDMA) centre.
- The IMAC, **located in Gurugram** and set up after the 26/11 Mumbai terror attacks, is the **nodal agency for maritime data fusion**. It was approved by Defence Acquisition Council in 2012 and became operational in 2014. It is the nodal centre of National Command Control Communication and Intelligence System (NC3I).
- The IMAC tracks vessels on the high seas and gets data from the coastal radars, white shipping agreements, Automatic Identification Systems (AIS) transponders etc.

Information Fusion Centre – Indian Ocean region (IFC-IOR)

- In 2018, IFC-IOR was set up within the premises of the IMAC to coordinate with regional countries on maritime country and act as a regional repository of maritime data.
- In March 2020, India joined Indian Ocean Commission (IOC) as Observer along with the United Nations and Japan.

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- Based in the southwest of the Indian Ocean, **IOC** is a five nations regional forum — **Comoros, France (Reunion), Madagascar, Mauritius and Seychelles**. Both the European Union (2017) and China have been observers (2016).

Cryogenic Propellant Tank (C32 LH2)

- Hindustan Aeronautics Limited (HAL) has delivered the biggest cryogenic propellant tank (C32 LH2) to the Indian Space Research Organisation (ISRO).
- The C32-LH2 tank is a developmental **cryogenic propellant tank** of aluminium alloy designed for improving the payload capability of GSLV MK-III launching vehicle.
- Cryogenic fuels are fuels that require **storage at extremely low temperatures** in order to maintain them in a liquid state. These fuels are used in machinery that operates in space because ordinary fuel cannot be used there due to the very low temperatures often encountered in space.

BSF Raising Day

- The Border Security Force celebrated its 56th Raising day on 1st December.
- BSF is **India's first line of defence**. It was raised in accordance with an Act of the Parliament on 1st December, 1965, soon after the India-Pakistan War of 1965.
- BSF is **deployed on Indo-Pakistan International Border, Indo-Bangladesh International Border, Line of Control (LoC)** along with Indian Army and in Anti-Naxal Operations.
- **BSF is one of the five Central Armed Police Forces** of Union of India under the administrative control of the Ministry of Home Affairs (MHA).

Mission Sagar-III

- Indian Naval Ship (**INS Kiltan**) delivered 15 Tons of Humanitarian Assistance and Disaster Relief (HADR) Stores for the flood-affected people of Cambodia as part of ongoing Mission Sagar-III.
- **Mission Sagar-III** is part of India's HADR assistance to Friendly Foreign Countries during the ongoing pandemic. This Mission is a major milestone in **India's engagement with the countries in the Indian Ocean Region**, in line with the vision of SAGAR (Security And Growth for All in the Region).

DRDO Systems Handed to Defence Services

- The Minister of Defence handed over three indigenously developed DRDO systems to Army, Navy and Air Force. The three DRDO systems are:
- **Indian Maritime Situational Awareness System (IMSAS):** It is state-of-the-art, fully indigenous, high performance intelligent software system that provides Global Maritime Situational Picture, Marine planning tools and Analytical capabilities to Indian Navy.
- **ASTRA Mk-I Missile:** It is the indigenously developed first Beyond Visual Range (BVR) Missile, which can be launched from Sukhoi-30, Light Combat Aircraft (LCA), Mig-29 and Mig-29K. With a range of over 110 km and a maximum speed of Mach 4.5 (over 5,500 kmph), the Astra Mk 1 is seen as a game-changer.

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- **Border Surveillance System (BOSS):** It is an all-weather electronic surveillance system successfully designed and developed by Instruments Research & Development Establishment (IRDE), Dehradun. It has been deployed at Ladakh border area for day and night surveillance.

Medium Range Surface to Air Missile (MRSAM)

- India has successfully conducted the first launch of the Army version of the MRSAM.
- The MRSAM is an **Air and Missile Defence system developed by the DRDO** in collaboration with the **Israel Aerospace Industry (IAI)**. The MRSAM has been manufactured by Bharat Dynamics Limited, India.
- The MRSAM Army version consists of a command and control post, multi-function radar and mobile launcher system.

S-400 Air Defence Systems

- The United States has **imposed sanctions on Turkey** over its acquisition of Russian S-400 air defence systems.
- The S-400 Triumf, (NATO calls it SA-21 Growler), is a mobile, **surface-to-air missile system (SAM) designed by Russia**. It is the **most dangerous operationally deployed modern long-range SAM (MLR SAM)** in the world, considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).
- The system can engage all types of aerial targets including aircraft, unmanned aerial vehicles (UAV) and ballistic and cruise missiles **within the range of 400km, at an altitude of up to 30km**.

F/A-18 Super Hornet Fighter Jets

- American aviation giant Boeing announced that its F/A-18 Super Hornet fighter has demonstrated compatibility with India's aircraft carriers.
- F/A-18 Block III Super Hornet are twin-engine, carrier-capable, multirole fighter aircraft which are **capable of tactical strikes, air reconnaissance, air defense, and maritime roles**. They also have **day and night strike capabilities** with precision guided weapons.
- It will offer Indian Navy value in the form of advanced warfighter technologies at a low acquisition cost and affordable cost-per-flight-hour because of its ease-of-maintainability design and durability.

'Tour of Duty' Recruitment Model

- India's defence establishment is actively considering expanding the scope of 'Tour of Duty' model of recruitment to the Air Force and Navy as well.
- Earlier, in May 2020, the Army had proposed the 'Tour of Duty' model of recruitment that would let **young individuals voluntarily serve for a temporary period of 3 years**.
- Currently, the only option apart from regular permanent commission into the armed forces is the **Short Service Commission**, in which officers are recruited for a **period of 14 years**.

SCIENCE AND TECHNOLOGY**Demo-2 Mission**

- Two NASA astronauts splashed down safely in the Gulf of Mexico for the first time in a commercially built and operated American crew spacecraft (SpaceX's Crew Dragon) **returning from the International Space Station**. It was the **first water landing for a crewed US spaceship since the 1975 Apollo-Soyuz mission**.
- NASA's SpaceX Demo-2 test flight has earlier lifted off for International Space Station (ISS), becoming the first crewed flight to launch from American soil since the conclusion of the space shuttle era in 2011.
- The Demo-2 mission is **part of NASA's Commercial Crew Program**, and will see astronauts Robert Behnken and Douglas Hurley fly on **SpaceX's Crew Dragon spacecraft**. The craft lifted off from a Falcon 9 rocket, from Florida. The Crew Dragon spacecraft being used for this mission can stay in orbit for up to 110 days.
- **NASA's Commercial Crew Program:** The main objective of this program is to make access to space easier in terms of its cost, so that cargo and crew can be easily transported to and from the ISS, enabling greater scientific research.

*SpaceX is a commercial company aiming to launch cargo, and eventually people, to low-Earth orbit. The firm is developing its **Dragon capsule and Falcon 9** booster under contracts from NASA's Commercial Crew Development (CCDev) program and its Commercial Orbital Transportation Services (COTS) program.*

Earth's Magnetic Field

- Scientists say that **earth's magnetic field is gradually weakening** which is resulting in technical disturbances in some satellites orbiting our planet.
- The magnetic field is vital for life on earth as it **protects us from the harmful cosmic radiation** and charged particles emitted from the sun.
- The field is mostly **generated by the ocean of super-hot liquid iron that makes up Earth's outer core**, around 3,000 km below our feet. It **creates electric currents that generate and change our electromagnetic field**. This field varies in strength and direction and over the last 200 years, it has lost around 9% of its strength.
- **South Atlantic Anomaly:** Between 1970 and 2020, the **magnetic field weakened considerably in a large region stretching from Africa to South America**, known as the 'South Atlantic Anomaly'. This area has grown and moved westward at a rate of around 20km per year.
- **Swarm satellites** are designed to identify and precisely measure the different magnetic signals that make up Earth's magnetic field. Researchers are using European Space Agency (ESA)'s Swarm constellation to improve their understanding of this area.

- Gravitational wave observatories at **Laser Interferometer Gravitational Wave Observatory (LIGO)** scientific collaboration have detected a **merger of two unequal-mass black holes**.
- The event, **dubbed GW190412**, was detected nearly a year ago, and this is almost five years after the first ever detection of gravitational wave signals by these powerful detectors.
- The event involved **two black holes of unequal masses coalescing**, one of which was some 30 times the mass of the Sun and the other which had a mass nearly 8 times the solar mass.

Do You Know

- **LIGO** is a large-scale physics experiment and observatory (built in US) to **detect cosmic gravitational waves** predicted by Einstein's General Theory of Relativity. The initial LIGO observatories were funded by the National Science Foundation.
- It is a multi-kilometer-scale gravitational wave detectors to measure the minute ripples in spacetime caused by passing gravitational waves from cataclysmic cosmic events such as colliding neutron stars or black holes, or by supernovae.
- **LIGO-India Project:** This project will be a mega science project to be jointly funded by the Department of Atomic Energy (DAE) and the Department of Science & Technology (DST). It is envisaged as a collaborative project between a consortium of Indian research institutions and the LIGO Laboratory in USA, along with its international partners.

Deep Fakes and Deep Nudes

- Cybercrime officials in India are tracking apps and websites that produce nude photographs of innocent persons using Artificial Intelligence (AI) algorithms.
- **Deepfake** is a portmanteau of "deep learning" and "fake". It is an **Artificial Intelligence (AI) software that superimposes a digital composite on to an existing video (or audio)**. Deepfakes are created by machine learning models, which use neural networks to manipulate images and videos.
- **Deep nudes are computer-generated nude images and videos of innocent persons using Artificial Intelligence (AI)** algorithms. Essentially, using AI algorithms a person's words, head movements and expressions are transferred onto another person in a seamless fashion that makes it difficult to tell that it is a deep fake, unless one closely observes the media file.
- Another problem is catfish accounts to deceive people. **Catfishing refers to practice of setting up fictitious online profiles**, most often for purpose of luring another into a fraudulent romantic relationship.

Hope: UAE Mars Mission

- United Arab Emirates launches space mission to Mars from Japan, calls it 'Hope' Mission. Hope is the **Arab world's first mission to Mars**.
- "Hope" was **announced in 2015** with the aim of creating mankind's first integrated model of the Red planet's atmosphere.
- The spacecraft will orbit Mars to **study the Martian atmosphere and its interaction with outer space and solar winds**. Hope will collect data on Martian climate dynamics, which should help scientists understand why Mars' atmosphere is decaying into space.

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- Hope will orbit Mars for around 200 days, after which it will enter the Red planet's orbit by 2021, coinciding with the 50th anniversary of the founding of UAE.
- **No human has set foot on Mars yet** because the atmosphere on Mars is very thin, consisting of mostly carbon dioxide with no breathable oxygen, making it difficult for astronauts to survive there.

T- Cells

- At least five studies have shown that people unexposed to and not infected with novel coronavirus may still exhibit T cell responses specific to this virus.
- It is thought that SARS-CoV-2-specific T cell responses seen in healthy people might arise from **memory T cells** derived from exposure to 'common cold' coronaviruses.
- T cell, also called T lymphocyte, **type of leukocyte (white blood cell) that is an essential part of the immune system**.
- T cells **originate in the bone marrow and mature in the thymus**. In the thymus, T cells multiply and differentiate into **helper, regulatory, or cytotoxic T cells or become memory T cells**. Memory T cells protect against previously encountered pathogens, but their origins are unclear.

Paddy Watch App

- Researchers are developing the first **real-time monitoring platform for rice fields**, which will give information about the quantity of rice planted and the harvest achieved.
- The app, being built by researchers from the University of Sydney, can help meet the United Nations-mandated sustainable development goal No.2 — of 'Zero Hunger'.
- The project has been undertaken in collaboration with **Google Earth and the Group on Earth Observations**.

Comet C/2020 F3 Neowise

- The recently discovered **comet called C/2020 F3, also known as NEOWISE**, will make its closest approach to the Earth on July 22.
- It was first spotted by NASA's spacecraft mission **Near-Earth Object Wide-field Infrared Survey Explorer (NEOWISE)** and hence the name NEOWISE.
- **Comet is an icy small body which consists mostly of rocky materials, dust and ice.** As they come closer to the sun there is evaporation of volatile contents from these comets. When they start melting, the particles start glowing by the reflected sunlight. This makes the 'dust tail' of Comets.
- Comets may be occasionally pushed into orbits closer to the sun and the Earth's neighborhood due to forces of gravity of other planets.

Supercapacitor

- Scientists at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), have developed a low-cost, environmentally friendly, and sustainable supercapacitor electrode derived **from industrial waste cotton**.
- Supercapacitor is a **next-generation energy storage device** which has advantages such as **high power density, long durability, and ultrafast charging** characteristic as compared to conventional capacitors and lithium-ion batteries (LIB).

Kuaizhou-11 Rocket

- **China's launch of the Kuaizhou-11 rocket**, failed in its mission due to malfunction during the flight.
- Also known as KZ-11, it had a lift-off mass of 70.8 tonnes, and was **designed to launch low-Earth and Sun-synchronous orbit satellites**. It can **lift a 1.0-ton payload to a sun-synchronous orbit** at an altitude of 700 kilometres. The three-stage rocket is reportedly based on the DF-21 missile and consists of **three solid-fueled stages**.
- The mission was China's 19th launch of 2020, following the successful launch of the **APSTAR-6D communications satellite** to geosynchronous transfer orbit.

Lithium Production in Stars

- Scientists from Indian Institute of Astrophysics (IIA) found that **Lithium production is common among low mass Sun-like stars** during their He-core burning phase.
- They identified "**He flash**" (**on-set of He-ignition at the star's core via violent eruption**), at the end of the star's core hydrogen-burning phase, as the source of Li production. The Sun will reach this phase in about 6-7 billion years.
- The study also suggests new limits ($A(Li) > -0.9\text{-dex}$) for classifying stars as Li-rich, which is 250 times below the threshold ($A(Li) > 1.5\text{-dex}$) used till now.

More Metal in Moon

- NASA said that it's **Lunar Reconnaissance Orbiter (LRO) spacecraft** had found evidence that the Moon's subsurface might have **greater quantities of metals such as iron and titanium** than thought before.
- The metallic distribution was observed by the **Miniature Radio Frequency (Mini-RF) instrument** aboard the LRO. Out on a mission to look for ice in polar lunar craters, the LRO's Mini-RF instrument was measuring an **electrical property within lunar soil** in crater floors in the Moon's northern hemisphere. The property, known as **the dielectric constant**, is the ratio of the electric permeability of a material to the electric permeability of a vacuum.
- Mini-RF team observed that **the level of this property increased as they surveyed larger craters, and kept rising in crater sizes up to 5 km in diameter**. Beyond that size, the value of the dielectric constant leveled off.

Winter Diesel

- India's armed forces may soon be using winter diesel for operations in high altitude areas such as Ladakh.
- Winter diesel is a **specialised fuel that was introduced by Indian Oil Corporation (IOC)** last year specifically for high altitude regions and low-temperature regions such as Ladakh, where ordinary diesel can become unusable.
- It contains additives to maintain lower viscosity **can be used in temperatures as low as -30°C** and that besides a **low pour point**, it had **higher cetane rating** — an indicator is the combustion speed of diesel and compression needed for ignition— and **lower sulphur content**, which would lead to **lower deposits in engines and better performance**.

Captain Arjun

- Railway Protection Force, Pune (central railway) has launched a Robot 'CAPTAIN ARJUN' (Always be Responsible and Just Use to be Nice) to intensify the screening and surveillance.
- It is AI-based robot which **conducts thermal screening of passengers, educates them on preventing the COVID-19 spread** and displays utmost sensitivity to suspicious and abnormal activity.
- Captain ARJUN also has a **sensor-based sanitizer and mask dispenser and can speak in local language.**

RT-nPCR Test

- Researchers at the Centre for Cellular and Molecular Biology (CCMB) have developed a new low cost and low-tech required test for SARS-CoV-2 testing. This test is known as reverse transcription nested PCR (RT-nPCR) test.
- ICMR has recommended only reverse transcription polymerase chain reaction (RT-qPCR) test for novel coronavirus testing.
- This test **does not require real-time quantitative RT-qPCR**. The RT-nPCR developed by the CCMB research team has shown comparable performance to the standard RT-qPCR test. The nested PCR (RT-nPCR) approach does not depend on RT-qPCR but uses standard RT-PCR as part of an End point assay.

miR-155

- Researchers at the Indian Institute of Technology Madras have identified a specific microRNA (miRNAs) called 'miR-155' that is **over-expressed in tongue cancer**.
- The miRNAs affect cancer growth through inhibiting or enhancing the functions of certain proteins. Inhibition of this protein has been known to cause the spread of oral, lung, breast, liver, brain and colon cancers.
- MicroRNAs (miRNAs) are short non-coding RNAs containing 20–24 nucleotides that participate in virtually all biological pathways in animals. The miRNAs associated with cancer are called 'Oncomirs'.

Nature Index 2020

- In the recently-released Nature Index table 2020, **India is placed twelfth globally** in science research output.
- The Nature Index is a **database of author affiliation information collated from research articles** published in an independently selected group of 82 high-quality science journals.
- The database is **compiled by Nature Research**, a division of the international scientific publishing company Springer Nature that publishes academic journals. Nature Research's flagship publication is *Nature*, a weekly multidisciplinary journal first published in 1869.

Axons

- Scientists from Raman Research Institute (RRI), have found out that **spectrin, which are flexible rod-shaped molecules present in axons, act as 'shock absorbers'** to protect axons from stretch-induced damage.

