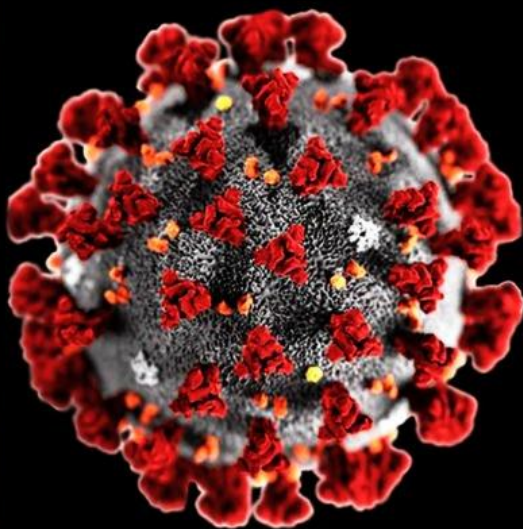




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January 2020

POLITY AND CONSTITUTION

RESOLUTION FOR ABOLISHING LEGISLATIVE COUNCIL OF ANDHRA PRADESH

- The **Andhra Pradesh Cabinet passed a resolution for abolishing the state Legislative Council.**
- The decision will be adopted in the Legislative Assembly and sent to the Centre for necessary follow-up action.

Procedure for Abolition of State Legislative Council

- Under Article 169 of the constitution, parliament can abolish the state legislative council if the concerned state **legislative assembly passes** a resolution in this regard with **special majority**
- Parliament needs to pass it with **simple majority**

ARTICLE 131 OF INDIAN CONSTITUTION

- Recently, **Kerala and Chhattisgarh have filed a suit in the Supreme court** challenging the constitutional validity of various central laws such as **Citizenship Amendment Act (Kerala) and the National Investigation Agency Act (Chhattisgarh), under Article 131 of the Indian Constitution.**
- **Kerala** has filed a suit to challenge the Citizenship (Amendment) Act, 2019, stating that it is violative of Articles 14 (equality before the law), 21 (protection of life and personal liberty) and 25 (freedom of religion) as well as against the secular fabric of the nation.
- **Chhattisgarh** has sought a declaration that the NIA Act, 2008, is unconstitutional on the ground that it is “beyond the legislative competence of Parliament”.
- **Article 131 of the Constitution talks about the original jurisdiction of the Supreme Court**, where the apex court deals with any dispute between the Centre and a state; the Centre and a state on the one side and another state on the other side; and two or more states.

ONE NATION, ONE RATION CARD SCHEME

- The **One Nation, One Ration Card** scheme will be implemented by 1 June 2020 in **India**.
- Under the scheme, the beneficiaries can avail of the benefits across the country using the same ration card.
- The **scheme allows the portability of food security benefits across India**, that is, poor migrant workers can buy subsidized rice and wheat from any ration shop in the country.
- On January 1, 2020, the facility was started in 12 states in India.

THREE CAPITAL SYSTEM IN THE STATE OF ANDHRA PRADESH

- The **Andhra Pradesh State Legislative assembly** passed the **Capital Region Development Authority Repeal Bill 2020** and the **Andhra Pradesh Decentralization and Inclusive Development of all Regions Bill 2020** on 20th January.
- The bills were aimed to decentralize the state's capital between **Amaravati, Visakhapatnam, and Kurnool**.
- **Amaravati** will remain as the **legislative capital**; **Vishakhapatnam** will remain as the **executive capital** and **Kurnool** will remain as the **judicial capital**.
- Andhra Pradesh state government adopted the three-capital system **in order to ensure equal development throughout the state**.

6TH SCHEDULE AREA STATUS TO LADAKH

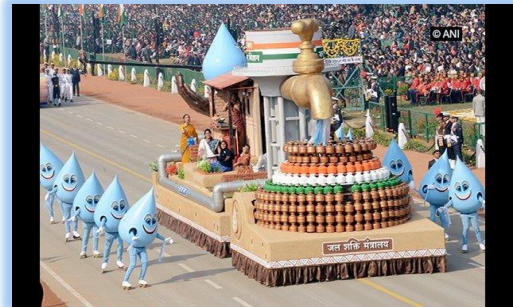
- Ministry of Tribal Affairs has proposed to declare the **6th Schedule Area status to Ladakh**. The proposal was made by the Tribal Affairs Minister Arjun Munda.
- The Ministry is taking all necessary measures to preserve and enrich the rich legacy of Ladakh.
- The Constitution of India has allotted special provisions for the administration of four states namely **Assam, Meghalaya, Tripura, and Mizoram**, which are tribal-dominated areas. As per **article 244 and 6th Schedule** of the Constitution, these areas are called "**Tribal Areas**".

SHIV BHOJAN SCHEME

- **Maharashtra government launched the "Shiv Bhojan" scheme** on the occasion of the 71st Republic Day on 26 January 2020.
- Shiv Bhojan scheme **aims to provide a meal to the poor for just Rs.10.**
- Under the Shiv Bhojan scheme, the thalis or lunch plates will be available to people at designated centers and canteens during a stipulated time in all the districts.

BEST REPUBLIC DAY TABLEAU AWARD FOR 2020

- Defence Minister Shri Rajnath Singh awarded the **best tableau award to the Jal Jeevan Mission (JJM)** tableau in a gracious and befitting ceremony.
- The launch of Jal Jeevan Mission **planned to provide potable water in adequate quantity and prescribed quality regularly to every rural household by 2024.**
- Currently, only 33 million out of around 178 million rural households in the country have the facility of piped water connection.



ASSAM GOT 1ST PRIZE IN REPUBLIC DAY PARADE 2020

- **Assam's tableau, which portrayed the unique craftsmanship and culture of the state chosen as the best tableau**, followed by Odisha and Uttar Pradesh tied for the second position.
- The Assam tableau showcased various dance forms of the country, especially the Bhortal dance of Assam.



OXFORD HINDI WORD OF THE YEAR 2019

- Oxford University Press (OUP) named **‘Samvidhaan’ as the Oxford Hindi Word of 2019.**
- **Samvidhaan** means a body of fundamental principles or established precedents according to which a state or other organization is acknowledged to be governed.
- The word Samvidhaan first received widespread attention in August 2019, with the abrogation of two key constitutional provisions - Article 370 and Article 35(A) of the Indian Constitution, on August 5, which effectively removed the special status granted to Jammu and Kashmir.

BHUVAN PANCHAYAT V3 WEB PORTAL

- Union Minister of State for PMO **Dr. Jitendra Singh launched the Bhuvan Panchayat V3 web Portal that will enhance network application of gram panchayats.**
- The Portal will function with the help of **satellite technology developed by ISRO.**
- Indian space technology is designed to benefit every Indian household. The workshop on space-based information support for decentralized planning s will connect gram panchayats and help the flow of information.

NEW FOREIGN SECRETARY OF INDIA

- **Harsh Vardhan Shringla took charge as a new foreign secretary** succeeding Vijay Gokhale.
- Mr. Shringla is a 1984-batch officer of the Indian Foreign Service.