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- Axons are long tubular extensions of nerve cells that transmit electrical signals across long distances and can be up to a meter long in the case of humans. At such lengths, they are subjected to large stretch deformations during limb or other bodily movements.
- The study can help in understanding and treatment of concussion from head injuries as well as stretch-induced nerve injuries.
- **Axons vs Dendrite:** An axon is one of two types of cytoplasmic protrusions from the cell body of a neuron; the other type is a dendrite. Dendrites, also dendrons, are branched protoplasmic extensions of a nerve cell that propagate the electrochemical stimulation received from other neural cells to the cell body, or soma, of the neuron from which the dendrites project.

Light Detection And Ranging (Lidar)

- Equipped with airborne survey data, a team of volunteers in the U.K. analyzed thousands of images derived from LiDAR data.
- Lidar, which stands for Light Detection and Ranging, is a **remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth**. These light pulses—combined with other data recorded by the airborne system— generate precise, **three-dimensional information** about the shape of the Earth and its surface characteristics.
- A LiDAR instrument principally consists of a laser, a scanner, and a specialized GPS receiver. Airplanes and helicopters are the most commonly used platforms for acquiring lidar data over broad areas.
- **Two types of lidar are topographic and bathymetric.** Topographic lidar typically uses a near infrared laser to map the land, while bathymetric lidar uses water-penetrating green light to also measure seafloor and riverbed elevations.

Sun's Coronal Heating

- Scientists have recently **discovered tiny flashes of radio light emanating from all over the Sun**, which they say could help in explaining the **long-pending coronal heating problem**.
- These radio lights or signals result from beams of electrons accelerated in the aftermath of a **magnetic explosion on the Sun**. Magnetic explosions have not been seen but these radio lights are the strongest evidence till date that the tiny magnetic explosions, originally referred to as 'nanoflares' can indeed be heating up the corona.
- **The solar corona, the outer layer of the Sun's atmosphere**, is composed of extreme high temperature gas, known as plasma, with temperatures reaching millions of degrees Celsius.
- The corona is usually hidden by the bright light of the Sun's surface. That makes it difficult to see without using special instruments. However, the **corona can be seen during a total solar eclipse**.

Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)

- In a bid to improve the standardization, regulation and quality control of Ayurveda, Siddha, Unani and Homoeopathy drugs, the Union Cabinet has given its approval to re-establish Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) as **Subordinate Office under Ministry of AYUSH**.

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- It will be done by merging of **Pharmacopoeia Laboratory for Indian Medicine (PLIM)** and **Homoeopathic Pharmacopoeia Laboratory (HPL)**- the two central laboratories established at Ghaziabad since 1975.
- **Presently, PCIM&H is an autonomous body under Ministry of AYUSH** established since 2010. It is also intended to accord legal status to PCIM&H and its laboratory and under Drugs & Cosmetics Rules, 1945.

Quantum Satellite Micius

- **Micius, a quantum enabled satellite**, has recently sent particles of light to Earth establishing the world's most secure communication link. It enables first totally secure long range communication.
- Micius is the **world's first quantum communications satellite launched by China in 2016**. The satellite serves as the source of pairs of entangled photons, twinned light particles whose properties remain intertwined no matter how far apart they are.
- **If one of the photons is manipulated, the other will be similarly affected** at the very same moment. It is this property that lies in the heart of the most secure forms of quantum cryptography, the entanglement-based quantum key distribution.
- If you use one of the entangled particles to create a key for encoding messages, only the person with the other particle can decode them. This gives robust, unbreakable cryptographic protection without the need to trust the satellite. Until now, this had never been done via satellite or at such great distances.

163348 (2002 NN4)

- NASA announced that a giant asteroid, called 163348 (2002 NN4), is expected to pass Earth (at a safe distance) as a Near Earth Object (NEO) in June.
- This asteroid is classified as a **Potentially Hazardous Asteroid (PHA)**, which means it has the potential to make threatening close approaches to the Earth.
- NASA defines NEOs as comets and asteroids nudged by the gravitational attraction of nearby planets into orbits which allows them to enter the Earth's neighbourhood.
- NEOs occasionally approach close to the Earth as they orbit the Sun. These objects are composed mostly of water ice with embedded dust particles.

Terminal High Altitude Area Defense (THAAD)

- Recently, China has reiterated its long-standing **objections to the presence of US THAAD missile defence system in South Korea**.
- THAAD is a transportable, **ground-based missile defense system that intercepts ballistic missiles** during their final, or terminal, phase of flight. The system has a track record of **100% mission success in flight testing since 2005**.
- It uses a **one-stage hit-to-kill interceptor** to destroy incoming ballistic missile targets, both inside and outside of the Earth's atmosphere at a **range of 200 kilometers**.
- THAAD is coupled with space-based and ground-based surveillance stations, which transfer data about the incoming missile and inform the THAAD interceptor missile of the threat.

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- It has been designed and manufactured by the US Company Lockheed Martin. It has been previously deployed in the UAE, Guam, Israel and Romania.

Global Partnership on Artificial Intelligence (GPAI)

- India joined GPAI or Gee-Pay as a **founding member** to support the responsible and human-centric development and use of AI.
- **GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI**, grounded in human rights, inclusion, diversity, innovation, and economic growth.
- India joined the league of leading economies including USA, UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea, Singapore to launch the GPAI.
- GPAI will be supported by a **Secretariat, to be hosted by Organization for Economic Cooperation and Development (OECD) in Paris**, as well as by two Centers of Expertise- one each in Montreal and Paris.

MAAREECH

- The Indian Navy said it has inducted an **advanced anti-torpedo decoy system called 'Maareech'** that is capable of being fired from all frontline ships.
- 'Maareech' has been **designed and developed indigenously by the Defence Research and Development Organization (DRDO)** and it is capable of detecting, locating and neutralizing incoming torpedo.
- Bharat Electronics Limited, a Defence PSU, would undertake the production of this decoy system.

Ionospheric Irregularities

- A multi-instrument based ionospheric **study of space weather storms** over India by the Scientists from the Indian Institute of Geomagnetism (IIG) have found that the **occurrence of equatorial spread F (ESF) irregularities and GPS scintillations** are significantly affected by the geomagnetic storms depending upon the time of the onset of the geomagnetic storm.
- The Equatorial Spread-F (ESF) **caused due to the F region plasma irregularities** is a complex phenomenon encompassing a wide range of scale sizes of irregularities in electron and ion densities as well as in electric fields.
- They have also found that during geomagnetic storms, partial enhancement in pre reversal enhancement (PRE) (an eastward electric field enhancement before turning the westward near the sunset hours in the equatorial ionosphere) in the zonal eastward electric field occurs during post-sunset resulting in around 30% increase in spread F instead of total inhibition during equinox and winter seasons.

Nanozymes

- A research team at the Indian Institute of Science, Bengaluru has **developed nanozymes that destroy the cell membrane of bacteria** by directly targeting its phospholipids.
- Nanozymes are nanomaterials that can disintegrate the cell membranes of a range of diseases causing bacteria. It also diminishes their resistance-building capacity.

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- Nanozymes developed by them can replace the antibiotics that have become ineffective as several bacteria have developed resistance to them by producing their own enzymes.
- **Phospholipids (PL)** are a class of lipids that are a major component of all cell membranes. They can form lipid bilayers because of their amphiphilic characteristic.

Extreme Helium Star (EHe)

- A study by the Indian Institute of Astrophysics (IIA) which detected the **presence of singly ionised fluorine for the first time in the atmospheres of hot Extreme Helium Stars** makes a strong case that the main formation of these objects involves a **merger of a carbon-oxygen (CO) and a Helium (He) white dwarf**.
- **An extreme helium star or EHe is a low-mass supergiant that is almost devoid of hydrogen**, the most common chemical element of the universe. There are 21 of them detected so far in our galaxy.
- The origin and evolution of these Hydrogen deficient objects have been shrouded in mystery. Since there are no known conditions where stars devoid of hydrogen can be formed from molecular clouds, it is theorized that they are the product of the mergers of helium-core and carbon-oxygen core white dwarfs.

Serotonin

- Serotonin or 5-hydroxytryptamine (5-HT) is a **happy neurotransmitter that is secreted in our brain** and it mediates the feeling of happiness, satisfaction, and optimism.
- It is a chemical that has a wide variety of functions in the human body. It is sometimes called the **happy chemical**, because it contributes to wellbeing and happiness, though its actual biological function is complex and multifaceted, modulating cognition, reward, learning, memory, and numerous physiological processes such as vomiting and vasoconstriction.
- Ninety percent of the happiness neurotransmitter- serotonin is **secreted in the gut** (the part of the alimentary canal between the stomach and the anus) with the help of gut-friendly bacteria.
- In fact, it is a **part of some anti-depressant medicines** as well. Eating foods that boost serotonin levels is one sure way to click happy feelings.

Indian National Space Promotion and Authorisation Centre (IN-SPACe)

- Government has announced a new organisation, IN-SPACe, part of reforms to increase private participation in the space sector.
- IN-SPACe will provide a level playing field for **private companies to use Indian space infrastructure**. This centre will also hand-hold, promote and guide the private industries in space activities through encouraging policies and a friendly regulatory environment.
- IN-SPACe is supposed to be a facilitator, and also a regulator. It will act as an **interface between ISRO and private parties**, and assess how best to utilise India's space resources and increase space-based activities.

NASA's Gateway Lunar Orbiting Outpost

- NASA recently finalized the contract to design the **HAbitation And LOgistics (HALO)** support for the Gateway, which is a part of **NASA's Artemis program** that aims to send the first woman and the next man to the Moon by 2024.
- Gateway is a **small spaceship that will orbit the Moon**, meant for astronaut missions to the Moon and later, for expeditions to Mars. It will act as a temporary office and living quarters for astronauts, **distanced at about 250,000 miles from Earth**. The spaceship will have living quarters, laboratories for science and research and docking ports for visiting spacecraft.
- Further, astronauts will use the Gateway at least once per year and not stay around the year like they do on the International Space Station (ISS). Compared to the ISS, the Gateway is much smaller (the size of a studio apartment).
- Gateway will act as an airport, where **spacecraft bound for the lunar surface of Mars can refuel or replace parts and resupply things** like food and oxygen, allowing astronauts to take multiple trips to the Lunar surface and exploration of new locations across the Moon.

Aditya: India's First Solar Ferry

- **India's first solar-powered ferry, Aditya**, is among 12 such ferries that have been shortlisted for the Gustave Trouv Award. It is the **sole entrant from Asia**.
- **Aditya, largest solar-powered boat in India, operates between Vaikom and Thavanakkadavu, Kerala**. Operated by the Kerala State Water Transport Department (KSWTD), the vessel was designed and built by Navalt Solar and Electric Boats, Kochi.
- **Gustave Trouv Award:** Gussies Electric Boat Awards were instituted in memory of Gustave Trouv, a French electrical engineer and pioneer in electric cars and boats

National Artificial Intelligence Portal

- India's National Artificial Intelligence Portal, called www.ai.gov.in, has been **jointly developed by the Ministry of Electronics and IT and IT Industry**.
- The National e-Governance Division of Ministry of Electronics and IT and NASSCOM from the IT industry will jointly run this portal.
- This portal shall work as a **one stop digital platform for AI related developments in India**: sharing of resources such as documents, case studies, research reports, articles, startups, investment funds in AI, resources, companies and educational institutions related to AI in India.

Placebo Effect

- A placebo is anything that **seems to be a "real" medical treatment, but isn't**. It could be a pill, a shot, or some other **type of "fake" treatment**. They **do not contain an active substance meant to affect health**.
- Researchers use placebos during studies to help them understand what effect a new drug or some other treatment might have on a particular condition.
- Sometimes a person can have a response to a placebo. The response can be positive or negative. Research on the placebo effect has **focused on the relationship of mind and body**. If a person expects a pill to do something, then it's possible that the body's own chemistry can cause effects similar to what a medication might have caused.

Crypto-jacking

- A cryptocurrency is a digital asset stored on computerized databases. These cryptocurrencies are created through a process called mining. To mine digital coins, miners need to use high-end processors that will consume a lot of electricity.
- Crypto-jacking is what some digital coin miners do to illegally gain access to many computers. The **miners stealthily drop malware in an unsuspecting user's computer**. These malware runs surreptitiously and turns devices into cryptocurrency-mining botnets.
- Unlike most other types of malware, crypto-jacking scripts do not use the victim's data. But they drain the CPU's resources, which slows down the system, increases electricity usage, and causes irreparable damage to the hardware.

BeiDou Navigation Satellite System

- China has recently completed its BeiDou Navigation Satellite System (BDS) constellation, which can potentially rival the US Global Positioning System (GPS).
- BeiDou uses a network of satellites and can provide positional **accuracies of under ten metres** (GPS provides positioning accuracies of under 2.2 metres).
- **China initiated BeiDou in 1994** and by 2000, the construction of the BDS-1 was completed to provide navigation services over China. 12 years later, BDS-2 provided services over Asia-Pacific region and now the BDS-3 is completed to provide services worldwide.
- BeiDou offers services including accurate **positioning, navigation and timing as well as short message communication**.
- The **55th and final geostationary satellite** in the constellation was launched on June 23, 2020 by **Long March-3B** carrier rocket.
- The system was named “Beidou” after the Chinese term for the **Big Dipper constellation**.

Other Navigation Systems

- Global Positioning System (GPS)-USA.
- GLONASS- Russia.
- Galileo- European Union (EU).
- Navigation with Indian Constellation (NavIC)- India.

Bharat Air Fibre

- Recently, Union Minister of State for HRD, Electronics, Communication, and IT, Govt Of India, inaugurated “Bharat Air Fibre Services” at Akola in Maharashtra.
- The Bharat Air Fibre services are **introduced by BSNL as part of digital India initiates** by the Government of India
- It aims at providing **Wireless Connectivity in the range of 20 KMs** from the BSNL Locations and thus customers at remote places also will be benefitted.
- BSNL provides Bharat Air Fibre connectivity **upto 100 Mbps speed**. The Bharat Air Fibre services opens new way of fastest Wireless internet connectivity as well Voice services in reasonable cost.

Ammonium Nitrate

- The catastrophic explosion at Beirut port was caused by over 2,700 tonnes of ammonium nitrate kept in storage for over six years.

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- In its pure form, ammonium nitrate (NH_4NO_3) is a white, crystalline chemical which is soluble in water. It is the **main ingredient in the manufacture of commercial explosives used in mining and construction.**
- **Pure ammonium nitrate is not an explosive on its own.** It is classified as an oxidiser (Grade 5.1) under the United Nations classification of dangerous goods. If mixed with ingredients like fuel or some other contaminants, or because of some other external factors, it can be very explosive. However, for combinations to explode, triggers like detonators are required.
- In the majority of terror attacks in India, including those in Pulwama, ammonium nitrate has been used along with initiator explosives like RDX.
- **Regulations in India:** The manufacture, conversion, bagging, import, export, transport, possession for sale or use of ammonium nitrate is covered under **The Ammonium Nitrate Rules, 2012.** The rules also make **storage of ammonium nitrate in large quantities in populated areas illegal in India.** For the manufacture of ammonium nitrate, an Industrial licence is required under the Industrial Development and Regulation Act, 1951.

Sputnik V

- Russia has officially become the **first country to register the world's first coronavirus vaccine.**
- However, the vaccine, **named "Sputnik V" in homage to the world's first satellite launched by the Soviet Union,** has not yet completed its phase-three trial, which involves wide-scale testing with thousands of participants.
- It is developed by the Gamaleya research institute in coordination with the Russian defence ministry. It is **based on a proven vaccine against adenovirus - the common cold.**
- The vaccine consists of two serotypes of human adenovirus, each **carrying an S-antigen of the new coronavirus,** which enter human cells and produce an immune response.
- It is a so-called **viral vector vaccine,** meaning it employs another virus to carry the DNA encoding of the needed immune response into cells.

Aspirin to Prevent Cataract

- Scientists from the Institute of Nano Science & Technology (INST) has developed **nanorods from the nonsteroidal anti-inflammatory drug (NSAID) Aspirin,** to be an effective non-invasive small molecule-based nanotherapeutics against cataract.
- **Cataract:** It is a **major form of blindness** that occurs when the structure of crystallin proteins that make up the lens in our eyes deteriorates, causing damaged or disorganized proteins to aggregate and **form a milky blue or brown layer, which ultimately affects lens transparency.**
- Thus, prevention of the formation of these aggregates as well as their destruction in the early stage of disease progression is a major treatment strategy for cataracts, and materials that can carry out this task could make cataract prevention affordable and accessible.

Time Capsules

- Ahead of the laying of the foundation stone for the Ram temple in Ayodhya, claims and denials have emerged about plans to put in a time capsule, or 'kaal patra'.

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- It is a container of any size or shape, which accommodates documents, photos and artefacts typical of the current era and is buried underground, for future generations to unearth.
- The time capsule requires special engineering so that the contents don't decay, even if pulled out after a century. Material such as aluminium and stainless steel are used for the encasing, and documents are often reproduced on acid-free paper.
- **The International Time Capsule Society (ITCS)**, based in the US and formed in 1990, is now defunct but continues estimating the number of time capsules in the world. As per its database, there are "10,000-15,000 times capsules worldwide".
- **Time capsules in India:** One time capsule, outside the Red Fort and placed underground in 1972 by Prime Minister Indira Gandhi. Other time capsules are at a school in Mumbai, IIT-Kanpur, Lovely Professional University in Jalandhar, and Mahatma Mandir in Gandhinagar.

RaTG13 Sarbecovirus

- Chinese researchers had found that **SARS-CoV-2 is most closely related to RaTG13 sarbecovirus**, which was isolated from a **horseshoe bat** in Yunnan province in 2013.
- Based on the nearly 96% genome sequence identity between SARS-CoV-2 and RaTG13, **an origin in bats is probable for the COVID-19 outbreak**.
- The authors analysed the evolutionary history of SARS-CoV-2 using genomic data on sarbecoviruses. They employed three approaches to identify regions in the virus that had not undergone recombination and that could be used to reconstruct its evolution. All approaches suggest that RaTG13 and SARS-CoV-2 share a single ancestral lineage and estimate that SARS-CoV-2 genetically diverged from related bat sarbecoviruses in 1948, 1969 and 1982, respectively.

Sunspots

- Recently a massive **Sunspot group, AR2770**, was observed using images of the Sun's surface from NASA's Solar Dynamics Observatory (SDO). A **Sunspot is an area on the Sun that appears dark on the surface** and is relatively **cooler than surrounding parts**.
- These spots are the **visible markers of the Sun's magnetic field**, which forms a blanket that protects the solar system from harmful cosmic radiation. On the photosphere— the outer surface of the Sun which radiates heat and light— **Sunspots are the areas where the star's magnetic field is the strongest**; around 2,500 times more than the Earth's magnetic field.
- Most Sunspots appear in groups that have their own magnetic field, whose **polarity reverses during every solar cycle, which takes around 11 years**. In every such cycle, the number of Sunspots increases and decreases.
- **Why Sunspots appear dark:** Because Sunspots have high magnetic pressures, the atmospheric pressure in the surrounding photosphere reduces, **inhibiting the flow of hot gases from inside the Sun to the surface**. Due to this, the temperatures of Sunspots are thousands of degrees lower than the surrounding photosphere, which has a temperature of 5,800 degrees Kelvin. Sunspots temperatures are around 3,800 degrees Kelvin. Because they **stop the convective flow of heat and light, Sunspots appear dark**.
- They typically consist of a **dark region called the 'umbra'**, which is surrounded by a lighter region called the **'penumbra'**.

Dilophosaurus

- In the 1993 film Jurassic Park as well as the novel it is based on, one of the dinosaurs depicted is the Dilophosaurus.
- Dilophosaurus lived in what is now North America during the Early Jurassic, about 183 million years ago. The **first fossils were discovered in Arizona in the 1940s**. The real Dilophosaurus had **no neck frills, was a monster at a length of 20 ft, and did not spit venom**
- Now, a new comprehensive analysis of Dilophosaurus fossils is helping create a more complete description. Among the new findings, one was that Dilophosaurs had much in common with modern birds. Some bones were mottled with air pockets, which would have helped reinforce the skeleton, including its dual crest.

Elyments App

- Vice President M Venkaiah Naidu launched Elyments app, a new social media platform under Aatmanirbhar Bharat campaign. The app **aims to promote Indian brands on the platform**, similar to the Facebook marketplace along with Elyments Pay for secure payments.
- The homegrown app has been made keeping in mind Indian audiences as it is **available in eight different regional languages**. Created by Sumeru Software Solutions, Elyments has basic features of popular social networking apps such as feeds, follow celebrities, athletes, politicians, etc
- Data security has been an issue with various foreign and local apps but Elyments' creators claim that their **data will not be shared with third party without the user's consent**.

OneWeb

- A U.K. government consortium led by Bharti Enterprises has won the bid to acquire bankrupt **satellite technology company OneWeb**. Bharti's overseas arm Bharti Global would invest \$500 million as part of the acquisition, with the U.K. putting in a similar amount.
- OneWeb was formed with a **mission to offer high speed, low latency wireless broadband access to billions of people across the globe**, especially in rural areas through a constellation of satellites in low earth orbit.

Biosafety Levels

- A biosafety level (BSL) is a set of biocontainment precautions required to isolate dangerous biological agents in an enclosed laboratory facility. The levels of containment range from the lowest biosafety level 1 (BSL-1) to the highest at level 4 (BSL-4). **Biosafety levels are assigned to a facility depending on the pathogen it deals with**.
- **Biosafety level 1 (BSL-1)** applies to laboratories that work with low-risk microbes that pose little to no threat of infection in healthy adults (eg: non-pathogenic strain of E. coli).
- **Biosafety level 2 (BSL-2)** covers laboratories that work with agents associated with human diseases (i.e. pathogenic or infectious organisms) that pose a moderate health hazard.(eg. equine encephalitis viruses and HIV).
- **Biosafety level 3 (BSL-3)** laboratory includes work on microbes that are either indigenous or exotic and can cause serious or potentially lethal disease through inhalation.(eg yellow fever, West Nile virus).

- **Biosafety Level 4 (BSL-4) lab** consists of work with highly dangerous and exotic microbes. Infections caused by these types of microbes are frequently fatal and come without treatment or vaccines(eg Ebola and Marburg viruses).

Oxford-AstraZeneca Vaccine

- British pharma major AstraZeneca's experimental Covid-19 vaccine has been found to be safe and has managed to produce a significant immune response in healthy volunteers.
- The vaccine has been **called AZD1222** and was under development by AstraZeneca in collaboration with scientists at Britain's Oxford University.

How It Works

- When someone is infected with the Covid-19 virus (SARS-CoV-2), the **reason it spreads in the body easily is because of the spikes on its surface**. These spikes, known as the '**spike protein**', allow the virus to penetrate cells and, thereafter, multiply.
- The vaccine developed by Oxford and AstraZeneca, which **belongs to a category called non-replicating viral vector vaccines**, tries to build the body's immunity against this spike protein. The idea is to create antibodies to fight this spiked surface so that the virus does not even have the chance to penetrate the cells.
- The vaccine uses a different virus — in this case, a **weakened version of a common cold virus (adenovirus) that infects chimpanzees** — to carry just the code to make the spike protein, like a Trojan horse. The adenovirus, genetically modified so that it cannot replicate in humans, will enter the cell and release the code to make only the spike protein. The **body's immune system is expected to recognise the spike protein as a potentially harmful foreign substance**, and starts building antibodies against it. Once immunity is built, the antibodies will attack the real virus if it tries to infect the body.

ZyCov-D

- Biotechnology Research Assistance Council (BIRAC) has announced the initiation of Phase I/ II clinical trials of ZyCoV-D, the plasmid DNA vaccine designed and developed by Zydus and partially funded by the Department of Biotechnology(DBT), in healthy subjects.
- It is the first indigenously developed vaccine for COVID-19 to be administered in humans in India.
- The vaccine has been developed as part of the accelerated vaccine development programme, announced in February 2020 for COVID-19, under the **National Biopharma Mission**.

Additional Information: National Biopharma Mission is the Industry-Academia collaborative Mission of DBT in **collaboration with the World Bank** for accelerating discovery research to early development for biopharmaceuticals. The mission, approved in 2017 at a total cost of Rs 1500 crore, is **50% co-funded by World Bank loan** and is being **implemented by the BIRAC**. Under this Mission, the Government has launched **Innovate in India (i3) programme** to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the sector.

PLPro Proteins

- A new study has found that pharmacological inhibition of **PLpro blocks virus replication** and also strengthens our immune response.

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- When the coronavirus SARS-CoV-2 enters a human cell, it hijacks the cell mechanism. One of its **proteins, called PLpro, is produced by the human cell itself after the virus hijacks the cell mechanism.** PLpro is essential for replication of the virus.
- When SARS-CoV-2 infects us, the infected body cells release messenger substances known as **type 1 interferons.** These attract our killer cells, which kill the infected cells. SARS-CoV-2 fights back by letting the human cell produce PLpro. This protein suppresses the development of type 1 interferons, which would have attracted our killer cells.
- Researchers have now been able to monitor these processes in cell culture. **If they blocked PLpro, virus production was inhibited,** and the innate immune response of the human cells was also strengthened.

Volcanoes Discovered On Venus

- Scientists have **discovered as many as 37 volcanic structures on Venus** that appear to be still active today. This discovery has **refuted the fact that Venus is a dormant planet.**
- According to the researchers, the **focus of the study was ring-like structures called coronae** that are caused by an upwelling of hot rock from deep within the planet's interior and provided compelling evidence of widespread recent tectonic and magma activity on Venus' surface.
- Earlier it was believed that since Venus lacks the plate tectonic that gradually reshape Earth's surface, it was dormant geologically and have been so for the past half billion years.

Lyfas

- A Bangalore based startup has introduced a **mobile app for detection and risk assessment of Covid-19 infected individuals.** This technology will detect the possible infection in asymptomatic individuals and carry out a risk assessment with the use of smartphone processors and sensors which will capture a bunch of body signals.
- The Department of Science and Technology has selected Acculi Labs to develop a Covid risk assessment profile called Lyfas COVID score under the Centre for Augmenting WAR with COVID-19 Health Crisis, KAWACH initiative.
- Lyfas is an android application in which, when any person keeps the index finger on the rear phone camera of a mobile phone for five minutes, it captures the capillary pulse and blood volume change.

Latency of the SARS-CoV-2 Virus

- Ever since cases of 'reinfection' (people who had tested negative for COVID-19 testing positive again after a while) emerged in early January, the question of latency of the SARS-CoV-2 virus is being hotly debated.
- What is a latent viral infection:** A latent viral infection is an infection that is **inactive or dormant.** It however possesses the capacity to be reactivated at some point, causing a flare-up of the disease much later.
- As opposed to active infections, latent infections are essentially **static which last the life of the host** and occur when the primary infection is not cleared by the adaptive immune response. Examples are Herpes simplex viruses type 1 and 2, varicella-zoster virus, HIV, Epstein-Barr virus (human herpesvirus 4), and cytomegalovirus.

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- Latent viral infections can be reactivated into a lytic form (the replication of a viral genome). The ability to move back and forth from latent to lytic infections helps the virus spread from infected individuals to uninfected individuals.

N-95 Valved Respirator/Masks

- The Union Health Ministry cautioned against the use of N-95 valve respirator/ masks, stating that it doesn't offer the desired protection against the spread of COVID-19.
- N95 masks filter about **95 percent of particles smaller than 300 nanometres**. SARS-CoV-2, the virus that causes Covid-19, however, is in the size range of 65-125 nm. The valve or the raised plastic gasket found in some N95 mask models basically filters the air inhaled by the person and blocks the entry of pathogens suspended in the air.
- The **valves allow easier exhalation than traditional masks**, prevent humidity, reduce heat and carbon dioxide build-up inside the mask. However, concerns are raised as the valve is **basically a 'one-way valve' that only protects the person wearing it and doesn't filter the aerosols coming out**. Hence, an asymptomatic carrier of the coronavirus can easily spread the infection to others.

ANASIS-II

- **South Korea's first-ever military communications satellite** has been successfully launched by private operator SpaceX.
- The ANASIS-II is intended to enhance the South's ability to **defend itself against the nuclear-armed North, which invaded in 1950**.
- The launch made South Korea the **10th country in the world to own a military-only communications satellite**, which will provide "permanent and secured military communications".

human Growth Hormone (hGH)

- In a first-of-its-kind case, a 2018 Commonwealth Games silver medallist and reigning national champion weightlifter has tested positive for human Growth Hormone (hGH).
- Human Growth Hormone (hGH) is a hormone that is **naturally produced in the body and secreted by the pituitary gland** near the base of the brain.
- hGH **increases lean body mass and decreases total body fat** and also helps in **repairing tissues quicker** and is used along with other performance-enhancing drugs for better results.
- hGH is known to increase muscle mass, strength as well as tissue-repairing effects, which has been used as a doping agent in power and endurance sports. hGH is banned both in-competition as well as out-of-competition. One of the ways to check is to track protein levels found in blood plasma.

AJO-Neo

- Scientists from the S.N. Bose National Centre For Basic Sciences (SNBNCBS), Kolkata have developed a device called "**AJO-Neo " to measure neonatal bilirubin level**".
- It is a non-contact and non-invasive spectrometry-based technique for measurement of neonatal bilirubin level without limitations of other available bilirubin meters.

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Additional Information: Bilirubin is a yellowish substance in our blood. It forms after red blood cells break down, and it travels through our liver, gallbladder, and digestive tract before being excreted. It is excreted in bile and urine, and elevated levels may indicate certain diseases. It is responsible for the yellow colour of bruises and the yellow discolouration in jaundice. Normal levels of bilirubin in blood are below 1.0 mg/dL, while levels over 2–3 mg/dL (34–51 µmol/L) is called hyperbilirubinemia that typically results in jaundice (also known as icterus).

Solar Orbiter Mission

- Recently the Solar Orbiter Mission has delivered the closest photos ever taken of the sun's surface. It has revealed a landscape rife with **thousands of tiny solar flares that scientists dubbed "campfires".**
- The Solar Orbiter **Mission**, is a collaborative mission between the European Space Agency and NASA to study the Sun. The mission, on an Atlas V rocket, **will face the sun at approximately 42 million kilometers from its surface.** In 1990, NASA and ESA had sent the **Ulysses mission**, which also passed over the sun's poles but at much farther distances, and did not carry a camera.
- Solar Orbiter is on a unique trajectory that will allow its comprehensive set of instruments to provide humanity with the first-ever images of the Sun's poles.

Dare to Dream 2.0

- Defence Research and Development Organisation (DRDO) has launched its innovation contest 'Dare to Dream 2.0' on the 5th death anniversary of former President and noted scientist Dr APJ Abdul Kalam.
- It is an open challenge scheme to promote the Indian innovators and startups for innovations in defence and aerospace technologies.

"Mausam" Mobile App

- The Ministry of Earth Sciences India has launched a new mobile application called "Mausam" for the Indian Meteorological Department (IMD) which will help users track weather updates and also bring in the enhanced forecast as well as warning services from the government.
- It will provide current weather information, including temperature, humidity, wind speed and direction, for 200 cities. Other than weather forecasts, users can access radar images and be warned of impending weather events.
- The app was designed and developed in a joint effort made by ICRISAT's Digital Agriculture and Youth team, Indian Institute of Tropical Meteorology (IITM) in Pune, and IMD.

5G

- Reliance Industries announced that the company's telecom venture Jio has designed and developed from scratch, a complete indigenous 5G solution ready for deployment.
- 5G or fifth generation is the **latest upgrade in the long term evolution (LTE) mobile broadband networks.** The first generation of networks allowed only mobile voice calls to be made, while the second generation allowed mobile voice calls as well as sending of short text messages. It was the

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third generation or 3G network which allowed web browsing on mobile devices, the speed and latency of which improved with fourth generation or 4G networks.

- 5G speeds will range from ~50 Mbit/s to over a gigabit/s with **latency down to between 1-10 milliseconds**. Latency is the time a device takes to communicate with the network, which stands at an average of up to 50 milliseconds for 4G networks across the world.
- The main advantage of the new networks is that they will **have greater bandwidth, giving higher download speeds, eventually up to 10 gigabits per second (Gbit/s)**.

Common Services Centre (CSC) WiFi Choupal

- Starting from 10th June, the Common Services Centre (CSC) WiFi Choupal has provided 1 Lakh FTTH broadband connections to rural areas in 40 days.
- In early 2016, **CSC Wi-Fi Choupal Service India Pvt. Ltd** was introduced for **development of affordable and reliable ICT solutions in the rural areas**. The initiative focuses on enhancement of Internet connectivity at the last mile leveraging of BharatNet infrastructure.
- It is an Initiative of 'CSC e-Governance Services India Limited', a Special Purpose Vehicle (SPV) set up in 2016 by the Ministry of Electronics & IT under the Companies Act, 1956 to oversee implementation of the Common Service Centres (CSC) scheme.
- Fiber To The home (FTTH) is the installation and use of optical fiber from a central point directly to individual buildings such as residences, apartment buildings and businesses to provide high-speed Internet access.

Kakrapar-3

- The third unit of the Kakrapar Atomic Power Project (KAPP-3) in Gujarat **achieved its first criticality**- a term that signifies the initiation of a controlled but sustained nuclear fission reaction.
- KAPP-3 is the **country's first 700 MWe (megawatt electric) unit, and the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR)**.
- The PHWRs, which **use natural uranium as fuel and heavy water as moderator**, are the mainstay of India's nuclear reactor fleet. Until now, the biggest reactor size of indigenous design was the 540 MWe PHWR, two of which have been deployed in Tarapur, Maharashtra
- The first two units at Kakrapar of 220 MWe (Megawatt electric) each were based on Canadian technology. The third unit is fully indigenous.

International Thermonuclear Experimental Reactor (ITER)

- ITER is an international **nuclear fusion research and engineering megaproject**, which will be the **world's largest magnetic confinement plasma physics experiment**. It is an experimental tokamak nuclear fusion reactor that is being built in France.
- It has been designed to create a plasma of 500 megawatts (thermal) for around twenty minutes while 50 megawatts of thermal power are injected into the tokamak, resulting in a ten-fold gain of plasma heating power. Thereby the machine aims to demonstrate, for the first time in a fusion reactor, the principle of producing more thermal power than is used to heat the plasma.
- The project is funded and run by seven member entities—the **European Union, China, India, Japan, Russia, South Korea and the United States**.