OFFICE OF THE SPEAKER AND THE ISSUE OF DEFECTION

- Recently, the **Supreme Court asked the Parliament to amend the Constitution to strip Legislative Assembly Speakers of their exclusive power to decide on the matter of disqualification under the anti-defection law.**
- The court asked Parliament **to substitute the speaker of the Lok-Sabha and Legislative Assemblies as arbiter of disputes concerning disqualification under the Tenth Schedule with a permanent tribunal comprising either a retired Supreme Court Judge or a retired Chief Justice of a High Court.**

- The **court asked the State Assembly Speaker to decide the disqualification petition in four weeks.**
- The anti-defection law sought to prevent political defections which may be due to reward of office or other similar considerations.
- For this, the Tenth Schedule was inserted in the Constitution in 1985, by the 52nd Amendment Act.
- A legislator is deemed to have defected if
 - ✓ He either voluntarily gives up the membership of his party or
 - ✓ He disobeys the directives of the party leadership on a vote. This implies that a legislator defying (abstaining or voting against) the party whip on any issue can lose his membership of the House)

EWS QUOTA IN STATES

- The **central government recently told the Supreme Court that state governments were free to decide whether to implement the 10% reservation for the economically backward section in jobs and admissions.**
- While responding to a PIL for the implementation of Economically Weaker Section (EWS) quota in Tamil Nadu and Karnataka, Centre submitted an affidavit in the Supreme Court stating that:
 - ✓ Centre has no role in deciding the reservation policy of a state government.
 - ✓ State governments were free to decide whether to implement the 10% quota for EWS in state government jobs and admissions to state government educational institutions.
- The **103rd Constitution Amendment Act 2019 inserted Article 15 (6) and Article 16 (6) in the Constitution to allow reservation for the EWS among the general category.**
 - ✓ It was enacted to promote the welfare of the poor not covered by the 50% reservation policy for the SC/ST and the Socially and Educationally Backward Classes.
 - ✓ Article 15 has been amended to enable the government to take special measures for the advancement of “economically weaker sections” (EWS).

- ✓ Up to **10% of seats may be reserved for such sections for admission in educational institutions.** Such reservation will not apply to minority educational institutions.
- ✓ The **newly added Article 16(6) permits the government to reserve up to 10% of all posts for the “economically weaker sections” of citizens.**
- ✓ This reservation of up to **10% for the EWS** will be in addition to the existing **reservation cap of 50% reservation for SC, ST and OBCs.**
- ✓ The central government will notify the “economically weaker sections” of citizens on the basis of family income and other indicators of economic disadvantage.

15th FINANCE COMMISSION FOR FY 2020-21

- Recently, **the Fifteenth Finance Commission submitted its report with recommendations for the financial year 2020-21.**
 - The commission was **constituted by the President of India under Article 280** of the Constitution to make recommendations for a period of five years commencing 1st April 2020
 - The final report of the Commission with recommendations for the 2021- 26 period will be submitted by October 30, 2020.
 - An aggregate **share of 41 percent of the net proceeds of Union taxes (divisible pool)** should be devolved to States in the year 2020-21.
 - In 2020-21, the following grants will be provided to states:
 - (i) Revenue deficit grants,
 - (ii) Grants to local bodies, and
 - (iii) Disaster management grants.
- The Commission has also proposed a framework for sector-specific and performance-based grants.

THE MINERAL LAWS (AMENDMENT) ORDINANCE 2020

- Recently, **The Mineral Laws (Amendment) Ordinance, 2020 was promulgated.**
- It amends the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) and the Coal Mines (Special Provisions) Act, 2015 (CMSP Act).
- The **key amendments are as follows:**
 - ✓ Composite license for prospecting and mining
 - ✓ Removal of restriction on end-use of coal
 - ✓ Eligibility for auction of coal and lignite blocks
 - ✓ Reallocation after termination of the allocations
 - ✓ Prior approval from the central government
 - ✓ Non-exclusive reconnaissance permit (NERP) holders may apply for licence
 - ✓ Advance action for auction
 - ✓ Transfer of statutory clearances to new bidders

POSTAL BALLOT

- **Person with disabilities (PwDs) and people over 80 years of age were allowed to cast their vote in Delhi Assembly Election through postal ballot.**
- Postal voting is a type of voting in elections whereby Electronically Transmitted Postal Ballot Papers (ETPB) are distributed to electors and returned by post.

AWARD ENTITLED TO PRIME MINISTER NARENDRA MODI

- Prime Minister, **Shri Narendra Modi, received the first-ever Philip Kotler Presidential award in New Delhi.**
- **Award is in recognition of following achievements**
- During his regime, India is identified as the Centre for Innovation and Value-Added Manufacturing (Make in India), and a global hub for professional services such as Information Technology, Accounting, and Finance.
- His visionary leadership resulted in the Digital Revolution (Digital India), Unique Identification Number, Aadhaar, for social benefits and financial inclusion.

INDIA AND WORLD

SHANGHAI COUNCIL MEET 2020

- India will be hosting the 19th Council of Heads of Government of the Shanghai Cooperation Organisation in 2020.
- This will be for the first time that India will host the high-level meeting of the China-led eight-member economic and security bloc.
- Shanghai Cooperation Organisation (SCO) or Shanghai Pact was created in 2001 in Shanghai by China.
- Apart from China, its founding members were Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
- India and Pakistan were admitted as full members in 2017.

CHIEF GUEST ON REPUBLIC DAY 2020

- Brazilian President **Jair Messias Bolsonaro** arrived at Rashtrapati Bhawan, New Delhi.
- **Bolsonaro was invited as chief guest on Republic Day.** He is on a four-day visit to India to explore ways to boost trade ties at a time both the large economies are hit by slowdowns.
- The Brazilian President will hold talks with Indian Officials to promote several international fora.
- Bolsonaro's meeting focuses to increase defence industrial cooperation and to increase the potential for growth in bilateral trade.



ROHINGYA ISSUE IN ICJ

- Recently, **the International Court of Justice (ICJ) ruled that Myanmar must take effective measures to protect its Rohingya Muslims, including protecting evidence relating to allegations of genocide.**
- ICJ ruled that it has the right and the preliminary jurisdiction to hear a case seeking emergency measures to **prevent Myanmar from committing genocide against its Rohingya minority.**
- It ordered **Myanmar to take all measures in its power to prevent genocide against the Rohingya.**
- Along with giving various provisional orders, the court also ordered that Myanmar shall submit a report to the ICJ on all measures taken to give effect to the order within four months, and thereafter every six months, until a final decision is passed.
- ICJ is the principal judicial organ of the United Nations (UN). It settles disputes between states and gives advisory opinions on international legal issues referred to it by the UN.
- **Rohingya Muslims represent the largest percentage of Muslims in Myanmar**, with the majority living in the coastal Rakhine state.
- Myanmar Nationality Law 1982 denied citizenship to Rohingya population, making them the largest stateless population in the world.
- It does not recognize the community as its citizens and considers them “illegal immigrants” from Bangladesh.

RAISINA DIALOGUE 2020

- The **fifth edition of the Raisina dialogue 2020 was held recently in New Delhi.**
- It is a **multilateral conference committed to address the most challenging issues facing the global community, held annually in New Delhi since 2016.** It is designed on the lines of Singapore's Shangri-La Dialogue.
- The Dialogue is structured as a multi-stakeholder, cross-sectoral discussion, involving heads of state, cabinet ministers and local government officials, as well as major private sector executives, members of the media and academics.
- It has emerged as India's flagship conference on geopolitics and geo-economics.

DEMOCRACY INDEX

- **India ranked 51st in the Democracy Index 2019.** It has dropped 10 places in the Democracy Index's global ranking.
- The survey described the erosion of civil liberties in India as the primary cause of democratic regression.
- **Norway** topped EIU's index with a score of 9.87
- **North Korea** ranked last of the global rankings, with a score of 1.08.
- **India's scored an overall of 6.90 in 2019 on a scale of 0-10.** It fell from 7.23 in 2018 among other countries where there were regressions.

CORRUPTION PERCEPTION INDEX

- **India ranked 80th in the global Corruption Perceptions Index 2019 (CPI-2019).** In 2018, India ranked 78th in the index.
- The index was released by **Transparency International.**
- It ranks the countries of a **score from zero, highly corrupt, to 100, very clean.**
- Transparency International is a non-governmental organization. It was established in 1993. It is headquartered in Berlin, Germany.
- The **organization aims to combat global corruption with civil societal anti-corruption** measures and to prevent criminal activities arising from corruption.