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- Construction of the ITER tokamak complex started in 2013 and the US Department of Energy has estimated the total construction costs by 2025 to be \$65 billion.

Phobos- The Biggest Moon Of Mars

- The Mars Colour Camera (MCC) onboard ISRO's Mars Orbiter Mission has captured the image of **Phobos, the closest and biggest moon of Mars**.
- Phobos is largely believed to be made up of **carbonaceous chondrites**.
- **Stickney, the largest crater on Phobos** along with the other craters (Shklovsky, Roche & Grildrig) are also seen in this image.

G4 Flu Virus

- In a new research, scientists from China – which has the largest population of pigs in the world – have identified a “**recently emerged**” **strain of influenza virus that is infecting Chinese pigs** and that has the potential of triggering a pandemic.
- **Named G4**, the swine flu strain has genes similar to those in the virus that caused the 2009 flu pandemic.
- They also found that the G4 strain has the **capability of binding to human-type receptors** (like, the SARS-CoV-2 virus binds to ACE2 receptors in humans), was able to copy itself in human airway epithelial cells, and it showed effective infectivity and aerosol transmission in ferrets.

Rosalind Franklin

- The 100th birth anniversary of Rosalind Franklin was observed on 25th July.
- Rosalind Elsie Franklin was an English **chemist and X-ray crystallographer** whose work was central to the understanding of the molecular structures of DNA, RNA, viruses, coal, and graphite.
- She is best known for her work on the **X-ray diffraction images of DNA, particularly Photo 51**, which led to the discovery of the DNA double helix for which James Watson, Francis Crick and Maurice Wilkins shared the Nobel Prize in Physiology or Medicine in 1962.

SFTS Virus

- A disease called Severe Fever with Thrombocytopenia Syndrome (SFTS), has killed seven and infected at least 60 in China.
- SFTS virus belongs to the **Bunyavirus family and is transmitted to humans through tick bites**. The virus was first identified by a team of researchers in China over a decade ago.
- Due to the rate at which it spreads and its high fatality rate, SFTS has been **listed among the top 10 priority diseases** blue print by the World Health Organisation (WHO).
- Scientists have found that the virus is often transmitted to humans from animals like goats, cattle, deer and sheep. Despite being infected by the virus, animals generally do not show any symptoms associated with SFTSV. The risk factors observed in more serious cases include **multi-organ failure, hemorrhagic manifestation and the appearance of central nervous system (CNS) symptoms**.

SN5 Starship Prototype

- A prototype of the SpaceX's uncrewed "**Mars ship**", a stainless steel test vehicle called **SN5**, and which is a part of the Starship spacecraft, successfully flew to an altitude of over 500 feet for a little less than 60 seconds.
- Designed by SpaceX, Starship is a **spacecraft and super-heavy booster rocket meant to act as a reusable transportation system for crew and cargo to the Earth's orbit, Moon and Mars**. SpaceX has described Starship as "the world's most powerful launch vehicle" with an **ability to carry over 100 metric tonnes to the Earth's orbit**.
- Starship has been under development since 2012 and is a part of Space X's central mission to **make interplanetary travel accessible and affordable** and to become the first private company to do so. Once functional, the **Starship spacecraft will enter Mars' atmosphere at a speed of 7.5 km per second** and will be designed to withstand multiple entries.

India's First Private Upper Stage Rocket Engine

- Aerospace startup Skyroot Aerospace has successfully test fired an upper-stage rocket engine, becoming the first Indian private company to demonstrate the capability to build a homegrown rocket engine.
- **The 3-D printed rocket engine** – Raman, named after Nobel laureate CV Raman – has fewer moving parts and weighs less than half of conventional rocket engines with a similar capacity.
- It is **India's first 100% 3D-printed bi-propellant liquid rocket engine injector**. Compared to traditional manufacturing, this reduced the overall mass by 50%, reduced the total number of components and lead time by 80%".

Tabletop Runways

- **Kozhikode Air India plane crash** has put the focus on tabletop runways again.
- Tabletop runways are generally **constructed by chopping off the top of a hill**, and are often thought of as tricky for landings because of the lack of any margin for overshooting the runway.
- According to pilots, landing on tabletop runways **requires precision approach** with little to no room for errors.

Miscellaneous News Related To Covid

- **ANANYA**: Defence Institute of Advanced Technology, Pune has developed a **Nano-technology based disinfectant spray (water-based)**, named "ANANYA", to combat COVID-19 for disinfecting all types of surfaces.
- **COVID BEEP**: Government of India launched **COVID BEEP (Continuous Oxygenation & Vital Information Detection Biomed ECIL ESIC Pod)**. It is India's **first indigenous, cost effective, wireless physiological parameters** monitoring system for COVID-19 patients.
- **Arsenicum Album 30**: It is a homoeopathic drug that has been listed among "preventive and prophylactic simple remedies" against Covid-19 by the Ministry of AYUSH.
- **ARPIT**: The Indian Air Force has designed, developed and inducted **an Airborne Rescue Pod for Isolated Transportation (ARPIT)**. This pod will be utilised for evacuation of critical patients from high altitude areas, isolated and remote places.

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- **Navigating the New Normal' Campaign:** It is a behaviour change campaign **launched by NITI Aayog** partnership with Bill and Melinda Gates Foundation (BMGF), Centre for Social and Behavioural Change (CSBC), Ashoka University, and the Ministries of Health and Women and Child Development. The campaign focuses on Covid-safe behaviours, especially wearing masks, during the 'Unlock' phase of the ongoing pandemic.
- **Project Platina:** Maharashtra has launched Project Platina, 'world's largest' plasma therapy trial for COVID-19 patients. Funding to support this plasma therapy trial has been done through the CM Relief fund.
- **Plasma bank:** The Delhi government will set up a first-of-its-kind plasma bank in the Capital. A plasma bank **functions like a blood bank**, and has been created specifically for those who are suffering from Covid-19, and have been advised the therapy by doctors.
- **Covaxin:** It is a vaccine candidate developed by Bharat Biotech India (BBIL) against the novel coronavirus in collaboration with the ICMR's National Institute of Virology (NIV). It is the first indigenously developed Covid-19 vaccine candidate to receive approval to conduct human clinical trials.
- **FabiFlu:** Glenmark Pharmaceuticals Limited has announced the introduction of Favipiravir under the brand name FabiFlu in tablet form for the treatment of mild & moderate COVID-19 cases.
- **Covifor:** Drugmaker Hetero has received the Drug Controller-General of India (DCGI) approval to manufacture and sell its generic version of Gilead's Remdesivir, under the brand name 'Covifor' in India, for the treatment of COVID-19 patients in the country.
- **Umifenovir:** This drug has a good safety profile and acts by preventing entry of viruses into human cells and also by priming the immune system. Umifenovir is mainly used for treatment of influenza and is available in China and Russia, and has recently come into prominence due to its potential use for Covid19 patients.
- **Dexamethasone:** It is a cheap, widely available steroid being used in England to improve COVID-19 survival and can reduce deaths by up to one third in severely ill hospitalised patients. However, WHO advises against using steroids earlier in the course of illness because they can slow the time until patients clear the virus.
- **HAM Radio:** Currently, HAM (amateur) radio operators are helping the task force in Bengaluru to ensure that citizens placed under home quarantine amid COVID-19 follow the protocol for it. HAM radio is a real-time communication network.
- **SHUDDH:** IIT Kanpur develops UV sanitizing device 'SHUDDH' (**Smartphone operated Handy Ultraviolet Disinfection Helper**) to make a room COVID free.
- **RCF SAFEROLA:** Rashtriya Chemicals and Fertilizers Limited (RCF), a PSU under the Ministry of Chemicals and Fertilizers, has introduced a **Hand Cleansing IPA Gel 'RCF SAFEROLA'**.
- **Itolizumab** is another drug to be approved by Drug Controller General of India (DCGI) for "restricted emergency use" to treat Covid-19 patients. It is used for skin disorder psoriasis, rheumatoid arthritis, multiple sclerosis, and autoimmune disorders. **Itolizumab is a monoclonal antibody** which is used to treat acute psoriasis.
- **Corona Kavach:** The IRDAI has allowed 30 general and health insurers to launch short-term '**Corona Kavach' health insurance policies**' for persons between the age of 18 to 65 years to cover medical expenses incurred due to coronavirus disease. The sum insured amount of the policy ranges between Rs. 50,000 to Rs. 5 Lakh. The policy shall also cover prehospitalisation expenses for 15 days and post hospitalisation expenses of 30 days.

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- **Compact XL:** Pune-based molecular diagnostics company, Mylab Discovery Solutions, has launched 'Compact XL' - **India's first machine to automate the manual processes of molecular diagnostic tests** such as RT-PCR tests for Covid-19. Compact XL is a compact bench-top machine that will automate lab processes from sample handling to preparing RT-PCR ready tubes.
- **Drug Discovery Hackathon 2020:** It was launched by the Union Minister for Human Resource Development and Union Minister for Health and Family Welfare. This Drug Discovery Hackathon is a joint initiative of **MHRD, All India Council for Technical Education (AICTE)** and the **Council of Scientific and Industrial Research (CSIR)** and supported by partners like **Centre for Development of Advanced Computing (CDAC)**, MyGov, Schrodinger and ChemAxon. The **objective is to identify drug candidates against SARS-CoV- 2 by in-silico drug discovery** through the hackathon and follow up by chemical synthesis and biological testing. In-silico drug discovery utilizes computational methods such as machine learning, AI and big data which will help in accelerating this process.
- **MegaLab:** the **world's largest genetic testing lab** being built by the IIT Alumni Council, announced a Rs 500-crore incubator to intensify offensive against Covid in the Mumbai University campus. 'MegaLab Mumbai' will start operations from July 2020. The MegalIncumbator will be the world's first and largest engineered bio-molecule focused incubator to involve start-ups, other existing incubators and accelerators.
- **MediCAB:** A start-up incubated in the Indian Institute of Technology (IIT), Madras, has developed a portable hospital that can be used to screen, isolate and treat COVID-19 patients even in remote locations.
- **Corosure:** ICMR approves IIT-Delhi's **low-cost RT-PCR based COVID-19 test kit Corosure**. It will cost Rs 650 and delivers results in three hours.
- **Manodarpan Initiative:** With an aim to provide psycho- social support and counselling to students for their mental health and well- being, the Ministry of Human Resource Development has launched the Manodarpan initiative, under the Atmanirbhar Bharat Abhiyan. Under the initiative, a toll-free national helpline number, a website of Manodarpan and a handbook on 21st century life skills, for students has been launched.
- **A3i:** Scientists have **identified a new coronavirus type, A3i**, that may be the second most prevalent in India and may comprise 3.5% of the genomes globally. The **most dominant coronavirus clade in India is the A2a**.
- **Ultra Swachh:** Defence Research and Development Organisation (DRDO) has developed a disinfection unit named **Ultra Swachh** to disinfect a wide range of materials, including Personal Protective Equipment (PPEs), electronics items, fabrics, etc. The system uses an advanced oxidative process consisting of multiple barrier disruption approaches using Ozonated Space Technology for disinfection.
- **Arogyapath Portal:** Council of Scientific and Industrial Research (CSIR) has launched a national healthcare supply chain portal, called **Arogyapath Portal**, that aims to provide real-time availability of critical healthcare supplies to manufacturers, suppliers, and customers to effectively deal with the Covid-19 pandemic.
- **Kill Corona:** **Madhya Pradesh** launched a **15-day state-wide “Kill Corona” programme** from 1 July. The programme includes door to door surveys in urban slums and low-income households having high population density and poor municipal management as a majority of positive cases have been reported from these areas.

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- **Corona Case Positivity** is the ratio of the number of positive cases in a particular area to the total number of people tested in that particular area.
- **Prana-Vayu: IIT-Roorkee** has developed a **low-cost portable ventilator**, named **Prana-Vayu**, in association with AIIMS-Rishikesh, which can be manufactured for just ₹25,000.
- **Ruhdaar: IIT Bombay** students develop **low-cost mechanical ventilator Ruhdaar**.
- **Project Praana (Sanskrit/Kannada for “breath/life”)** is a **voluntary prototype ventilator** design effort run by a group of engineers primarily associated with **Indian Institute of Science (IISc)**. It is an **open-source basis** in which the design and specifications can be freely shared with as many manufacturers in India as possible. It aims to use components available in India to build a **mechanical ventilator**, whose production can be rapidly scaled up.
- **Jeevan: The Railways’ Rail Coach Factory (RCF) in Kapurthala (Punjab)** came out with a **prototype ventilator**, named **Jeevan**, which has an original design and will cost a fraction of what regular ventilators cost.
- **Kerala** was one of the first States to use geo-fencing to track COVID-19 cases.
- **Andaman and Nicobar** became the **first to conduct pool tests** in the country.

Nobel Prize 2020

- Alfred Nobel (born in 1833) was a Swedish chemist, engineer, and inventor. He amassed a fortune during his lifetime, with most of his wealth from his 355 inventions, of which dynamite is the most famous.
- The Nobel Prizes in Chemistry, Literature, Peace, Physics and Physiology or Medicine were first awarded in 1901. In 1968, Sveriges Riksbank (Swedish National Bank) celebrated its 300th anniversary by donating a large sum of money to the Nobel Foundation to be used to set up a prize in honour of Nobel. The following year, the Nobel Memorial Prize in Economic Sciences was awarded for the first time.
- The prestigious Nobel award comes with a **gold medal and prize money of 10 million Swedish kronor (over USD 1,118,000)**.
- Although Nobel Prizes are **not awarded posthumously** if a person is awarded a prize and dies before receiving it the prize is presented.

Category	Recipient	Given for
Physics	Roger Penrose, Reinhard Genzel, Andrea Ghez	Roger Penrose- For the discovery that black hole formation is a robust prediction of the general theory of relativity. Reinhard Genzel, Andrea Ghez- For the discovery of a supermassive compact object at the centre of our galaxy”
Chemistry	Emmanuelle Charpentier, Jennifer A. Doudna	Development of a method for genome editing .

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Physiology Harvey J. Alter, Michael Houghton, Charles M. Rice Discovery of Hepatitis C virus

Or Medicine

Literature Louise Glück

Unmistakable poetic voice that with austere beauty makes individual existence universal"

Peace World Food Programme (WFP)

Its **efforts to combat hunger**, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict."

Economics Paul R. Milgrom, Robert B. Wilson

Improvements to auction theory and inventions of new auction formats.

Additional Information

CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)

- CRISPR is a family of DNA sequences found in the genomes of prokaryotic organisms such as bacteria and archaea. These sequences are derived from DNA fragments of bacteriophages that had previously infected the prokaryote. They are used to **detect and destroy DNA from similar bacteriophages** during subsequent infections. Hence these sequences play a key role in the antiviral (i.e. antiphage) defence system of prokaryotes.
- These systems have created **CRISPR gene editing** that commonly utilizes the **Cas9 gene**. This editing process has a wide variety of applications including basic biological research, development of biotechnology products, and treatment of diseases.
- CRISPR technology is a simple yet powerful tool for editing genomes. It allows researchers to easily alter DNA sequences and modify gene function.

Hepatitis

- Hepatitis is **inflammation of the liver tissue**. Hepatitis is most commonly caused by viruses hepatitis A, B, C, D, and E. Other causes include heavy alcohol use, certain medications, toxins, other infections etc.
- **Hepatitis A and E are mainly spread by contaminated food and water. Hepatitis B is mainly sexually transmitted**, but may also be passed from mother to baby during pregnancy or childbirth and spread through infected blood. **Hepatitis D can only infect people already infected with hepatitis B**.
- **Hepatitis C is commonly spread through infected blood** such as may occur during needle sharing by intravenous drug users. A vaccine for the disease has still not been developed but it can be treated with the help of antiviral drugs. **Hepatitis A, B, and D are preventable with immunization**.

Auction Theory

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- Essentially, auction theory is about **how auctions lead to the discovery of the price** of a commodity. It studies how auctions are designed, what rules govern them, how bidders behave and what outcomes are achieved.
- As auctions help to sell a variety of products, a single auction design does not fit all types of commodities or sellers. This is also true because the purpose of an auction also differs with the commodity and the entity conducting the auction.
- **Three key variables** need to be understood while designing an auction- **Rules of the auction, commodity or service being sold in the auction and uncertainty.**

Global Bioassay Laboratory

- **Translational Health Science And Technology Institute (THSTI)**, an autonomous institute of the Department of Biotechnology, has now been recognized by the CEPI as one of the Global Network of Laboratories for **centralized assessment of COVID 19 Vaccines**.
- The CEPI network will initially involve six labs, one each in Canada, Britain, Italy, the Netherlands, Bangladesh and India. Under the CEPI's Global network, **all Laboratory will use the same reagents and follow a common set of protocols** to measure the immune response of multiple vaccine candidates under development and trial.

Coalition of Epidemic Preparedness for Innovation (CEPI)

- CEPI is an innovative global partnership between public, private, philanthropic, and civil society organisations launched in Davos in 2017 to develop vaccines to stop future epidemics.
- Its mission is to accelerate the development of vaccines against emerging infectious diseases and enable equitable access to these vaccines for people during outbreaks.