TYLER PRIZE FOR GREEN ECONOMY

- Recently, **renowned environmental economist Pavan Sukhdev was awarded the 2020 Tyler Prize for his work in the domain of green economy.**
- As per the United Nations Environment Programme (UNEP), **Green Economy is the one that “improves human well-being and builds social equity, while significantly reducing environmental risks and ecological scarcities.”**
- In 2008, UNEP launched the Green Economy Initiative (GEI), a programme of global research and country level assistance designed to motivate policymakers to support environmental investments.

- Established in 1973, Tyler Prize is one of the oldest international environmental awards, recognizing individuals who have contributed in an outstanding manner to the scientific knowledge and public leadership to preserve and enhance the global environment.

GLOBAL SOCIAL MOBILITY INDEX

- World Economic Forum (WEF) has come out with its **first-ever Global Social Mobility Report.**
- The Index is designed to provide policymakers with a means to identify areas for improving social mobility and promoting equally shared opportunities in their economies, regardless of their development.
- **Denmark holds the first place** followed by **Norway, Finland and Sweden.**
- **India ranks 76th out of 82 economies.**

GLOBAL TALENT COMPETITIVENESS INDEX

- Recently, **Global Talent Competitive Index (GTCI) for 2020** compiled by INSEAD in collaboration with Addeco and Google **was released.**
- Launched for the first time in 2013, GTCI is an annual benchmarking report that measures the ability of countries to compete for talent. It ranks nations on the ability to grow, attract and retain talent.
- Theme of this year report is **“Global Talent in the Age of Artificial Intelligence”.**
- **India has climbed eight places to 72nd rank in the 2020.**
- **Switzerland topped the index** followed by United States and Singapore.

INDIAN ECONOMY

CENTRE OF EXCELLENCE IN BLOCKCHAIN TECHNOLOGY

- **National Informatics Centre (NIC) set up the Centre of Excellence (CoE) in Blockchain Technology in Bengaluru, Karnataka.**
- **The main aim is to provide Blockchain as a service and to allow all stakeholders to benefit from shared learning, experiences, and resources.**
- The Centre of Excellence in Blockchain Technology is held by the **Union Minister for Law & Justice, Communications and Electronics & Information Technology**, Shri Ravi Shankar Prasad.

IMF REDUCES INDIA'S ECONOMIC GROWTH FORECAST TO 4.8 PERCENT

- The **International Monetary Fund (IMF)** has reduced India's economic growth forecast to **4.8% for the current fiscal year.**
- The decline is due to the crisis in the non-banking financial sector (NBFC) and weak rural demand. It has also cut the world's growth estimate.
- The IMF projected India's economy to grow by 5.8% next year. It is 1.2% points less than its earlier forecast.

PURVODAYA SCHEME

- Ministry of Steel in partnership with Confederation of Indian Industry (CII) and Joint Plant Committee recently launched **PURVODAYA: Accelerated development of eastern India through integrated steel hub in Kolkata, West Bengal.**
- It **aims to enable swift capacity addition and improve overall competitiveness of steel producers both in terms of cost and quality.**
- Through this programme, the government aims to transform logistics and utilities infrastructure which would change the socio-economic landscape in the eastern India.

SCIENCE AND TECHNOLOGY

INDIAN DATA RELAY SATELLITE SYSTEM

- **ISRO** is planning to set a new satellite series called the **Indian Data Relay Satellite System**.
- It **aims to ring its own era of space-to-space tracking and communication of its space assets in 2020**.
- **The Indian Data Relay Satellite System (IDRSS)** will track and be constantly in touch with Indian satellites, in particular, those in low-

earth orbits (LEO) which have limited coverage of earth.

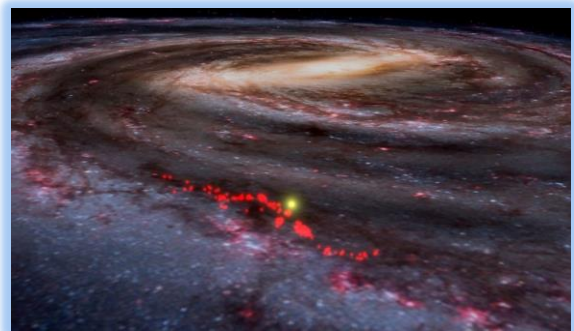


TITANIC WAVE OF STAR FORMING GASES SPOTTED IN MILKY WAY

- Scientists from Harvard University have discovered a **titanic wave of star-forming gases practically in the Milky way** on 7 January 2020.
- The astronomers reported that the massive structures are located in the Milky Way galaxy's spiral arm closest to Earth.
- The researchers were building a **3-D map of the Milky Way galaxy's** interstellar matter using a

star census gathered by Europe's Gaia spacecraft.

- The wave is located just **500 light-years away from the Sun**.



SCIENTIST DISCOVERED THE SMALLEST CLUMPS OF DARK MATTER

- The scientists from the University of California **discovered the smallest clumps of dark matter** ever identified called cold dark matter using a new technique using the Hubble Space Telescope and a feature of general relativity.
- This **clump is 100,000 times less massive than the Milky Way galaxy's dark matter halo.**
- The Small dark matter clumps act as small cracks on the magnifying glass. It alters the brightness and position of the four quasar images.
- These clumps seemed to be between 10,000 and 100,000 times smaller than the mass of the dark matter in and around the Milky Way.
- **Dark matter is formed of particles that do not reflect, absorb, or emit light**, so they cannot be detected by observing electromagnetic radiation.

HUBBLE HELPS IN PRECISE MEASUREMENT OF UNIVERSE'S EXPANSION

- **Astronomers, using the Hubble Space Telescope, have measured the precise rate at which the universe is expanding**, by employing a technique completely independent of any previous method.
- The researchers noted that knowing the precise value for how fast the universe expands is important for determining the age, size, and fate of the cosmos.
- Unravelling this mystery has been one of the greatest challenges in astrophysics in recent years.

NEW MILKY WAY MAP REVEALS HUGE WAVE OF STELLAR NURSERIES

- Astronomers at Harvard University have **discovered a wave-shaped gaseous structure - the largest ever seen in our galaxy -- made up of interconnected stellar nurseries.**
- Dubbed the "Radcliffe wave" in honor of the Radcliffe Institute for Advanced Study, the discovery transforms a **150-year-old vision of nearby stellar nurseries** as an expanding ring into one featuring an undulating, star-forming filament that reaches trillions of miles above and below the galactic disk.

- It combined the super-accurate data from Gaia with other measurements to construct a detailed, 3D map of interstellar matter in the Milky Way, and noticed an unexpected pattern in the spiral arm closest to the Earth.
- They discovered a long, thin structure, about 9,000 light years long and 400 light years wide, with a wave-like shape, cresting 500 light years above and below the mid-plane of our Galaxy's disk.

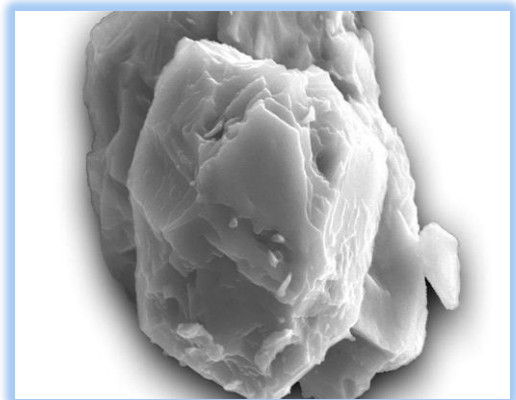
SCIENTISTS DEVELOP NEW METHOD TO DETECT OXYGEN ON EXOPLANETS

- **Scientists have developed a new method to detect oxygen in the atmospheres of the distant bodies.**
- One possible indication of life, or biosignature, is the presence of oxygen in an exoplanet's atmosphere.
- On Earth, it is generated when organisms such as plants, algae, and cyanobacteria use photosynthesis to convert sunlight into chemical energy.
- **The new technique will see researchers use NASA's James Webb Space Telescope to detect a strong signal that oxygen molecules produce when they collide.**
- This signal could help scientists distinguish between living and nonliving planets.

SCIENTISTS FOUND THE OLDEST MATERIAL FROM AN ANCIENT METEORITE

- **Scientists found a meteorite** that was crashed into rural southeastern Australia in a fireball in **1969** contained **the oldest material ever found on Earth.**
- The oldest of 40 tiny dust grains trapped inside the meteorite fragments were retrieved around the town of Murchison in Victoria state.
- It dated back to about **7 billion years ago** which is about **2.5 billion years**

before the sun, Earth and the rest of the solar system formed.



CHINA PLANS TO BUILD INTERNATIONAL LUNAR BASE

- **China Space Agency plans to establish an international lunar base**, possibly **using 3D printing technology** to build facilities weeks after landing a rover on the moon's far side.
- Four more lunar missions are planned, confirming the launch of a probe by the end of the year to bring back samples from the moon.
- The **Chang'e-5** probe, originally scheduled to collect moon samples in the second half of 2017, was launched by the end of the year 2019.
- It will be followed by **Chang'e-7**, which will conduct a comprehensive exploration of the moon's south pole including its topography, material composition, and space environment.

GSAT-30

- Indian Space Research Organisation (ISRO) **successfully launched India's communication satellite GSAT-30** onboard the Ariane-5 launch vehicle (VA 251) into a Geosynchronous Transfer Orbit (GTO) on 17 January 2020 **from Kourou launch base, French Guiana.**
- The communication satellite **aims to serve as a replacement to INSAT-**

4A spacecraft services with enhanced coverage.

- The life span of the GSAT is **15 years**



STRANGE OBJECTS SPOTTED AT HEART OF MILKY WAY

- **Astronomers have spotted strange gas-like objects close to a monstrous black hole at the centre of our galaxy**, a finding that may lead to deeper understanding of the forces creating stars and other cosmic entities in the universe.
- According to the study, published earlier in the journal Nature, the strange new objects look compact most of the time, and stretch out when their orbits bring them closest to the supermassive black hole.

- The study said **these objects take from about 100 to 1000 years to complete a revolution in their orbits around the black hole, named Sagittarius A.**
- In previous research, the astronomers identified two unusual objects at the centre of Milky Way, which they **named G1 and G2, and collectively called G objects.**
- In the current study, the astronomers have reported the **existence of four more objects – G3, G4, G5 AND G6** – and have determined each of their orbits.

NASA BUILDING HOMES MADE OF FUNGI FOR MOON, MARS

- Instead of habitats made of metal and glass, **NASA is exploring technologies that could grow structures out of fungi to become our future homes in the stars**, and perhaps lead to more sustainable ways of living on Earth as well.
- Astronauts will need to have all their basic needs met, just like on Earth, and face the additional challenges of living in a harsh environment on a distant world.
- Keeping that in mind, the myco-architecture project out of NASA's Ames Research Center in California is **prototyping technologies that could "grow" habitats on the Moon, Mars and beyond out of life - specifically, fungi** and the unseen underground threads that make up the main part of the fungus, known as mycelia.
- Mycelia are tiny threads that build complex structures with extreme precision, networking out into larger structures like mushrooms.

SCIENTISTS CREATE LIVING CONCRETE USING BACTERIA

- **Scientists have used bacteria to create a sustainable concrete that is alive**, and can even reproduce, an advance that may help reduce the environmental impact of the construction industry.
- **Minerals in the new material are deposited by cyanobacteria**, a common class of microbes that capture energy from sunlight through photosynthesis, according to the study published in the journal Matter.
- The researchers said their ability to keep the bacteria alive with a high success rate shows that living buildings might not be too far off in the future.
- Such structures could, one day, heal their own cracks, suck up dangerous toxins from the air or even glow on command.

HALF HUMANOID ROBOT FOR GAGANYAAN MISSION

- The Indian Space Agency **Indian Space Research Organization's (ISRO)** unveiled **Vyommitra**, a **prototype of half humanoid**.
- ISRO has decided to send Vyommitra as a trial to space before Gaganyaan which has aimed at sending astronauts to space in an orbital spacecraft.
- **Vyommitra will be sent ahead of the first unmanned mission under Gaganyaan.** It has been designed in a way that it will simulate most of the

human body functions. The half humanoid has no legs.

- **Gaganyaan is the first human space mission that is conceived and developed in India.**



CHINA TO LAUNCH ITS MARS PROBE

- **China** has announced that it is **to launch its Mars probe in July 2020.**
- The spacecraft will be launched onboard the **Long March-5 Y4 carrier rocket.**
- The China Aerospace Science and Technology Corporation (**CASC**), **China's space agency, will send a probe to orbit and land and deploy a rover on Mars.**
- CASC is the main agency for the Chinese space program. CASC indigenously designs, develops and manufactures launch vehicles, spacecraft, strategic and tactical missile systems, and ground equipment.

2019 NOVEL CORONAVIRUS (2019-NCOV)

- Recently, **Coronavirus was declared global health emergency by WHO.**
- World Health Organization (WHO) declared **COVID-19 an official name for coronavirus disease.**
- According to WHO the current outbreak of novel coronavirus (2019-nCoV) was first reported from Wuhan, China, on 31st December 2019.

- On January 30, 2020, the International Health Regulations Emergency Committee of the World Health Organization declared the outbreak a “public health emergency of international concern (PHEIC)”.
- Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV).
- These **viruses consist of a core of genetic material surrounded by an envelope with protein spikes, which gives it an appearance of a crown (Latin: corona).**
- The symptoms are common signs of infection include respiratory symptoms, **fever, cough, shortness of breath and breathing difficulties.** In more severe cases, infection can cause **pneumonia, severe acute respiratory syndrome, kidney failure and even death.**

SECURITY

EXERCISE WINGED RAIDER

- The **Indian Army conducted the airborne Exercise Winged Raider in the North-Eastern theatre on 10 January 2020.**
- It is the Army's **biggest airborne exercise.** It comprises of more than 500 special forces troops.
- The exercise included Special Forces personnel parachuting from C-130 Hercules and C-17 Globemaster transport aircraft of the Indian Air Force (IAF), besides Dhruv helicopters during the day and night.
- **Exercise Winged Raider** demonstrated the operational readiness of the Air Warriors and Paratroopers to undertake airborne missions.

RUSSIA'S MISSILES DEFENSE SYSTEM TO BE DELIVERED TO INDIA

- **Russia** started production of **S-400 long-range surface-to-air missile systems** for India. The five units will be delivered to India by **2025.**
- The S-400 air defence missile systems are among the best in the world. This will significantly bolster India's air defence mechanism.
- **S-400** is known as Russia most advanced long-range surface-to-air missile defence system.
- India and Russia finalized a broad agreement for the joint venture between Hindustan Aeronautics Ltd (HAL) and two Russian defence majors for production of Kamov helicopters.

K4 BALLISTIC MISSILE

- **India has successfully test-fired nuclear-capable K-4 ballistic missile off the coast in Andhra Pradesh on 19th January 2020.**
- The missile was launched from a 3500-kilometer strike range nuclear-capable submarine, underwater platform. The missile was developed by the **Defence Research and Development Organisation (DRDO).**
- K-4 ballistic missile will be equipped on indigenous INS Arihant class nuclear-powered submarines of the Indian Navy. **The missile has a range of around 1,500 km.**

- K-4 ballistic missile is an **Intermediate-range submarine-launched ballistic missile (SLBM)**.