India's First Hydrogen Fuel Cell Car

- Council of Scientific and Industrial Research (CSIR) and KPIT successfully ran trials of India's first Hydrogen Fuel Cell (HFC) prototype car.
- The fuel cell is a low-temperature PEM (Proton Exchange Membrane) type Fuel Cell that operates at 65-75 degree centigrade, which is suitable for vehicular applications.
- Hydrogen Fuel Cell (HFC) technology **uses chemical reactions between hydrogen and oxygen (from air) to generate electrical energy**, eliminating the use of fossil fuels. It requires a much smaller battery for a very large operating range.
- Further, the **fuel cell technology emits only water**, thus cutting down the emission of harmful greenhouse gases along with other air pollutants.

Expansion of STEM Career Opportunities

- The Department of Science & Technology (DST) and IBM India announced collaborations to scale up two DST initiatives--**Vigyan Jyoti and Engage with Science (Vigyan Prasar)**.
- **Vigyan Jyoti:** It is a programme, launched by DST in 2019, to inspire girl students from grades 9 to 12 to pursue STEM in their higher education, especially from the top colleges in the areas where girls are hugely underrepresented. Vigyan Jyoti focuses on solving the multidimensional problems

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associated with meager representation of women in Engineering and Technology streams in higher education by building confidence and excitement towards these streams.

- **Vigyan Prasar:** It is another initiative to build interest and create a community of practice with students, teachers, and scientists connecting the high school students to the higher education institutions.

Supercomputing Infrastructure

The Centre for Development of Advanced Computing(C-DAC) signed 13 MoUs with the premier academic and R&D institutions for establishing Supercomputing Infrastructure with Assembly and Manufacturing in India and Critical Components of National Supercomputing Mission.

National Supercomputing Mission

- It envisages empowering national academic and R&D institutions to spread over the country by installing a vast **supercomputing grid comprising more than 70 high-performance computing facilities**.
- The mission is implemented and steered jointly by the Department of Science and Technology (DST) and Department of Electronics and Information Technology (DeitY) at an estimated cost of Rs.4500 crore over a period of seven years to make India one of the world leaders in Supercomputing.
- Important Application Areas: Climate Modelling, Weather Prediction, Aerospace Engineering , Molecular Dynamics, Atomic Energy Simulations, National Security/ Defence Applications, Seismic Analysis, Disaster Management, Computational Chemistry, Discoveries beyond Earth (Astrophysics) etc

High Flow Rate Fluoride & Iron Removal Technology

- The CSIR-CMERI transferred its High Flow Rate Fluoride & Iron Removal technology to Capricans Aqua Private Limited, West Bengal.
- It is a **Community Level Water Purification System** which has a Flow-Rate capacity of 10,000 Ltr/hr and uses commonly available raw materials such as sand, gravel and adsorbent materials. It comprises a **three-stage purification process** which purifies water within permissible limits (1.5 ppm & 0.3 ppm for Fluoride and Iron respectively).
- The technology uses a combination of **Oxidation, Gravitational Settling and Chemisorption** process in an affordable package. The integrated backwashing profile of the technology will help in improving the shelf-life of the filtration media in a resource rationalised manner.

New Shephard Rocket System

- A rocket system, called New Shephard, meant to **take tourists to space** successfully completed its seventh test launch.
- Named after astronaut **Alan Shephard, the first American to go to space**, the system is built by Amazon founder Jeff Bezos's space company called Blue Origin and will eventually allow space tourists to experience microgravity by taking them over 100 km above the Earth.

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- Essentially, it is a rocket system that has been designed to take astronauts and research payloads past the **Karman line – the internationally recognised boundary of space.**

COVIRAP

- A **new coronavirus diagnostic method**, COVIRAP, developed by researchers at the IIT, Kharagpur, has been approved by the Indian Council of Medical Research (ICMR).
- Once the viral RNA was extracted, the testing process took about one hour and it has a **94% sensitivity and 98% specificity in comparison to RT-PCR.**
- Unlike the RT-PCR machine, which could cost up to ₹25 lakh, and needed to be operated by a molecular biologist, the COVIRAP machine is **cheaper and costs only ₹5,000 to make.**
- The COVIRAP method could be used to **diagnose diseases such as influenza, malaria, dengue and tuberculosis.**

IndiGen Programme

- Results from the extensive computation analysis of the 1029 sequenced genomes from India carried out by CSIR constituent labs were published.
- The data resource provides a compendium of genetic variants representing the contemporary Indian population with an objective to classify variants involved in mendelian disorders and improve precision medicine outcomes.
- **CSIR initiated the IndiGen Program in April 2019** in order to fill the gap of whole genome sequences from different populations in India. It is funded by CSIR India through grants.
- The programme aims to undertake **whole genome sequencing of thousands of individuals** representing diverse ethnic groups from India.

Plasma Therapy Debate

- India's largest randomised controlled trial, PLACID, has found **convalescent plasma therapy (CPT) ineffective in Covid-19.**
- The study has found that while use of convalescent plasma seemed to improve resolution of shortness of breath and fatigue in patients with moderate Covid-19, this did not translate into a reduction in 28-day mortality or progression to severe disease.
- **CPT uses blood from people who've recovered from an illness** to help others recover. Blood donated by people who've recovered from COVID-19 has antibodies to the virus that causes it.

Asteroid Bennu

- **NASA's OSIRIS-REx spacecraft** briefly touched asteroid Bennu, from where it is meant to collect samples of dust and pebbles and deliver them back to earth in 2023.
- OSIRIS-REx mission is **NASA's first mission meant to return a sample from the ancient asteroid.** The mission is essentially a seven-year-long voyage and will conclude when at least 60 grams of samples are delivered back to the Earth. The mission was launched in 2016, it reached its target in 2018.

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- Bennu is an asteroid located at a distance of about 200 million miles away from the Earth. **Bennu is a B-type asteroid**, implying that it contains significant amounts of carbon and various other minerals.
- There is a slight possibility that Bennu, which is classified as a **Near Earth Object (NEO)**, might strike the Earth in the next century, between the years 2175 and 2199.

Asteroids

- Asteroids are rocky objects that orbit the Sun, much smaller than planets. They are also called minor planets.
- Asteroids are divided into three classes:
 1. Found in the **main asteroid belt between Mars and Jupiter**, which is estimated to contain somewhere between 1.1-1.9 million asteroids.
 2. **Trojans**, which are asteroids that **share an orbit with a larger planet**.
 3. **Near-Earth Asteroids (NEA)**, which have orbits that pass close to the Earth. Those that cross the Earth's orbit are called Earth-crossers.

Artemis Programme

- NASA's Artemis programme plans to send the first woman and the next man to the Moon in 2024.
- Artemis programme will explore as much of the Moon's surface as possible and **create sustainable missions to the earth's natural satellite by 2028**.
- The agency will use **Space Launch System rocket (SLS)** for the Artemis mission. SLS, along with NASA's Orion spacecraft, the Human Landing System and the Gateway in orbit around the Moon, are NASA's backbone for deep space exploration. SLS is the only rocket that can send Orion, astronauts and supplies to the Moon on a single mission.

SERB – POWER (Promoting Opportunities for Women in Exploratory Research)

The Science and Technology Minister launched the SERB – POWER schemes. The schemes will promote women researchers in regular service in academic and research institutions to take up R&D at the highest level through two categories of research support:

1. **The SERB-Power Fellowship** offers a personal fellowship and a research grant to top performing women researchers for a period of three years.
2. **SERB - Power Research Grants** ensure funding to undertake highly impactful research across all disciplines of Science & Technology.

Science and Engineering Research Board (SERB)

- SERB is a statutory body under the Department of Science and Technology, Government of India, established by an Act of the Parliament of India in 2009 (SERB ACT, 2008).
- The Board is chaired by the Secretary to the Government of India in the Department of Science and Technology is a body under the Department of Science and Technology.

Aditi Urja Sanch

- The Union Minister of Science and Technology and Earth Sciences inaugurated the Dimethyl ether (DME) fired "Aditi Urja Sanch" unit along with the DME-LPG blended fuel cylinders.

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- Dimethyl ether (DME) is an ultra-clean fuel. CSIR-NCL (National Chemical Laboratory) has developed the nation's first kind of DME pilot plant with 20-24Kg/day capacity.
- The conventional LPG burner is not suitable for DME combustion as DME density is different from LPG. To address this issue, the new Burner is fully designed and fabricated by NCL for DME, DME - LPG blended mixtures and LPG combustion. The new nozzle design allows optimum oxygen ingress for combustion.

Mass of Hydrogen In Distant Galaxies Measured

- Astronomers from the National Centre for Radio Astrophysics (NCRA-TIFR) and Raman Research Institute (RRI) have used the upgraded **Giant Metrewave Radio Telescope (GMRT)** to measure the atomic hydrogen content of galaxies seen as they were eight billion years ago when the universe was young.
- This discovery may help understand the mystery behind **declining star formation activity in the Milky Way**. Unlike stars which emit light strongly at optical wavelengths, the atomic hydrogen signal lies in the radio wavelengths, at a wavelength of 21 cm, and can **only be detected with radio telescopes**.
- Since the 21 cm signal is intrinsically very weak, and difficult to detect, the team used a technique called "**stacking**" to combine the 21 cm signals of nearly 8,000 galaxies that had earlier been identified with the help of optical telescopes. This method measures the average gas content of these galaxies.

Giant Metrewave Radio Telescope (GMRT)

- It is an array of thirty fully steerable parabolic radio telescopes of 45 metre diameter, observing at metre wavelengths.
- It is operated by the National Centre for Radio Astrophysics (NCRA), a part of the Tata Institute of Fundamental Research, Mumbai

Asteroid Mining Robot

- China is all set to send out the world's first mining robot into space by November this year. A private Beijing company, Origin Space, will send out the world's first mining robot — termed as an 'asteroid mining robot' — into space by November 2020.
- The robot will, however, **not do any actual mining**. It will be a test mission for a preliminary assessment of asteroid mining robot's capabilities of identifying and extracting valuable resources. The project, if successful, can open up a trillion-dollar industry.

Mars Opposition Phenomenon

- Due to an event referred to as "opposition", which takes place every two years and two months, Mars will outshine Jupiter, **becoming the third brightest object** (Moon and Venus are first and second, respectively) in the night sky during the month of October.
- **Opposition** is the event when the Sun, Earth and an outer planet (Mars in this case) are lined up, with the Earth in the middle. **The time of opposition** is the point when the outer planet is typically also at its closest distance to the Earth for a given year, and because it is close, the planet appears brighter in the sky.

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- An opposition can **occur anywhere along Mars' orbit**, but when it happens when the planet is also closest to the sun, it is also particularly close to the Earth.
- Opposition **can happen only for planets that are farther away from the sun than the Earth**. In the case of Mars, roughly every two years, the Earth passes between the Sun and Mars, this is when the three are arranged in a straight line.

Raychaudhuri Equation

- British physicist Dr Roger Penrose was awarded half the Nobel Prize in Physics this year for his work on black holes. But his work stands on the shoulders of physicist Amal Kumar Raychaudhuri.
- The Raychaudhuri Equation or **Landau–Raychaudhuri equation**, a fundamental result in general relativity, **describes how nearby bits of matter move**.
- It was discovered independently by Raychaudhuri and Soviet physicist Lev Landau as a simple, general validation of our expectation that gravitation is a universal force that attracts objects with mass and energy according to the General Relativity theory (and Newton's theory of gravitation). The Raychaudhuri Equation continues to be a **key tool in investigating the behaviour of black hole horizons in modern physics**.

Other Service Provider Guidelines (OSP)

- In order to give a boost to the IT Industry, particularly Business Process Outsourcing (BPO) and IT Enabled Services (ITES), the government has simplified the OSP guidelines of the Department of Telecom. The new guidelines are aimed at removing unnecessary bureaucratic restrictions in order to allow the industry to focus on innovative new products and solutions.
- The new rules would create a **friendly-regime for 'Work from Home' and 'Work from Anywhere'** while removing several reporting and other obligations for such companies.

OSPs are entities providing application services, IT enabled services or any kind of outsourcing services using telecom resources. The term refers to BPOs, Knowledge Process Outsourcing (KPOs), ITES players, call centres, amongst others.

Business process outsourcing, or BPO, is a business practice in which one organization hires another company to perform a function for it.

Information Technology Enabled Service (ITES) covers the entire range of operations that use information technology for improving efficiency of an organisation. These services include operations such as call centre, data entry and processing, medical transcription, medical billing, coding etc

India Mobile Congress 2020

- The India Mobile Congress (IMC) 2020, the fourth edition of Asia's largest annual digital technologies event, will be conducted virtually in December 2020.
- **Theme - "Inclusive Innovation – Smart I Secure I Sustainable"**
- **Jointly organised by** - the Department of Telecommunications (DoT) and Cellular Operators Association of India (COAI).

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- IMC2020 is the biggest technology platform in Asia that brings together top policymakers and other stakeholders to discuss and deliberate on critical industry issues that result in policy decisions and affect market trends in addition to inviting investments into the sector and driving innovations.

Mass Spectrometer

- Using mass spectrometer, researchers from the Delhi-based Institute of Genomics and Integrative Biology (IGIB) and the National Centre for Disease Control (NCDC) have been **able to detect novel coronavirus with 95% sensitivity and 100% specificity** with respect to RT-PCR (reverse transcription polymerase chain reaction).
- The new method can directly **detect the virus without amplifying the RNA** for detection, as is the case with RT-PCR. It relies on detecting the presence of two peptides which are unique to SARS-CoV-2 virus and not seen in any other coronavirus or other viruses.
- Though seven peptides were found to be unique to SARS-CoV-2, only two peptides are used for quick virus detection. One of the peptides is spike protein and the other is a replicase protein.

Mass Spectrometry

It is an analytical technique that measures the **mass-to-charge ratio of charged particles** for determining masses of particles and the elemental composition of a sample of molecules as well as for elucidating the chemical structure of molecules such as peptides.

Bradykinin Storm

- A supercomputer's analysis of data on the contents collected from the COVID-19 patients has shown a phenomenon called a 'bradykinin storm'.
- Bradykinin is a **compound that is related to pain sensation and lowering blood pressure** in the human body. SARS-CoV-2 uses a human enzyme called ACE2 to sneak into the cells of its host. **ACE2 lowers blood pressure** and works against another enzyme known as ACE (which has the opposite effect).
- The virus caused the levels of ACE to fall in the lungs, and consequently pushed up the levels of ACE2. As a chain reaction, this **increases the levels of the molecule bradykinin in the cells, causing a bradykinin storm**. Bradykinin causes the blood vessels to expand and become leaky, leading to swelling of the surrounding tissue.
- In addition, the levels of **hyaluronic acid**, which can absorb more than 1,000 times its own weight in water to form a hydrogel, increases. In effect, the bradykinin storm-induced leakage of fluid into the lungs combined with the excess hyaluronic acid would likely result in a Jello-like substance that is preventing oxygen uptake and carbon dioxide in the lungs of severely affected COVID-19 patients.

National Immunogenicity & Biologics Evaluation Center (NIBEC)

- Department of Biotechnology (DBT), Government of India has inaugurated NIBEC for **assessing clinical Immunogenicity of viral vaccines**.
- It has been established jointly by Bharati Vidyapeeth University through its constituent unit Interactive Research School for Health Affairs (IRSHA) and Biotechnology Industry Research Assistance Council (BIRAC-DBT), through **National Biopharma Mission**.

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National Biopharma Mission

- It is the Industry-Academia collaborative Mission of the **DBT in collaboration with the World Bank** for accelerating discovery research to early development for biopharmaceuticals.
- The mission, approved in 2017 at a total cost of Rs 1500 crore, is **50% co-funded by World Bank loan and is being implemented by the BIRAC**.
- This program is dedicated to deliver **affordable products to the nation** with an aim to improve the health standards of India's population. Vaccines, medical devices and diagnostics and bio therapeutics are few of its most important domains, besides, strengthening the clinical trial capacity and building technology transfer capabilities in the country.
- Under this Mission, the Government has launched **Innovate in India (i3) programme** to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the sector.

Biotechnology Research Assistance Council (BIRAC)

BIRAC is a not-for-profit Public Sector Enterprise set up by the DBT as an interface agency to strengthen and empower the emerging Biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs

Entrepreneurship in Residence (EIR) Programme

- A brochure featuring Entrepreneurs in Residence (EIR) under the **National Initiative for Developing and Harnessing Innovations (NIDHI)** programme was launched by the Department of Science and Technology (DST).
- The **NIDHI-EIR** Program was conceived to inspire the S&T qualified youth in India to **take up entrepreneurship as a viable career** and help shape India's future and the economy.
- The programme supports aspiring or budding entrepreneurs for pursuing a promising technology business idea with a **subsistence grant up to Rs 30000 per month** with a maximum cap for total support of Rs 3.6 lakh to each EIR over a maximum of 18 months.
- **NIDHI was announced by the DST** as an umbrella programme for nurturing ideas and innovations knowledge-based and technology-driven into successful startups.

Flying V Aircraft

- Researchers from the Dutch-based Technical University of Delft have conducted a successful maiden flight of the **Flying-V, a futuristic and fuel efficient airplane** that could one day carry passengers in its wings.
- The Flying-V design, which derives its name from its **noticeable 'V' shape**, integrates the passenger cabin, the cargo holds and the fuel tanks in the wings.
- Computer calculations have predicted that the aircraft's improved aerodynamic shape and reduced weight will **reduce fuel consumption by 20%** compared to today's most advanced aircraft.

Hypersonic Technology Demonstrator Vehicle

- The hypersonic air-breathing scramjet technology was successfully demonstrated by the DRDO with a flight test of the Hypersonic Technology Demonstrator Vehicle (HSTDV), which will **lead to the development of hypersonic cruise missiles and vehicles** in future.