SU-30 FIGHTER SQUADRON

- Defence Minister Rajnath Singh inaugurated the induction ceremony of **Su-30 fighter squadron at the Air Force Station in Thanjavur in Tamil Nadu**.
- The operationalization of the 222 Squadron will strengthen the air defence capabilities of the IAF, particularly in the Southern Air Command area.
- The **Tiger shark's fighter squadron** is equipped with formidable air superiority fighter aircraft. It is armed with **2.5-ton air-**

launched BrahMos missile. The missile is of **300 km range**.

- The squadron will provide protection to the island territories and sea lines of communication in the Indian Ocean Region (IOR).



OPERATION VANILLA

- **Indian Navy launched Operation Vanilla to provide humanitarian assistance and disaster relief at Madagascar.**
- Operation Vanilla launched to provide assistance to the affected population of Madagascar post devastation caused by **Cyclone Diane**.
- The Indian Navy Ship geared to set up medical camp and provide food, water, and other necessary relief material.

EXERCISE SAMPRITI – IX

- Indo-Bangladesh defence cooperation, **a joint military training exercise organized at Umroi in Meghalaya** from February 3 to 16, 2020.

- **Exercise SAMPRITI – IX** is an essential bilateral defence cooperation endeavor between India and Bangladesh and will be the **ninth edition of the exercise**, which is hosted alternately by both countries.
- The cultural understanding will be emphasized to strengthen military trust and cooperation between the two nations.

GEOGRAPHY AND ENVIRONMENT

PLASTIC WASTE MANAGEMENT AWARD 2020

- **Assam's Dibrugarh district** won the **Plastic Waste Management Award 2020**.
- It was awarded for being the best district of India in the plastic waste management category during **Swachhta Hi Sewa 2019**.
- The **award recognizes the innovative and effective efforts taken by the district in managing plastic waste** in rural areas of the district.
- Swachhta hi Seva 2019 is a nationwide awareness and mobilization campaign on Swachhta. It was launched by Prime Minister Narendra Modi at Mathura on 11 September 2019.

INDIA ACHIEVED COMPLETE PHASE OUT OF OZONE DEPLETING CHEMICALS

- **India has successfully achieved the complete phase-out of Hydrochlorofluorocarbon (HCFC)-141 b.**
- HCFC-141b is not produced in India and all the domestic requirements are met through imports.
- It is a **chemical used by foam manufacturing enterprises and one of the most potent ozone-depleting chemicals after Chlorofluorocarbons (CFCs)**.
- India has decided to provide environment-friendly and energy-efficient technologies and **phase out Ozone Depleting Substances (ODSs)**.

FIRST WASTE-TO-ENERGY PLANT

- The East Coast Railway has commissioned the government's **first waste-to-energy plant which will turn e-waste and plastic into light diesel oil in 24 hours.**
- A patented technology called **"Polycrack" will be used in this waste-to-energy plant,** which is first of its kind in Indian Railways and only the fourth in India.
- It is the **world's first patented heterogenous catalytic process** which converts multiple feed stocks into hydrocarbon liquid fuels, gas, carbon and water.

175 GW RENEWABLE ENERGY BY 2022

- The Union Government planned to **install 175 Giga Watt renewable energy by 2022** to build a healthy planet with a less carbon-intensive economy.
- **Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahaabhiyan, PM-KUSUM** scheme government, empowers the farmers to be the producer of energy.
- The PM-KUSUM scheme covers grid-connected renewable energy power plants, stand-alone solar-powered agricultural pumps, and solarization of existing grid-connected agriculture pumps.
- The main components of the scheme are installation of **10 thousand Mega Watt of Decentralized Ground Mounted Grid Connected Renewable Power Plants by farmers of 500 Kilo Watt to 2 Mega Watt capacity,** installation of 17.50 lakh stand-alone Solar Powered Agriculture Pumps and solarization of 10 Lakh Grid-connected Solar Powered Agriculture Pumps.

MORE WETLANDS IN INDIA DECLARED AS RAMSAR SITES

- **India added ten more wetlands to sites protected by the Ramsar Convention,** Union Environment Minister Prakash Javadekar.
- **The 10 new ones are Nandur Madhameshwar, a first for Maharashtra; Keshopur-Miani, Beas Conservation Reserve and Nangal in Punjab; and Nawabganj, Parvati Agra, Saman, Samaspur, Sandi and Sarai Nawar in Uttar Pradesh.**
- The main aim of Ramsar convention is to develop a global network of wetlands for the conservation of biological diversity and for sustaining human life.

AFRICAN CHEETAH

- **Supreme Court (SC) allowed the Centre to introduce the African cheetah from Namibia in Africa to a suitable habitat in India.**
- In 2010, central government had set up an expert panel for reintroducing cheetah in India.
- Panel recommended **KunoPalpur (MP), Velavadar National Park (Gujarat) and Tal Chapar sanctuary (Rajasthan) for reintroducing Cheetah.**
- In 2013, SC quashed the plan for introducing African cheetahs to Kuno-Palpur.
- **The cheetah plan was revived in 2017 by central government.**



AUSTRALIAN BUSH FIRE

- Recently, **Australia is facing worst wildfires seen in decades** that led to a huge humanitarian and environmental crisis.
- In total, more than **7.3 million hectares (17.9 million acres) have been burned across Australia.**
- Total area under fire is **almost 7 times greater than the 2019 Amazon fires and three times than California fires.**
- The start of the fires has been attributed to **natural causes like lightening or human induced like arson.**

ART AND CULTURE

CHAPCHAR KUT FESTIVAL

- Mizoram is to celebrate festival Chapchar Kut on 6th March 2020. It is the biggest and most important festival of the Mizo.
- The theme of the festival is "Mizos' culture and moral code".
- The festival will be celebrated in all parts of the state
- The Mizo people celebrate it by dressing up in their traditional attire and dancing for the typical music and songs.
- Chapchar Kut is a **spring festival of Mizoram**. It is celebrated every year in the month of March after completion of the Jhum cultivation.



CULTURAL FESTIVALS IN NEWS

- Recently, the **Lai Haraoba, a five-day long ritualistic festival observed by Manipuri Meitei communities, was celebrated.**
- **Mizoram government will be organizing Zo Kutpui (festival)** in at least 10 states across India and countries such as US, Myanmar and Bangladesh.
- **Lai Haraoba**
 - ✓ Lai Haraoba means '**Festivity of the Gods**' or merry making of Gods.
 - ✓ This festival is marked to celebrate the creation of the universe and the recollection of the evolution of plants, animals and human beings
 - ✓ The festival is observed to honour Umang Lai deity of the state.
- **Zo Kutpui**
 - ✓ The event will witness various cultural programmes by different Mizo tribes.
 - ✓ The **exercise is an attempt to unify and strengthen the brotherhood** among various Mizo tribes living in different parts of the world.

ASSAM AND NORTH-EAST

NORTH-EAST GAS GRID PROJECT

- The **Cabinet Committee on Economic Affairs has approved** a Capital Grant as the Viability Gap Funding to Indra Dhanush Gas Grid Ltd for **setting up the North East Natural Gas Pipeline Grid**.
- It is a part of **“Hydrocarbon Vision 2030 for North-East India”** which outlines steps to leverage the hydrocarbon sector for social and economic development of the north-east region.
- **Gas Pipeline infrastructure** is an economical and safe mode of transporting the natural gas by connecting gas sources to gas consuming markets.
- At present, there are about 16800km long Natural Gas pipeline network which is operational in the country. In order to make natural gas available across the country, it has been envisaged to develop additional about 14,300 km pipelines to complete the National Gas Grid and same are at various stages of development.