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- The HSTDV operates on a scramjet engine, as against the ramjet engine which is used on most missiles. The ramjet engines operate at supersonic speeds of up to Mach 3.
- The HSTDV is capable of powering missiles to attain a **speed of around Mach 6 or six times the speed of sound**.
- India became the fourth country to have demonstrated this technology after the USA, Russia and China.

Real Mango

- In a recent nationwide investigation, the Railway Protection Force (RPF) has disrupted the operation of illegal software called “Real Mango” which **used for cornering confirmed Railway reservation**.
- Real mango software bypasses V3 and V2 captcha. It **synchronises bank OTP with help of a mobile app** and feeds it to the requisite form automatically. The **software auto-fills the passenger details** and payment details in the forms.
- The software logs in to the IRCTC website through multiple IRCTC Ids and the **System admin is receiving payment in bitcoins**.

e-Gopala App

- Prime Minister of India launched the e-Gopala App, a **comprehensive breed improvement marketplace and information portal** for direct use of farmers.
- The e-Gopala app will be a **digital medium that helps livestock owners**. It will be easy to choose advanced livestock and the farmers will get freedom from middlemen. This app will give all **information related to productivity, health and diet for the cattle**.

Methanol Plant

Rashtriya Chemicals and Fertilizers Ltd (RCF), a PSU under the Ministry of Chemicals and Fertilizers, has started its Methanol Plant at Trombay Unit, Mumbai.

Methanol

- Methanol, also known as methyl alcohol, is a chemical with the formula CH₃OH (a methyl group linked to a hydroxyl group).
- It is a **light, volatile, colourless, flammable liquid** with a distinctive alcoholic odour similar to that of ethanol.
- A polar solvent, methanol acquired the name wood alcohol because it was once produced chiefly by the destructive distillation of wood. Today, methanol is mainly produced industrially by hydrogenation of carbon monoxide.
- It is a **non-drinking type of alcohol** (poisonous for human consumption) which is mostly used to create fuel, solvents and antifreeze.

Chinese Apps Banned

- The Ministry of Electronics and Information Technology has **banned 118 Chinese apps which are prejudicial to Sovereignty and Integrity of India**, Security of State and Public Order.

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- The ministry has banned the apps by invoking its power under **section 69A of the Information Technology Act**.
- **Section 69A of the Information Technology Act, 2000:** It gives Central government the **power to block public access to any information online** — whether on websites or mobile apps. Under Section 69A, if a website threatens India's defence, its sovereignty and integrity, friendly relations with foreign countries and public order, the government can ban it, after following due procedure.
- In **Shreya Singhal v/s Union of India** case (2015) judgement, the Supreme Court of India upheld the validity of Section 69A and the extant blocking procedures.

Intermediate Mass Black Hole

- An international research collaboration has witnessed the birth of an "intermediate-mass" black hole. This is the **first conclusive discovery of an intermediate-mass black hole**.
- Two black holes likely collided and merged to create a more massive black hole with a final mass 142 times that of the sun, or 142 solar masses. This final black hole is the first to be found in an **intermediate-mass range that lies between stellar-mass and supermassive black holes**. Supermassive black holes range from hundreds of thousands, to billions of times that of our sun.

Black Holes

- A black hole is a place in space where **gravity pulls so much that even light can not get out**. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.
- Because no light can get out, people can't see black holes. They are invisible. Space telescopes with special tools can help find black holes.
- **A black hole's "surface," called its event horizon**, defines the boundary where the velocity needed to escape exceeds the speed of light, which is the speed limit of the cosmos. Matter and radiation fall in, but they can't get out.
- In 2019, astronomers using the Event Horizon Telescope (EHT) — an international collaboration that networked eight ground-based radio telescopes into a single Earth-size dish — captured an image of a black hole for the first time. It appears as a dark circle silhouetted by an orbiting disk of hot, glowing matter.

Gravitational Waves

- Gravitational waves are **invisible ripples that form when a star explodes in a supernova**; when two big stars orbit each other; and when two black holes merge.
- **Travelling at the speed of light**, gravitational waves squeeze and stretch anything in their path. Gravitational waves were proposed by Albert Einstein in his General Theory of Relativity.
- It was only in 2015, however, that the first gravitational wave was actually detected — by Laser Interferometer Gravitational-wave Observatory.

Moon Rusting Along Poles

- ISRO's maiden mission to the Moon, Chandrayaan-1, has sent images which show that the Moon may be rusting along the poles.

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- The formation of rust can be attributed to the **presence of two key elements -- water and oxygen** when in contact with iron. Scientists propose that fast-moving dust particles might initiate the release of surface borne water molecules, thus allowing water to mix with iron.
- It is believed that though **Moon lacks atmosphere to support the formation of oxygen**, it hosts **traces of oxygen that travels from Earth** to reach the lunar environment.

Chandrayaan 1

- Chandrayaan-1, **India's first mission to the Moon, was launched successfully in 2008** from SDSC SHAR, Sriharikota.
- The spacecraft was orbiting around the Moon at a height of 100 km from the lunar surface for chemical, mineralogical and photo-geologic mapping of the Moon.
- Chandrayaan-3 will be launched somewhere in early 2021. It will be a mission repeat of Chandrayaan-2 and will include a Lander and Rover similar to that of Chandrayaan-2, but will not have an orbiter.

Giant Radio Galaxies

- Researchers working on giant radio galaxies (GRG), which are **large single structures in the universe**, have found its largest sample to date. Until 2016, only about 300 GRGs were known since their discovery in 1974 and, now 400 new GRGs and the total is about 820.
- The universe has billions of galaxies and almost all have supermassive black holes at the centre. Some of these black holes are active and produce jets travelling almost at the speed of light. These jets are visible in radio light or at radio wavelengths of the electromagnetic spectrum. Such galaxies, which have **active black holes shooting high-speed jets, are called radio galaxies**.
- The total linear extent or size comprising jets is much larger than the galaxy as seen in optical light. The length of jets indicates how powerful and active a black hole is as well as about the environment density of black holes.
- Giant radio galaxies (GRGs) are a fraction of radio galaxies which, under special conditions, grow to giant scales or mega-parsec scales (millions of light years across, where one light year $\sim 9.46 \times 1,015$ metres).

Life on Venus

- An announcement by an international team of astronomers about the **discovery of phosphine gas in the atmosphere of Venus** triggered the possibility of the presence of lifeforms on Venus.
- Scientists have reported traces of phosphine in a concentration of approximately 20 parts per billion. Apart from being produced in industrial processes, phosphine, a colourless but smelly gas, is known to be **made only through biological process**.
 - There are some other ways in which this chemical might be produced, for example, in the **underbelly of volcanoes or meteorite activity**, but that would have shown in much lower concentrations.
- The temperature of Venus is too high, and its atmosphere is highly acidic, just two of the things that would make life impossible. But this phosphine could be remnants from a time when Venus was a much more hospitable place.

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- Spacecraft have been going to Venus since the 1960s. ISRO is also planning a mission to Venus, tentatively called **Shukrayaan**, in the near future.

Tata CRISPR Test

- The Tata CRISPR test is the **world's first diagnostic test to deploy a specially adapted Cas9 protein** to successfully detect the virus causing Covid-19.
- It is **developed by CSIR-IGIB 'Feluda'** (Council of Scientific and Industrial Research-Institute of Genomics and Integrative Biology) and received regulatory approvals from the Drug Controller General of India (DCGI) for commercial roll-out.
- The test has met high benchmarks, with 96% sensitivity and 98% specificity for detecting the novel coronavirus. It **uses indigenously developed CRISPR technology** for the detection of the genomic sequence of the SARS-CoV-2 virus.
- It achieves the **accuracy levels of the traditional RT-PCR tests**, with quicker turnaround time, less expensive equipment, and better ease of use.

CRISPR Technology

It is a simple yet powerful **tool for editing genomes**. It allows researchers to easily **alter DNA sequences and modify gene function**. Its many potential applications include **correcting genetic defects, treating and preventing the spread of diseases and improving crops**.

Congo Fever

- The Palghar administration has asked authorities to remain alert against a possible spread of the Congo fever in the Maharashtra district.
- The Crimean Congo Hemorrhagic Fever (CCHF), commonly known as the Congo fever, is a widespread disease **caused by a tick-borne virus (Nairovirus) of the Bunyaviridae family**. The virus causes severe viral haemorrhagic fever outbreaks, with a case fatality rate of 10 to 40 per cent.
- There is **no vaccine available** for either people or animals against the disease. **Human-to-human transmission can occur** resulting from close contact with the blood, secretions, organs or other bodily fluids of infected persons. **Hospital-acquired infections** can also occur due to improper sterilisation of medical equipment.

MedSpark- The First Medical Device Parks

- MedSpark, one of the **first medical device parks in the country**, will be set up in Kerala.
- MedSpark is envisaged as a joint initiative of Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST) and the Kerala State Industrial Development Corporation Ltd (KSIDC).
- It will **focus on the high-risk medical device sector** to provide a full range of services for the medical devices industry like R&D, testing and evaluation of medical devices, manufacturing support etc.
- The park is being established under the **Technical Research Centre for Biomedical devices program of the Department of Science and Technology**.

Cat Que virus

- Scientists from the Pune-based Maximum Containment Laboratory and ICMR-National Institute of Virology have noted the presence of **antibodies against CQV in two human serum samples**.
- CQV belongs to '**Bunyaviridae**', which is one of the largest families of animal viruses. It houses 350 viruses, most of which are arthropod-borne.
- Cases of CQV were first reported in 2004 when it was isolated from mosquitoes during surveillance in Vietnam and later in Uganda. The virus could be **transmitted when a person is bitten by a mosquito**. It is known to **cause encephalitis-like symptoms** similar to Japanese encephalitis (JE).
- The presence of the Cat Que virus has been largely reported in **Culex mosquitoes in China** and in pigs in Vietnam.

Scrub Typhus

- An outbreak of scrub typhus has claimed the lives of five people in Nagaland's.
- Scrub typhus, also known as bush typhus, is a **bacterial disease caused by Orientia tsutsugamushi**. It spreads to people through **bites of larval mites** of the family trombiculid, also called Chiggers.
- The symptoms include fever, headache and bodyache. Scrub typhus should be treated with the antibiotic doxycycline.

Sandalwood Spike Disease

- India's sandalwood trees are facing a serious threat with the return of the destructive Sandalwood Spike Disease (SSD). The disease was **first reported in Kodagu, Karnataka in 1899**.
- It is **caused by phytoplasma, bacterial parasites** of plant tissues, which are **transmitted by insect vectors** and involved in plant-to-plant transmission.
- Presently, there is **no option but to cut down and remove the infected tree** to prevent the spread of the disease.
- With between 1 and 5% of sandalwood trees lost every year due to the disease, scientists warn that it could wipe out the entire natural population if measures are not taken to prevent its spread.

Brucellosis

- The health commission of Lanzhou City in China announced that a leak in a biopharmaceutical company last year caused an **outbreak of brucellosis disease**.
- Brucellosis, also known as **Malta fever or Mediterranean fever**, is a **bacterial disease** that mainly infects cattle, swine, goats, sheep and dogs. **Humans can get infected if they come in direct contact with infected animals** or by eating or drinking contaminated animal products or by inhaling airborne agents. Human to human transmission of the virus is rare.
- A new Vaccine "**Brucella abortus S19 delta per vaccine**" has been developed by the ICAR-Indian Veterinary Research Institute (ICAR-IVRI), for brucellosis prevention in the dairy sector.

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Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) Programme

- Biotech-KISAN is a Department of Biotechnology, **Ministry of Science and Technology** initiative that empowers farmers, especially women farmers.
- It aims to understand the problems of water, soil, seed and market faced by the farmers and provide simple solutions to them. It is Pan-India hub-and-spoke model that stimulates entrepreneurship and innovation in farmers.
- It is being implemented in 15 agro-climatic zones of India in phased manner with the following
- This programme aims to work with small and marginal farmers especially the woman farmer for better agriculture productivity through scientific intervention.

VAJRA Scheme

- VAJRA (Visiting Advanced Joint Research) Faculty Scheme is a dedicated program **exclusively for overseas scientists and academicians to work as adjunct / visiting faculty** for a specific period of time in Indian Public funded academic and research institutions.
- The scheme lays special emphasis on Non-resident Indians (NRI) and Persons of Indian Origin (PIO) / Overseas Citizen of India (OCI). The Scheme recognizes the value of collaborative research as a crucial element for information sharing among researchers for updating and acquiring knowledge.
- The scheme was **launched by the Science and Engineering Research Board (SERB)**, a statutory body of the Department of Science and Technology (DST).

Science & Technology Indicators (STI) 2019-20

- **Department of Science and Technology (DST)** released the latest Science & Technology Indicators (STI) for 2019-20.
- It revealed that between 2005-06 and 2017-18, a total of 510,000 patent applications were filed in the country, but of these **just 24 per cent of patent claims came from Indians**.
- **Reason for Poor Performance:** Poor investment in research and development (R&D) by the government, and private sector; pathetic state of higher education; lack of employable personnel who have neither the skills nor the aptitude in a variety of fields; Lack of funds and a lack of conducive environment for start-ups.

Data Sonification

- NASA's Chandra X-Ray Center (CXC) has unveiled a new 'sonification' project that **transforms data from astronomical images into audio**.
- **Data sonification** refers to the **use of sound values to represent real data**. It is the auditory version of data visualisation. In NASA's recent Chandra project, for instance, data is represented using a number of musical notes.
- NASA's distant telescopes in space collect inherently digital data, in the **form of ones and zeroes**, before converting them into images. The images are essentially visual representations of light and radiation of different wavelengths in space, that **can't be seen by the human eye**.
- So far, the astronomers behind Project Chandra have released three examples made using data collected from some of the most distinct features in the sky — the **Galactic Centre** (rotational centre

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of the Milky Way galaxy), **Cassiopeia A** (remains of a Supernova), and **Pillars of Creation** Nebula (located in the centre of the Eagle Nebula).

RAISE 2020

- The Ministry of Electronics and Information Technology (MeitY) and NITI Aayog has organized a Mega **Virtual Summit on Artificial Intelligence** (AI), RAISE 2020- ‘Responsible AI for Social Empowerment 2020.’.
- RAISE 2020 is a first of its kind, global meeting of minds on Artificial Intelligence to drive India's vision and roadmap for social transformation, inclusion and empowerment in areas like Healthcare, Agriculture, Education and Smart Mobility, among other sectors, through responsible AI.

VAIBHAV Summit

- Vaishvik Bharatiya Vaigyanik (VAIBHAV) Summit will be inaugurated on 2nd October 2020, the birth anniversary of Mahatma Gandhi.
- VAIBHAV Summit is a collaborative initiative by S&T and Academic Organisations of India to enable deliberations on thought process, practices and R&D culture with a problem-solving approach for well-defined objectives.
- The VAIBHAV initiative aims to bring out the comprehensive roadmap to leverage the expertise and knowledge of global Indian researchers for solving emerging challenges.

Indian Institutes of Information Technology (Amendment) Bill, 2020

- The Parliament has passed the Indian Institutes of Information Technology (IIITs) (Amendment) Bill, 2020. It will amend IIT Act of 2014 and IIIT (Public-Private Partnership) Act, 2017.
- The bill will confer the **status of National Importance to five Indian Institutes of Information Technology (IIITs)** — Surat, Bhopal, Bhagalpur, Agartala and Raichur by granting them statutory status. These IIITs, at present, are functioning as Societies registered under the Societies Registration Act of 1860.
- It will also entitle the institutions to **use the nomenclature of Bachelor of Technology (B.Tech) or Master of Technology (M.Tech) or PhD degree** as issued by a University or Institution of National Importance.
- The central government will contribute 50% towards the expenses of institutes functioning under the PPP mode. 35% will be borne by the states and 15% by the industries.

Tidal Disruption Events

- Astronomers have observed material being blown away from a black hole after it tore a star apart. This event, known as a “tidal disruption”.
- Tidal disruption events (TDE) occur **when a star passes too close to a compact object, such as a supermassive black hole (SMBH)**, that the tidal field of the compact object is able to overcome the stellar self-gravity and tear the star apart.

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- The basic theory of tidal disruption events has been developed in the late '70s and throughout the '80s. The tidal disruption events are crucial and useful phenomena to detect and predict the mass of supermassive black holes in quiescent galaxies.

Solar Cycle 25

- Scientists from NASA have announced their predictions about the **new solar cycle, called Solar Cycle 25**, which they believe has begun.
- Since the Sun's surface is a very active space, electrically charged gases on its surface generate areas of powerful magnetic forces, which are called **magnetic fields**. Since the gases on the Sun's surface are constantly moving, these magnetic fields can get stretched, twisted and tangled creating motion on the surface, which is referred to as **solar activity**. Solar activity varied with the stages of the solar cycle, which lasts on average for a period of 11 years.
- Scientists track solar activity because when charged particles from coronal mass ejections (CMEs) reach areas near the Earth, they can trigger **intense lightning in the skies referred to as auroras**. When CMEs are particularly strong, they can also **interfere with the power grids**, which can cause electricity shortages and power outages. **Sunspot**
- Scientists **track a solar cycle by using sunspots**. A Sunspot is an **area on the Sun that appears dark on the surface** and is relatively **cooler than the surrounding parts**. These spots, some as large as 50,000 km in diameter, **are the visible markers of the Sun's magnetic field**, which forms a blanket that protects the solar system from harmful cosmic radiation. When a Sunspot reaches up to 50,000 km in diameter, it may release a huge amount of energy that can lead to solar flares.
- Sunspots are associated as the origins for giant explosions such as solar flares that can spew light, energy and solar material into space.
- The **beginning of a solar cycle is typically characterized by only a few sunspots** and is therefore referred to as a **solar minimum**. Experts announced that the solar minimum for Solar Cycle 25 occurred in December 2019 and a solar maximum (middle of the solar cycle) will be reached by July 2025.