BODO PEACE ACCORD

- The **3rd Bodo Peace Accord as tripartite agreement between the Centre, Assam Government and the banned Assam-based insurgent group National Democratic Front of Bodoland (NDFB) was signed on 27th January 2020**, for bringing a lasting peace in Bodo-dominated areas in Assam.
- Bodos are the single largest tribal community in Assam, making up over 5-6% of the state's population.
- The four districts in Assam — **Kokrajhar, Baksa, Udalguri and Chirang** — **that constitute the Bodo Territorial Area District (BTAD)**, are home to Bodos along with several other ethnic groups.
- The demand for a separate state for Bodos is rooted in reasons like administrative and development apathy of the state of Assam, and a feeling that identity, culture and language of the Bodo people were subsumed by the Assamese and migrants.
- The **Highlights of Agreement are:**

- ✓ Villages dominated by Bodos presently outside BTAD would be included and those with non-Bodo population would be excluded.
- ✓ Bodos living in hills would be conferred Scheduled Hill Tribe status.
- ✓ Bodo with Devnagri script would be associated as official language for entire Assam.
- ✓ BTAD would now be called Bodoland Territorial Region and it will have more executive, administrative, legislative and financial powers.
- ✓ Over 1500 armed cadres will abjure violence and join mainstream.
- ✓ A Special Development Package of Rs. 1500 crores over three years is provided.

MISCELLANEOUS

2020: YEAR OF THE NURSE AND MIDWIFE

- World Health Organization (WHO) designated 2020 as the **Year of the Nurse and the Midwife** to honor the **200th birth anniversary of Florence Nightingale**.
- The main objective is to improve health globally by raising the status and profile of nursing, demonstrating achieved by a strengthened nursing profession, and enabling nurses to maximize their contribution to achieving Universal Health Coverage.

STATUE OF UNITY ENTERS 8 WONDERS OF SCO LIST

- The **182-meter tall Statue of Unity in Gujarat** enters Shanghai Cooperation Organization's **'8 Wonders of SCO' list**.
- The **Statue of Unity stands the tallest statue in the world**. It is a monumental tribute to Sardar Vallabhbhai Patel who is independent India's first home minister and deputy prime minister.
- It stands in the mid of the Narmada River, on the islet of Sadhu Bet.
- Sardar Patel is credited for unifying all of the 562 princely states in pre-independence India to form what is today the Republic of India.



February 2020

POLITY AND CONSTITUTION

UNION BUDGET 2020-2021-HIGHLIGHTS

- **Union Budget 2020** presented by Finance Minister Nirmala Sitharaman mainly **aims to revive economic growth and boost people's income.**
- The Budget is based on *three themes namely:*
 - **Aspirational India**
 - **Economic development**
 - **Caring society**
- The fiscal deficit is estimated at 3.8 percent (revised estimate for 2019-20) of the gross domestic product in the current financial year 2020, and the government aims to lower it to 3.5 percent (budget estimate for 2020-21) in the fiscal year ending March 2021.
- Finance Minister earmarked another Rs 3.6 lakh crore towards the supply of piped water to households.
- **Village Storage Scheme:**
 - Women, SHGs to regain their position as ***Dhaanya Lakshmi***.
 - NABARD to map and geo-tag Agri-warehouses, cold storages, reefer van facilities, etc.
 - Warehousing in line with Warehouse Development and Regulatory Authority (WDRA) norms:
 - State governments who undertake the implementation of model laws (issued by the Central government) to be encouraged.
 - **Livestock:**
 - ✓ Doubling of milk processing capacity to 108 million MT from 53.5 million MT by 2025.
 - ✓ Artificial insemination to be increased to 70% from the present 30%.
 - ✓ MNREGS to be dovetailed to develop fodder farms.
 - ✓ Foot and Mouth Disease, Brucellosis in cattle and Peste des Petits ruminants (PPR) in sheep and goat to be eliminated by 2025.

- **Deen Dayal Antyodaya Yojana:**

- Around 0.5 crore households mobilized with 58 lakh SHGs for poverty alleviation.

- **Education and Skills**

- New Education Policy to be announced soon.
- National Police University and National Forensic Science University proposed for policing science, forensic science, and cyber-forensics.
- Degree level full-fledged online education program by Top-100 institutions in the National Institutional Ranking Framework.
- Up to 1-year internship to fresh engineers to be provided by Urban Local Bodies.
- The budget proposes to attach a medical college to an existing district hospital in PPP mode.
- Special bridge courses to be designed by the Ministries of Health, and Skill Development.

- **Transport:**

- 100 more airports are planned by 2024
- Over 6,000 km of highways in 12 lots will be monetized by 2024
- One major airport will be privatized

- **16-point action plan for farmers:**

- The government is committed to doubling farmers' income by 2022 to allocate Rs 2.83 lakh crore for agriculture and rural sectors such as irrigation
- Schemes that encourage manufacturing of mobile phones, electronic equipment, and semiconductor packaging be introduced
- Private sector to build Data Centre Parks throughout the country will be encouraged
- 80 billion rupees over five years to be provided for quantum technologies and applications
- Milk processing capacity to be doubled by 2025.

SURROGACY REGULATION BILL 2020

- The **Union Cabinet approved the Surrogacy (Regulation) Bill, 2020**, on 26 February.
- The **Bill will allow widows and divorced women to be surrogate mothers.**
- The Bill aims to ensure effective regulation of the surrogacy service. It **bans commercial surrogacy and allow altruistic surrogacy.**
- The Bill has now proposed that the surrogate mother should be a **"willing" woman.** Earlier it was termed and instructed as **"close relative."** The Bill has recommended that not only close relatives but any woman, whether she is a widow or divorcee, who is "willing" should be allowed to act as a surrogate mother.
- The Bill stated that only **Indian couples** (both partners being of Indian origins) **could opt for surrogacy in the country.**

22ND LAW COMMISSION OF INDIA

- Recently, the **Union Cabinet approved the creation of the 22nd Law Commission, with a term of three years.**
- The 21st Law Commission, under Justice B.S. Chauhan, was established in 2015 and had tenure to August 31st, 2018. It had submitted reports and working papers on key issues such as simultaneous elections to the Lok Sabha/State Assemblies and Uniform Civil Code.
- **22ND Law Commission Composition**
 - ✓ It will consist of o a full-time Chairperson (usually who is a retired Supreme Court judge or Chief Justice of a High Court);
 - ✓ four full-time Members (including Member-Secretary)
 - ✓ Secretary, Department of Legal Affairs as ex-officio Member;
 - ✓ Secretary, Legislative Department as ex officio Member; and
 - ✓ Not more than five part-time Members.
- **Terms of reference: The Law Commission shall:**
 - ✓ **identify laws** which are no longer needed or relevant and can be immediately repealed;
 - ✓ **examine the existing laws** in the light of Directive Principles of State Policy and suggest ways of improvement and reform.

- ✓ **consider and convey to the Government its views** on any subject relating to law and judicial administration that may be specifically referred to it by the Government through Ministry of Law and Justice.
- ✓ **Consider the requests for providing research** to any foreign countries as may be referred to it by the Government through the Ministry of Law and Justice (Department of Legal Affairs);
- ✓ **Take all such measures** as may be necessary to harness law and the legal process in the service of the poor;
- ✓ **Revise the Central Acts of general importance** so as to simplify them and remove anomalies, ambiguities, and inequities.

SOIL HEALTH CARD SCHEME

- **Soil Health Card scheme recently completed five successful years of implementation.**
- The **scheme aims to promote soil management practices and restore soil health by ensuring judicious use of inputs/soil nutrients.**
- Under this, Soil Health Card is a printed report that a farmer will be handed over for each of his holdings.
 - ✓ It is provided to all farmers in the country at an interval of 2 years to enable the farmers to apply recommended doses of nutrients based on soil test values to realize improved and sustainable soil health and fertility, low costs and higher profits.
- **Farmers can also track soil samples on the Soil Health Card Portal.**
- Under the scheme village youth and farmers up to 40 years of age are eligible to set up Soil Health Laboratories and undertake testing.