GPay Allowed To Share Customer's UPI Data Under Law: Google

- Google India Digital Services Limited told the Delhi High Court that its GPay App, being a TPAPs (Third Party Application Providers), is **allowed under the law to share customer's UPI (Unified Payments Interface) transaction data** with third parties and group companies.
- Google India said the National Payments Corporation of India's (NPCI) 'procedural guidelines' do not impose an absolute prohibition or restriction on a TPAP's ability to share data or information, if it was done with prior permission of the NPCI and the bank concerned.
- The petitioner claimed that the company was storing personal sensitive data in contravention of UPI procedural guidelines of October 2019. UPI procedural guidelines allow such data to be stored only by Payment Service Provider (PSP) bank systems and not by any third party application.

Graphene

- Researchers from the City University of Hong Kong have produced graphene masks with an antibacterial efficiency of 80%.

- Graphene is an allotrope of carbon consisting of a single layer of atoms arranged in two dimensional honeycomb lattice.
- It is harder than diamond yet more elastic than rubber; tougher than steel yet lighter than aluminium. **Graphene is the strongest known material.**
- **Carbon Allotropes:** Diamond, graphite and fullerenes (substances that include nanotubes and buckminsterfullerene) are important allotropes of pure carbon. **Allotropy** is the property of some chemical elements to exist in two or more different forms, in the same physical state.

Anti Satellite Missile

- A customized My Stamp on India's First Anti Satellite Missile (A-SAT) launch was released by the Department of Posts on the occasion of Engineers Day.
- Anti Satellite Missile is essentially a missile that can **destroy or jam an enemy country's satellite in space**. This interceptor missile was a three-stage missile with two solid rocket boosters.
- **Two types of A-SATs:** Kinetic and Non-Kinetic A-SATs. **Kinetic A-SATs**, like ballistic missiles, physically strike an object in order to destroy it. **Non-Kinetic A-SATs** are the ones that use non-physical means to disable or destroy space objects, which include frequency jamming, blinding lasers or cyber-attacks.
- **Capabilities:** Pellet cloud attacks on enemy's low orbit satellites, cyber-attacks on space systems, Electro-Magnetic Pulse (EMP) explosion devices, directed energy (laser based) weapons and targeted missiles for destruction of satellites.
- **Range:** The range of an ASAT is limited and depends on where it is launched from. Satellites **above the range of 20,000 kilometres are out of range**.
- The successful demonstration has placed India at par with the elite club of three nations -- **US, Russia and China** -- that possess this capability.

'Mission Shakti'

- It was the country's first-ever ASAT Missile Test successfully conducted in 2019. Under the mission, a fast-moving Indian orbiting target satellite in Low Earth Orbit (LEO) was neutralised with pinpoint accuracy.

Outer Space Treaty

- The principal international treaty on space is the 1967 Outer Space Treaty. India is a signatory and ratified it in 1982.
- The Outer Space Treaty prohibits only weapons of mass destruction in outer space. India expects to play a key role in the drafting of international law on the prevention of arms race in outer space.

Jasmonate Hormone

- Team of scientists at the National Institute of Plant Genome Research (NIPGR) has suggested that targeting a specific plant hormone, **Jasmonate (JA), would help rice plants have greater tolerance to potassium deficiency**, in turn, improving rice productivity.
- The overexpression of a gene, called **OsJAZ9**, helped make rice plants more tolerant of potassium deficiency.

- The plant hormone called **Jasmonate** (JA) is often associated with the **plant's defence against biotic factors** like insects, pests and other pathogens.

Ammonia

- A major ammonia gas leakage occurred at the Indian Farmers Fertilizer Cooperative Limited (IFFCO) unit at Prayagraj, Uttar Pradesh.
- Ammonia is a building block for ammonium nitrate (NH_4NO_3) that is used in agriculture as a high-nitrogen fertiliser. Ammonia interacts immediately upon contact with moisture present in the skin, eyes, oral cavity, respiratory tract to form ammonium hydroxide, which is very caustic and **disrupts the cell membrane lipids, ultimately leading to cellular destruction**.
- It is highly **soluble in water** and is found in soil, air, and water. It is also naturally present in the body and secreted by the kidneys to neutralise excess acid. However, when inhaled in excess, the **gas is toxic and affects the lungs** with a possibility of causing chemical pneumonitis — inflammation of the lung caused by aspirating or inhaling irritants.

Asteroid 16 Psyche

- A recent study from NASA's Hubble Space Telescope has found that asteroid 16 Psyche could be made entirely of metal and is worth an estimated \$10,000 quadrillion — more than the entire economy of Earth.
- The asteroid 16 Psyche, **orbiting the Sun between Mars and Jupiter**, is one of the most massive objects in the asteroid belt in our solar system. Its surface may mostly consist of iron and nickel, similar to the Earth's core. It was first discovered on March 17, 1853, by the Italian astronomer Annibale de Gasparis and was named after the ancient Greek goddess of the soul, Psyche.
- **NASA's Psyche mission:** The Psyche mission will explore metallic asteroid 16 Psyche which appears to be the exposed nickel-iron core of an early planet, one of the building blocks of our solar system. The unmanned spacecraft will reach the asteroid in January, 2026. The mission was originally slated to take place in 2023, but was later moved up to 2022.

Asteroid Apophis

- A near-Earth asteroid Apophis, which was expected to pass extremely close to Earth, may now hit it in 2068 due to a **phenomenon called Yarkovsky effect**, which is a continuous slight push from the sunlight. This effect has eventually accelerated the asteroid's flow and also changed its path.
- Asteroid Apophis, discovered in 2004, is a 1,120-foot-wide (340-meter-wide) asteroid.
- **Yarkovsky effect:** The sun can heat an asteroid in a non-uniform way, causing the space rock to radiate heat energy asymmetrically. This can cause a thrust or a tiny push in a certain direction, sometimes changing the path of the asteroid. This effect is called the Yarkovsky acceleration.

NASA's Crew 1 Mission

- **SpaceX's Crew Dragon spacecraft** was launched from NASA's Kennedy Space Center carrying a crew of four people to the International Space Station (ISS).

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- The crew will conduct science and maintenance during a six-month mission aboard the orbiting laboratory.
- It is the first of six crewed missions that NASA and SpaceX will operate as part of the Commercial Crew Program, whose objective is to **make access to space easier in terms of its cost**, so that cargo and crew can be easily transported to and from the ISS, enabling greater scientific research.

Arecibo Telescope

- The massive Arecibo telescope, famous for its stellar contributions to astronomy, has collapsed. The Arecibo Observatory, also known as the National Astronomy and Ionosphere Center (NAIC), is an **observatory in Arecibo, Puerto Rico** owned by the US National Science Foundation (NSF).
- It was the world's largest single-aperture telescope since it was built in 1963. It was surpassed only in July 2016 by the **Five-hundred-meter Aperture Spherical Telescope (FAST) in China**.
- Being the most powerful radar, Arecibo is the **second-largest single-dish radio telescope in the world**.

2020 SO

- NASA has confirmed that the **Near-Earth Object called 2020 SO** is the rocket booster that helped lift the space agency's **Surveyor spacecraft** toward the Moon in 1966.
- **The Surveyor-2** spacecraft was supposed to make a **soft landing on the Moon's surface** in September 1966, during which time one of the three thrusters failed to ignite as a result of which the spacecraft started spinning and crashed on the surface. The aim of the mission was to **reconnoiter the lunar surface ahead of the Apollo missions** that led to the first lunar landing in 1969.
- While the spacecraft crashed into the Moon's surface, the rocket booster disappeared into an unknown orbit around the Sun.

Intentional Genomic Alteration (IGA)

- The US Food and Drug Administration (FDA) approved a first-of-its-kind Intentional Genomic Alteration (IGA) in a line of domestic pigs referred to as **GalSafe pigs**.
- These pigs may be used for food and human therapeutics. The pig is genetically engineered to eliminate the presence of alpha-gal, a type of sugar found in many mammals. The sugar makes its way into many products, including medications, cosmetics and food, and can cause allergic reactions in some people.
- **Intentional genomic alteration** in animals means **making specific changes to the genome of the organism** using modern molecular technologies that are popularly referred to as "genome editing" or "genetic engineering".
- Such changes in the DNA sequence of an animal may be carried out for research purposes, to produce healthier meat for human consumption and to study disease resistance in animals among other reasons.

SolarWinds Hack

- A cyberattack, SolarWinds hack, recently discovered in the United States.

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- This is being called a '**Supply Chain**' attack: Instead of directly attacking the federal government or a private organisation's network, the hackers **target a third-party vendor, which supplies software to them.**
- The hackers gained access to victims via trojanized updates to SolarWinds' Orion IT monitoring and management software. Once installed, the malware gave a backdoor entry to the hackers to the systems and networks of SolarWinds' customers.

STS-107 Mission

- An **American commercial cargo spacecraft** bound for the International Space Station has been named after fallen NASA astronaut Kalpana Chawla, the first India-born woman to enter space.
- Chawla lost her life during the STS-107 mission when the Space Shuttle Columbia disintegrated upon re-entering the Earth's atmosphere.

Father of Indian Radio Astronomy

- Govind Swarup, a noted Physicist, died in Pune. He has pioneered radio astronomy in India and is regarded as the "Father of Indian Radio Astronomy".
- He was the key scientist behind the concept, design and installation of the **Ooty Radio Telescope (India)** and the **Giant Metrewave Radio Telescope (GMRT)** near Pune.

Fast Radio Burst (FRB)

- NASA has observed the first FRB never observed before in the Milky Way galaxy.
- **FRBs are bright bursts of radio waves** whose durations lie in the millisecond-scale, because of which it is difficult to detect them and determine their position in the sky.
- FRBs were **first discovered in 2007, when scientists combed through archival pulsar data.** Pulsars refer to spherical, compact objects in the universe, which are about the size of a large city but contain more mass than the sun. They often look like flickering stars but are not actually stars.
- The source of this FRB detection in the Milky Way is a very powerful **magnetic neutron star, referred to as a magnetar**, called SGR 1935+2154 or SGR 1935 which is located in the constellation Vulpecula.

A **magnetar** is a neutron star with an ultra-strong magnetic field. The magnetic field of such a star is very powerful, which can be over 10 trillion times stronger than a refrigerator magnet. Magnetars are known to produce jets of gamma rays and X-rays, which also last for mere milliseconds and carry a huge burst of energy.

Thirty Meter Telescope (TMT) Project

- Indian astronomers collaborated with 2020 Physics Nobel Laureate Prof. Andrea Ghez on the possible science prospects of the TMT project **being installed at Maunakea in Hawaii.**
- The TMT project is an international collaboration of institutions in the **USA, Canada, Japan, China and India;** through the Department of Science and Technology (DST) and Department of Atomic Energy (DAE).

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- “**Thirty Metre**” refers to the 30-metre diameter of the mirror, with 492 segments of glass pieced together, which makes it three times as wide as the world’s largest existing visible-light telescope. The larger the mirror, the more light a telescope can collect, which means, in turn, that it can “see” farther, fainter objects.
- One of its key uses will be the **study of exoplanets** and whether their atmospheres contain water vapour or methane — the signatures of possible life.

Chapare Virus

- Researchers from the US Centers for Disease Control and Prevention (CDC) have discovered a rare Ebola-like illness called Chapare Virus.
- The rare Chapare Virus has been **identified in Bolivia**, with the first instance being reported in 2003 in a rural province called Chapare, from where it gets its name.
- **The Chapare hemorrhagic fever (CHHF)** is caused by the same arenavirus family that is responsible for illnesses such as the Ebola virus disease (EVD). Viral hemorrhagic fevers are a severe and lifethreatening kind of illness that can affect multiple organs and damage the walls of blood vessels.
- It is **generally carried by rats** and can be transmitted through direct contact with the infected rodent, its urine and droppings etc. There are **no specific drugs to treat the disease**.

Brain Fingerprinting

- **A Brain Electrical Oscillation Signature Profiling (BEOSP)** test will be conducted on the accused in Hathras rape case.
- BEOSP, also known as brain fingerprinting, is a **neuropsychological method of interrogation** in which the accused’s participation in the crime is investigated by studying their brain’s response.
- The test is carried out via a process known as an **electroencephalogram**, conducted to study the electrical behaviour of the human brain.
- Under this test, the consent of the accused is first taken and they are then made to wear caps with dozens of electrodes attached to them. The accused are then shown visuals or played audio clips related to the crime to check if there is any triggering of neurons in their brains which then generate brainwaves.

Kerala Fibre Optic Network Project (K-FON) Project

- Under the project, K-FON project aims to provide quality internet which will be free of cost for the poor and at an affordable price for the others.
- The project is first of its kind among states and is similar to the Government of India’s BharatNet project. It is aimed at making digital connectivity a basic right.
- The Project will provide free Internet for more than 20 lakh poor families and over 30,000 government institutions, including offices, schools, IT parks, airports and ports.

Deep Ocean Mission

- India will soon launch an ambitious ‘Deep Ocean Mission’ that envisages **exploration of minerals, energy and marine diversity of the underwater world**.
- The mission is expected to cost over ₹4,000 crores and will give a boost to efforts to explore India’s vast Exclusive Economic Zone and Continental Shelf.
- The tasks that will be undertaken include deep-sea mining, survey, energy exploration and the offshore-based desalination and other necessary technologies.
- These technological developments are funded under an umbrella scheme of the government – called **Ocean Services, Technology, Observations, Resources Modelling and Science (O-SMART)**.
- In September 2016, India signed a 15-year contract with the International Seabed Authority (ISA) for exploration of Poly-Metallic Sulphides (PMS) in the Indian Ocean.

Poly-Metallic Sulphides (PMS)

- Poly-Metallic Sulphides (PMS) are **precipitates of hot fluids from upwelling hot magma** from deep interior of the oceanic crust, discharged through mineralized chimneys. It contains iron, copper, zinc, silver, gold, platinum in variable constitutions.
- These metals can be extracted and **used in electronic devices, smartphones, batteries** and even for solar panels.

International Seabed Authority (ISA)

- ISA is an autonomous international organisation established under the 1982 **United Nations Convention on the Law of the Sea**.
- **Headquarters:** Kingston, Jamaica.

National Science Film Festival

- The 10th edition of the National Science Film Festival was organised in a virtual mode by Vigyan Prasar, and the Tripura State Council of Science and Technology, Govt. of Tripura.
- **VigyanPrasar**, an autonomous agency under the **Department of Science and Technology**, has been organizing this festival as a part of its science popularization endeavour.

TiHAN-IIT Hyderabad

- The Department of Science and Technology has sanctioned ₹135 crore to IIT Hyderabad under to set up a Technology Innovation Hub on Autonomous Navigation and Data Acquisition Systems.
- The Technology Innovation Hub on Autonomous Navigation Systems for Unmanned Aerial Vehicles and Remotely Operated Vehicles at IIT Hyderabad, known as 'TiHAN Foundation' has been incorporated as a Section-8 company by the institute in June 2020.
- It is **India's first Test bed for Autonomous Navigation Systems** (Terrestrial and Aerial). It focuses on the R&D of interdisciplinary technologies in the domain of Autonomous Navigation and Data Acquisition Systems.

Digital Ocean Platform

- The Minister for Science and Technology has launched the ‘Digital Ocean’ platform of **Indian National Centre for Oceanic Information Services (INCOIS)** as a one stop-solution for all ocean data requirements.
- It is the first of its kind platform for **ocean data management** which has a set of applications that present heterogeneous oceanographic data with geospatial technology.
- It will help to share knowledge about the ocean with a wide range of users including research institutions, operational agencies etc.

Indian National Center for Ocean Information Services (INCOIS)

- It is an autonomous organization, established in 2007, under the **Ministry of Earth Sciences (MoES)**
- It is **located in Hyderabad** and is a unit of the Earth System Science Organization (ESSO).
- INCOIS provides ocean information and advisory services to various stakeholders including Potential Fishing Zone (PFZ) advisories, Ocean State Forecast (OSF), high wave alerts, tsunami early warnings, etc.

Global Innovation & Technology Alliance

- The 9th Foundation Day of Global Innovation and Technology Alliance (GITA) was celebrated on 26th November, 2020.
- GITA is a “**not-for-profit**” **Public Private Partnership (PPP) company**. It is promoted jointly by the Technology Development Board (TDB), Department of Science & Technology (DST), Government of India (GoI) and the Confederation of Indian Industry (CII).
- GITA served as a catalyst for nurturing innovation and industrial R&D by fostering bilateral academic industry and government collaborations.

Fire Detection and Suppression System

- The Defence Research and Development Organisation (DRDO) has developed a Fire Detection and Suppression System (FDSS).
- FDSS is a fire mitigation system in buses, which can **detect fires in less than 30 seconds and extinguish it within a minute**.
- The active fire protection system has been developed by a DRDO laboratory- Centre for Fire, Explosive and Environment Safety (CFEES).