9th SCHEDULE OF INDIAN CONSTITUTION

- Recently there was a **demand to put reservation provisions for scheduled caste, scheduled tribe and other backward classes under 9th schedule of constitution.**
- 9th Schedule of the Constitution contains a list of central and state laws which cannot be challenged in courts.
- Any act which is added under the 9th schedule gets resistance from any encroachment from judiciary even if it infringes the fundamental rights of an individual.

- It was added with the First amendment in 1951.

DIRECT TAX VIVAD SE VISHWAS BILL, 2020

- Recently, **Lok Sabha passed the Direct Tax Vivad Se Vishwas Scheme Bill.**
- It is an **amnesty scheme with the aim of reducing litigations related to direct taxes.**
- The government expects to **resolve 90% of the income tax disputes through this scheme.**
- It is aimed at releasing about Rs 9.32 lakh crore stuck in 483,000 cases across various fora including at the Commissioner (Appeals), Income Tax Appellate Tribunal (ITAT), high courts, Supreme Court and debt recovery tribunals, besides reducing needless litigation and associated expenses.
- The Bill offers a waiver of interest, penalty and prosecution for settlement of these disputes.

SCIENTIFIC UTILISATION THROUGH RESEARCH AUGMENTATION-PRIME PRODUCTS FROM INDIGENOUS COWS (SUTRA PIC)

- The government has unveiled a programme **SUTRA PIC to research on 'indigenous' cows.**
- Finance Minister had announced research programmes into indigenous cattle in the 2016-17 as well as in the 2019-20 Union Budget
- The **stated objective was to develop products as well as improve the genetic quality of indigenous cattle breeds.**

INID AND WORLD

INTERNATIONAL INTELLECTUAL PROPERTY INDEX

- **India ranked 40th on a global International Intellectual Property (IP) Index.** It was released by the Global Innovation Policy Center (GIPC) of the US Chambers of Commerce.
- India scored **38.46%** (19.23 out of 50) **in 2020**. In 2019, it scored 36.04%.

BREXIT: UK LEAVES THE EUROPEAN UNION

- The **United Kingdom has officially left the European Union (EU) after 47 years of membership.**
- In 2016, a referendum took place to decide whether UK should stay in European Union. In the referendum people decided that UK should leave EU.
- In **2017, UK formally triggered Article 50 of Lisbon treaty** and began the two-year countdown of BREXIT.
- **On 31st January 2020 UK became the first state to leave the EU** and an 11-month transition period has kicked in.
- Article 50 of Lisbon Treaty provides for exit of member countries from European Union.
- The United Kingdom joined it in 1973.

SCIENCE AND TECHNOLOGY

SCIENTISTS DISCOVER WARM WATER IN ANTARCTICA BELOW DOOMSDAY GLACIER

- Environmental change is quick, affecting the living creatures on land and sea the same. Because of the extraordinary increment in an unnatural weather change levels, the icy masses are softening at a higher rate than at any other time.
- As indicated by the news reports, **the researchers have just found warm water underneath the Thwaites Glacier, which earned the epithet Doomsday Glacier for being Antarctica's quickest softening ice sheets.**
- The essentialness of Thwaites lies in the way that it eases back the ice behind it from effectively going into the sea.

ISRO TO LAUNCH 10 EO SATELLITES IN 2020-21

- India will send up an unusually large number of **10 earth observation (EO) satellites during 2020-21**, according to the latest annual report of the Indian Space Research Organisation (ISRO).
- The upcoming EO satellites include radar imaging satellites **RISAT-2BR2, RISAT1A and 2A, Oceansat-3 and Resourcesat-3/3S.**

SEVENTEEN NEW PLANETS, INCLUDING ONE EARTH-SIZED WORLD DISCOVERED

- **Astronomers have discovered 17 new planets, including a potentially habitable Earth-sized world**, by combing through data gathered by NASA's Kepler space telescope, which was launched in 2009, and retired in October 2018.
- According to the researchers, including Michelle Kunimoto from the University of British Columbia in Canada, the **Kepler satellite**, over its original four-year mission, looked for planets, especially those lying in the potentially habitable **"Goldilocks Zone"** of their stars, where liquid water could exist on a rocky planet's surface.
- The current findings, published in The Astronomical Journal, include **one such rare planet named KIC-7340288 b.**
- This **planet is just one and a half times the size of the Earth** -- small enough to be considered rocky, instead of gaseous like the giant planets of the Solar System, and in the habitable zone of its star.
- The **planet gets about a third of the light that the Earth gets from the Sun.**

DARK NET

- Recently, **The Narcotics Control Bureau (NCB) arrested the country's first 'darknet' narcotics operative, who allegedly shipped hundreds of psychotropic drug parcels abroad.**
- Also known as Dark Web, **Dark Net is that part of the Internet that cannot be accessed through traditional search engines like Google** nor is it accessible by normal browsers like Chrome or Safari.
- It generally uses non-standard communication protocols which makes it inaccessible by internet service providers (ISPs) or government authorities.

INSIGHT MISSION

- US National Aeronautics and Space Administration's (NASA) **InSight mission detected quakes and magnetic pulses on the planet Mars.**
- Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight), is the **first mission dedicated to looking deep beneath the Martian surface.**
- InSight lander mission landed on Mars at site Elysium Planitia (nickname Homestead hollow), in November 2018.

SECURITY

INDIA TO DEVELOP 200-KM RANGE TACTICAL BALLISTIC MISSILE- PRAKASH

- The **surface-to-surface missile** developed by the Defence Research and Development Organisation (DRDO) **named Prakash**, the first official cited at a military systems exhibition organized by the Department of Defence Production that seeks to project India as a hub for global defence manufacturing.
- The new weapon traces its origin to the Prahaar missile developed by the DRDO.
- The Prahaar has a range of 150km.

AJEYA WARRIOR 2020

- The **fifth edition** of joint military **exercise Ajeya Warrior 2020** has been scheduled to be held 13-26 February at Salisbury Plains **in the UK.**
- The exercise was held between **India and the United Kingdom.**
- The aim of the exercise is to conduct company-level joint training with an emphasis on counter-terrorist operations in urban and semi-urban areas.
- It will **promote defence cooperation and enhance inter-operability** while sharing experiences between both the armies.

BIMSTEC DISASTER MANAGEMENT EXERCISE 2020

- Minister of State for Home Affairs, Shri **Nityanand Rai** inaugurated the **Field Training Exercise of 2nd BIMSTEC Disaster Management Exercise** on flood rescue at the Ramachandi Beach, **Puri, Odisha** on 12 February.
- The exercise **highlighted the historicity and diversity of cultural heritage** sites in the BIMSTEC region.
- The exercise will **improve existing emergency preparedness** and **strengthen regional response mechanism between the BIMSTEC countries during disasters.**

MILAN 2020

- **Milan 2020** includes a broader array of exercises at sea in multi-national groupings with seamanship drills, simulation of complex operational scenarios, tactical maneuvers, and others.
- The theme for Milan is '**Synergy Across the Seas**'.
- The harbor phase of the exercise would allow participating navies to discuss marine subjects of common concern and share solutions.
- The **multilateral exercise began in 1995 in Andaman and Nicobar Islands.**

EXERCISE INDRADHANUSH

- The **fifth edition of Exercise Indra Dhanush** was jointly commenced at **Air Force Station Hindan, Airbase in Ghaziabad, Uttar Pradesh** on 24th February 2020.
- The exercise is held between the Indian Air Force (IAF), India and Royal Air Force (RAF), the UK.
- The focus of the exercise is '**Base Defence and Force Protection**'.

VAJRA

- The **6th Coast Guard Offshore Patrol Vessel (OPV-6) 'VAJRA'** was launched on **27 February at Chennai, Tamil Nadu.**
- The **6th OPV VAJRA** will **strengthen the efforts of the Indian Coast Guard (ICG)** to secure over 7500 km of vast coastline.

- The vessel **will secure the exclusive economic zone (EEZ)** that covers over 20 lakh sq km and more than one lakh merchant ships transiting per year through Indian waters for global trade.