Chang'e-5 Mission

- China has launched an unmanned spacecraft under Chang'e-5 Mission to **bring back lunar rocks**, the first attempt by any nation to retrieve samples from the moon in four decades.
- The Chang'e-5 probe, aims to **shovel up lunar rocks and soil to help scientists learn about the moon's origins**, formation and volcanic activity on its surface.
- If successful, **China will be only the third country to have retrieved samples from the moon**, following the **United States and the Soviet Union** in the 1960s and 1970s.

Superinfections

- Researchers at Sweden's Karolinska Institutet have released findings on "superinfections".
- A superinfection is a **second infection superimposed on an earlier one**, especially by a different microbial agent that is resistant to the treatment being used against the first infection.
- The new study found that different nutrients and antioxidants, such as vitamin C, **leak from the blood creating an environment in the lungs that favours growth** of the bacteria.
- The bacteria adapt to the inflammatory environment by increasing the **production of an enzyme called HtrA**. The presence of HtrA weakens the immune system and promotes bacterial growth in the influenza-infected airways.

The Cancer Genome Atlas 2020 Conference

- The Minister of Science and Technology has virtually inaugurated the 2nd TCGA (The Cancer Genome Atlas) 2020 Conference.
- TCGA is a landmark **cancer genomics program that molecularly characterized over 20,000 primary cancers** and matched normal samples spanning 33 cancer types.
- It is a joint effort between the **US- National Cancer Institute and the National Human Genome Research Institute**.
- On similar lines, the establishment of an 'Indian Cancer Genomics Atlas (ICGA)' has been initiated by a consortium of key stakeholders in India led by CSIR. It is aimed at improving clinical outcomes in cancer and other chronic diseases.

Quantum Key Distribution (QKD) Technology

- DRDO has successfully demonstrated communication between its two labs using Quantum Key Distribution (QKD) technology.
- In the QKD technology, encryption keys are sent as qubits in a fibre optic cable. In quantum computing, a **qubit or quantum bit is the basic unit of quantum information**— the quantum version of the classical binary bit physically realized with a two-state device.
- The QKD is designed in a way that **if an illegitimate entity tries to read the transmission, it will disturb the qubits** - which are encoded on photons - and this will generate transmission errors, leading to legitimate end users being immediately informed.

Satellite-Based Narrowband IoT (Internet of Things) Network

- BSNL has announced the launch of the **world's first Satellite-Based Narrowband IoT Network**.
- **Internet of things (IoT)** describes the network of physical objects that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet.
- The Narrowband IoT Network can be **used across India where mobile towers are not present**, including the seas within the country's jurisdiction.

Beresheet 2 Mission

- Israel launched Beresheet 2 Project with the aim of **landing an unmanned craft on moon** in 2024. The Beresheet 2 project will aim to send three spacecraft — an orbiter and two landers — to the moon.
- The first Beresheet, or “Genesis,” spacecraft was **built by SpaceIL and state-owned Israel Aerospace Industries**.
- Till date, **only Russia, United States and China** have landed a spacecraft safely on the Moon.

Prime Minister Wi-Fi Access Network Interface (PM-WANI)

- The Union Cabinet has approved PM-WANI to elevate wireless internet connectivity in the country. **The Ministry of Communication** is responsible for formulating the guidelines for the scheme.
- The public network will be **set up by Public Data Office Aggregators (PDOAs)** to provide Wi-Fi service through **Public Data Offices (PDOs)** spread throughout the country.
- **No license fee** will be charged for providing broadband internet services. A customer wanting to access the network from a PDO’s premise can do so **only after an eKYC authentication**.
- These PDOs will either provide internet on their own or will lease from some other Internet Service Provider (ISP).
- **A central registry will be set-up** which will maintain details of all app providers, PDOAs and PDOs. The registry will be handled by the **Centre for Development of Telematics (C-DoT)**.

Nuclear Magnetic Resonance (NMR) Test

- Honey marketed by prominent brands failed a key test of purity in an investigation conducted by the Centre for Science and Environment (CSE).
- The **CSE used Nuclear Magnetic Resonance (NMR) testing** to ascertain the composition of a product at the molecular level. NMR spectroscopy is an analytical chemistry technique used in quality control and research for determining the content and purity of a sample as well as its molecular structure.
- The **NMR test is not required by Indian law** for honey that is being marketed locally but is needed for export.

Great Conjunction

- After nearly 400 years, **Saturn and Jupiter -- were brought closest** in the night sky on December 21 by an **astronomical event called the “great conjunction”** and popularly referred to as the **“Christmas Star”**.
- The event **coincided with winter solstice** (shortest day of the year in terms of hours of sunlight received) in the Northern Hemisphere and **summer solstice in the Southern Hemisphere**.
- **A conjunction** is the name given to **any event where planets or asteroids appear to be very close together** in the sky when viewed from the Earth. It is not unique to Saturn and Jupiter. In June 2005, as a result of the “spectacular” conjunction, Mercury, Venus and Saturn appeared close together in the sky.

Bitcoins

- The Bitcoin cryptocurrency recently crossed the US dollar \$20,000 mark for the first time.
- It is an electronic cash system, which would “**allow online payments to be sent directly from one party to another without going through a financial institution**”.
- The origin of Bitcoin is unclear. A person, or a group of people, with the identity of Satoshi Nakamoto are believed to have conceptualised an accounting system after the 2008 financial crisis.
- Bitcoin, often described as a cryptocurrency, a virtual currency or a digital currency - is a type of money that is completely virtual.

Tokamak Reactor

- China successfully powered up HL-2M Tokamak reactor - its “artificial sun” nuclear fusion reactor for the first time. It is **China’s largest and most advanced nuclear fusion experimental research device**.
- The mission is named **Experimental Advanced Superconducting Tokamak (EAST)**. The reactor is often called an “artificial sun” on account of the enormous heat and power it produces.
- It uses a **powerful magnetic field to fuse hot plasma** and can reach temperatures of over 150 million degrees Celsius- approximately 10 times hotter than the core of the sun. It merges atomic nuclei to create massive amounts of energy.
- Unlike fission, fusion emits no greenhouse gases and carries less risk of accidents or the theft of atomic material.

Hayabusa2 Spacecraft

- A Japanese spacecraft, Hayabusa2, is expected to reach Earth after a yearlong journey from a **distant asteroid, Ryugu**, with soil samples and data that could provide clues to the origins of the solar system.
- **Hayabusa2 is an asteroid sample-return mission** operated by the Japanese space agency, **JAXA**. It carried multiple science payloads that investigated the asteroid surface to inform about the environmental and geological context of the samples collected.
- Asteroid 162173 Ryugu is a primitive **carbonaceous near-Earth asteroid**, located about 300 million kilometers (180 million miles) from Earth.

Leonid Meteor Shower

- The Leonid meteor shower is annually active in the month of November. **The Leonids emerge from the comet Tempel-Tuttle**, which requires 33 years to revolve once around the Sun. These meteors are bright and among the fastest moving- **travelling at speeds of 71 km per second**.
- The Leonid showers include fireballs- bright and large meteors that can last longer than average meteors, and earthgrazers- meteors which appear close to the horizon with colourful and long tails.
- Meteor showers are named after the constellation they appear to be coming from. The Leonids originate from the **constellation Leo the Lion**- the groups of stars which form a lion’s mane.

National Mathematics Day

- National Mathematics Day is celebrated every year on December 22 across the nation to recognize and celebrate the works of **Srinivasa Ramanujan**. It was on this day in 1887, the Indian mathematical genius Srinivasa Ramanujan was born.
- Ramanujan made priceless contributions to several mathematical concepts like infinite series, continued fractions, number theory and mathematical analysis.

Swarna Jayanti Fellowship

- The Department of Science & Technology has selected 21 scientists associated with innovative research ideas in different fields for the Swarna Jayanti fellowship.
- The Swarna Jayanti Fellowships scheme was instituted by the Government of India to **commemorate India's fiftieth year of Independence**.
- It include a fellowship of Rs. 25,000/- per month for five years. In addition to this, DST supports the awardees by giving them a research grant of 5 lakh Rupees for 5 years.

BBX11 Gene

- Researchers at the Indian Institute of Science Education and Research (IISER) have identified a **gene, 'BBX11', that facilitates in the greening of plants**.
- It plays a crucial role in regulating the levels of **protochlorophyllide** — an intermediate in the biosynthesis of the green pigment chlorophyll.

CMS-01

- ISRO successfully launched India's **42nd communications satellite, CMS-01**, on board the PSLV-C50, from the Satish Dhawan Space Centre, SHAR.
- The satellite was placed in an elliptical **Geo-Synchronous Transfer Orbit (GTO)** by India's workhorse PSLV-C50. Eventually, it will be placed into its specified slot in the Geo-Synchronous Orbit. PSLV-C50 will use the 'XL' version of PSLV with six strap-on-motors.
- The 1,410-kg CMS-01 is a communications satellite envisaged for providing services in the **Extended-C band of the frequency spectrum**.

EOS-01

- ISRO successfully launched EOS-01, **an earth observation satellite**, along with nine satellites from foreign countries, by a PSLV rocket.
- EOS-01 is nothing but another **Radar Imaging Satellite (RISAT)** that will work together with RISAT-2B and RISAT-2BR1 launched last year.
- EOS-01, like RISAT-2B and RISAT-2BR1, uses synthetic aperture radars to produce highresolution images of the land. One big advantage that radar imaging has over optical instruments is that it is **unaffected by weather, cloud or fog, or the lack of sunlight**. It can produce high-quality images in all conditions and at all times.

Sentinel-6 Satellite

- The Copernicus Sentinel-6 Michael Freilich satellite, **designed to monitor oceans**, was launched from California aboard a SpaceX Falcon 9 rocket.
- This is a part of the **Jason Continuity of Service (Jason-CS) mission** dedicated to **measuring changes in the global sea level**. The spacecraft consists of two satellites, Sentinel-6, and the other, called **Sentinel-6B, to be launched in 2025**.
- It has been developed jointly by the European Space Agency (ESA), NASA, European Organisation for the Exploitation of Meteorological Satellites (Eumetsat), the USA's National Oceanic and Atmospheric Administration (NOAA) and the EU, with contributions from France's National Centre for Space Studies (CNES).

Supercomputers From India

- Two supercomputers from India — **PARAM Siddhi-AI and Mihir** — have been ranked 63rd and 146th respectively in the TOP500 list of the world's most powerful supercomputers.
- **Pratyush**, a supercomputer used for weather forecasting at the Indian Institute of Tropical Meteorology, ranked 78th on the November edition of the list.
- **PARAM Siddhi-AI** has a Rpeak capacity of 5.267 Petaflops and Rmax capacity of 4.6 Petaflops. '**Mihir**' is a 2.8 Petaflop supercomputer which has been operational at the National Centre for Medium-Range Weather Forecast (NCMRWF), Noida.
- A petaflop is a measure of a computer's processing speed and can be expressed as "a thousand trillion floating-point operations per second (FLOPS)".

Indian Regional Navigation Satellite System (IRNSS)

- India has become the **fourth country in the world to have its independent regional navigation satellite system** recognised by the International Maritime Organisation (IMO) as a part of the World Wide Radio Navigation System (WWRNS). The other three countries that have its navigation systems recognised by the IMO are the **US, Russia and China**.
- IRNSS, with an operational name of NavIC is an independent regional navigation satellite system developed by India.
- It is designed to provide accurate position information service to assist in the navigation of ships in the Indian Ocean waters. It is a **constellation of seven satellites**: Four are located in geosynchronous orbit and Three satellites are located in geostationary orbit.
- IRNSS will provide two **types of services- Standard Positioning Service (SPS)** which is provided to all the users and **Restricted Service (RS)**, which is an encrypted service provided only to the authorised users.
- The IRNSS System is expected to provide a position **accuracy of better than 20 m** in the primary service area.

Ariel Space Mission

- The European Space Agency (ESA) has adopted Ariel (Atmospheric Remote-sensing Infrared Exoplanet Large-survey), the explorer that will study nature, formation and evolution of exoplanets.

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- Ariel, scheduled for launch in 2029, will perform a **large-scale survey of over a thousand exoplanets** over a period of four years.
- Ariel will be **surveying a diverse sample of about 1000 extrasolar planets**, simultaneously in visible and infrared wavelengths. It is the first mission dedicated to measuring the chemical composition and thermal structures of hundreds of transiting exoplanets.

Shukrayaan Mission

- ISRO has short-listed 20 space-based experiment proposals for its proposed **Venus orbiter mission ‘Shukrayaan’**. The Shukrayaan orbiter will be the **first mission to Venus by the ISRO** and will study the planet for four years. The satellite is **planned to be launched in either 2024 or 2026**.
- Its objectives include **investigation of the surface processes** and shallow subsurface stratigraphy; and solar wind interaction with Venusian Ionosphere etc
- Venus is often described as the “twin sister” of the Earth because of the similarities in size, mass, density, bulk composition and gravity

Nature Index 2020

- The Nature Index 2020 Artificial Intelligence was recently **released by Nature**. The index **tracks contributions to research articles published** in 82 high-quality natural-science journals, chosen by an independent group of researchers.
- Between 2015 and 2019, in terms of global output for AI research, the US was the leader, with the UK, Germany and China in second, third and fourth place, respectively
- In 2019, India has been the third most productive country in AI research, with over 23,000 papers. On the overall AI Index, it is at the 20th position in a list dominated by European countries.

Nature is a weekly international journal that publishes high quality research in all fields of science and technology. It also provides authoritative and insightful news and interpretation of current and upcoming trends affecting science, scientists and the wider public.

Digital Quality of Life Index, 2020

- According to a global research released by online privacy solutions provider SurfShark, **India ranks among the lowest in the world in terms of Internet quality**.
- “Digital Quality of Life Index 2020” researches on the **quality of digital wellbeing in 85 countries** in terms of e-infrastructure.
- **India occupies 79th place**, ranking below countries including Guatemala and Sri Lanka. However, India makes it into the top 10 in terms of Internet affordability.

Facebook Antitrust Issue

- The **US Federal Trade Commission (FTC)** and 48 states in the US have filed antitrust lawsuits against Facebook. The case has been filed under Section 2 of the **Sherman Act**, which the FTC enforces through Section 5 of the FTC Act. Section 2 of the Sherman Act prohibits companies from using anticompetitive means to acquire or maintain a monopoly.

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- The FTC has alleged that Facebook is illegally maintaining its personal and social networking monopoly through anticompetitive behaviour for years.
- The Federal Trade Commission is an **independent agency of the United States government**. Its principal mission is to enforce U.S. antitrust laws and to promote consumer protection.

IPBES Report on Future Pandemics

- The IPBES report has warned about future pandemics. According to the report, these pandemics will emerge more often, spread more rapidly and do more damage to the world, unless significant measures are taken.
- More than 70% of emerging diseases, such as Ebola, Zika and Nipah, are **caused by microbes found in animals** that spill over due to contact among wildlife, livestock and people. About 30% of emerging infectious diseases are attributed to **land-use change, agricultural expansion and urbanization**.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem (IPBES)

- IPBES is an independent intergovernmental body established in Panama City, on 21 April 2012 by 94 Governments.
- It aims to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.
- **It is not a United Nations body**. However, the United Nations Environment Programme (UNEP) provides secretariat services to IPBES.

Bulk Drug Park

- **Himachal Pradesh** is vying for the allotment of a bulk drug park under a central government scheme announced earlier this year.
- A bulk drug, also called an active pharmaceutical ingredient (API), is **key ingredient of a drug or medicine**, which lends it the desired therapeutic effect or produces intended pharmacological activity.
- **APIs are prepared from multiple reactions** involving chemicals and solvents. The primary chemical or the basic raw material which undergoes reactions to form an API is called the **Key Starting Material (KSM)**. Chemical compounds formed during the intermediate stages during these reactions are called **Drug Intermediates (DIs)**.

Software Technology Parks of India (STPI)

- STPI is investing up to ₹400 crores in setting up office and connectivity infrastructure across several cities, offering small technology firms a 'plug-and-play' facility.
- STPI was set up in 1991 as an **autonomous society under the Ministry of Electronics** and Information Technology (MeitY). Its **Governing Council is chaired by the Union Minister for Electronics & Information Technology**.
- Its main objective is to **promote software exports from the country**. It provides a 'single-window' in facilitating services to the software exporters.

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Gandhian Young Technological Innovation Awards

- Union Minister of Science & Technology has given away awards under Gandhian Young Technological Innovation (GYTI) Awards.
- GYTI Awards celebrate the spirit of student innovation in all the fields of engineering, science, technology and design through extremely affordable/frugal solutions or the ones pushing the technological edge.

Government To Regulate OTT Platforms

- The Union government brought Over the Top (OTT) platforms or video streaming service providers such as Netflix, Amazon Prime and Hotstar, and news websites under the ambit of the Information & Broadcasting ministry for regulation.
- An “over-the-top” media service is any **online content provider that offers streaming media as a standalone product**. The term is commonly applied to video-on-demand platforms, but also refers to audio streaming, messaging services, or internet-based voice calling solutions.
- OTT services circumvent traditional media distribution channels such as telecommunications networks or cable television providers.

World Science Day for Peace and Development

- Celebrated every 10 November under UNESCO auspices, World Science Day for Peace and Development highlights the important role of science in society and the need to engage the wider public in debates on emerging scientific issues.
- The theme for 2020 is "Science for and with Society in dealing with Covid-19."