INTEGRATED AIR DEFENCE WEAPON SYSTEM (IADWS)

- The US has approved the sale of an **Integrated Air Defence Weapon System (IADWS) to India** at an estimated cost of \$1.9 billion.
- The Integrated Air Defence Weapon System (IADWS) is called as the National Advanced Surface to Air Missile System (NASAMS-II).
- It is an **upgraded version of the NASAMS** developed by the US firm Raytheon.
- It will be a combination of different weapons like Stinger missiles, gun systems and advanced medium-range air-to-air missiles (AMRAAMs), backed by 3D Sentinel radars, fire distribution centres and command-and-control units.

PRANASH MISSILE

- **DRDO is developing the 200-km strike range Pranash ballistic missile** which would be used for tactical missions.
- It is a **surface-to-surface ballistic missile** and will be used by the Army and the Air Force for destroying enemy targets at short ranges.
- The missile would be an advanced version of the 150-km strike range

Prahar missile developed by the DRDO.

- It will be one of the **cheapest missiles in the world in its range category.**



GEOGRAPHY AND ENVIRONMENT

INDIA MOVES TO INCLUDE ELEPHANT, BUSTARD IN GLOBAL CONSERVATION LIST

- India will be moving to include the **Asian Elephant and the Great Indian Bustard in the list of species that merit heightened conservation measures.**
- The list will be debated at the 13th COP of the convention on the conservation of migratory species of wild animals (CMS) an environment treaty under UNEP.
- **India will now be the President of the COP for the next three years.**

FIRST EVER ANIMAL THAT DOES NOT NEED OXYGEN TO BREATHE

- Researchers at Tel Aviv University **have discovered a unique organism that doesn't need to breathe.**
- **Henneguya salminicola**, the tiny parasite, is the first known multicellular animal that can survive without oxygen. It lives in an anaerobic environment.
- The parasite lives in salmon tissue and evolved so that it doesn't need oxygen to produce energy.
- Henneguya salminicola is a relative of **jellyfish and corals**. It **lives within the muscle tissue of salmon**. It is relatively harmless.

VADHAVAN PORT

- The **Union Cabinet has given its 'in-principle' approval for setting up a Major Port at Vadhavan**, located about 190 km north of JNPT in Maharashtra.
- India has 12 major and 205 notified minor and intermediate ports.
- The **port site at Vadhavan has an 18m draft naturally available and a 20m navigational channel also naturally available.**
- Vadhavan port will be developed on **"landlord model"**. All the business activities would be undertaken under the private-public partnership (PPP) mode by private developers.

CMS COP 13

- Recently, **the 13th Conference of Parties (CoP) to the United Nations Environment Programme's (UNEP) Convention on the Conservation of Migratory Species of Wild Animals' (CMS) was held in Gandhinagar, India.**
- **India has officially taken over its Presidency for the next three years, till 2023.**
- CMS COP13 was the first of a series of international nature-related meetings in 2020, which will culminate with the UN Biodiversity Conference in Kunming, China, in October, which is expected to adopt a new global biodiversity framework - the Post-2020 Global Biodiversity Framework.
- CMS or Bonn Convention aims **to protect terrestrial, aquatic and avian migratory species throughout their ranges.**

DANAKIL DEPRESSION

- **Danakil Depression in northeastern Ethiopia is one of the hottest, driest and lowest places on Earth at 100 meters below sea level.**
- The Depression overlaps the borders of Eritrea, Djibouti and the entire Afar Region of Ethiopia. It is part of the great East African Rift Valley.
- All the **water entering Danakil evaporates**, and no streams flow out from its extreme environment. It is

covered with more than 10 lakh tonnes of salt.



STORM DENNIS

- It is the **second-strongest non-tropical storm on record in the North Atlantic Ocean** that caused widespread flooding across parts of the United Kingdom.
- Dennis resulted from the **rare merger of two unusually intense bomb cyclones.**

- **A bomb cyclone is simply a storm that intensifies very rapidly.** Bomb cyclones form when air near Earth's surface rises quickly in the atmosphere, triggering a sudden drop in barometric pressure — at least 24 millibars within 24 hours.
- Unlike Hurricanes, bomb cyclones don't need warm ocean water in order to form. While they sometimes arise over the ocean, they can also appear over land.

ASSAM AND NORTH-EAST

NEW BALSAM PLANT SPECIES

- Botanical Survey of India (BSI) scientists have **discovered a new species of Balsam plant in the North East region.**
- Balsam plants are known as **Demdeuka in Assamese, Gulmehendi in Hindi and Dushparijat in Sanskrit.** They have

immense potential in the horticultural sector as beautiful flowers and as **pot plants.**



CANCER CARE IN ASSAM AND NORTH-EAST

- The abnormally high incidence of cancer in the Northeast warrants matching cancer care facilities in the region, which unfortunately remains far from adequate.
- Mumbai alone accounts for some **10,000 cancer patients from the North-east every year.**
- While the B Borooah Cancer Institute, Guwahati – the sole cancer specialty centre in the Northeast – has been catering to the needs of the region's patients for decades and of late it has added a number of several state-of-the-art facilities, the burgeoning number of cancer treatment and palliative care centers in the region.
- Out of **39,000 new cancer cases in the Northeast annually, Assam alone accounts for 29,000.**

- At B Borooah Cancer Institute, over 12,000 new and around 85,000 old cancer patients are seen every year, thus testifying to the gravity of the situation.
- Cancer kills an estimated 725 people every year in Mizoram, making the tiny **North-eastern state the “cancer capital of India”.**

ASSAM SAHITYA SABHA

- The **Assam Sahitya Sabha** (Literary Society of Assam) is a non-Government, nonprofit, literary organization of Assam. It was **founded in December 1917 in Assam** to promote the culture of Assam and Assamese literature.
- The conference of the Assam Sahitya Sabha is held biennially. First conference of Assam Sahitya Sabha was held at Sivasagar, Assam.
- The **75th Biennial session of the Asom Sahitya Sabha has formally begun from January 31, 2020 in Sualkuchi.**

ASSAM TO GET BACK ITS STATE BIRD FROM CZECH REPUBLIC

- Decades ago, some white winged wood ducks (deo hah) were taken to Europe by tea planters from the continent.
- The State forest department will bring **five individuals ducks – two males and three females – from the Czech zoo as part of a joint international animal breeding programme.**
- The State forest department plans to release offspring of the duck in the wild following their captive breeding in the State zoo

NEW SPECIES OF URBAN LIZARD

- **Guwahati**, the largest city in the Northeast, **has yielded a new species of lizard – the urban bent-toed gecko.**
- The new species of lizard, **zoologically named *Cyrtodactylus urbanus***, is markedly different in molecular structure, blotch and colour from the *Cyrtodactylus guwahatiensis*, or the Guwahati bent-

toed gecko, that was discovered two years ago.



FOREST MAN OF INDIA

- **Jadav "Molai" Payeng** (born 1963) is an **environmental activist and forestry worker** from Majuli popularly known as the **Forest Man of India** a moniker that was conferred on him in April 2012 by Jawaharlal Nehru University.
- Jadav went on to plant saplings and seeds along a dry sandbar by the Brahmaputra in Assam, **creating a forest that stands at 550 hectares** today on the island of Majuli near Jorhat.
- He received honorary doctorate degree from Assam Agricultural University and Kaziranga University for his contributions.
- In **2015, he was honored with Padma Shri, the fourth highest civilian award in India.**
- **Padma Shri Jadav Payeng** will be **conferred with the Swami Vivekananda Karmayogi Award** on 29 February in New Delhi.
- He was awarded the **6th Karmayogi Award** for his consistent efforts in creating a real man-made forest through massive reforestation.



ASSAM'S FIRST ZERO WASTE TOWN

- **Titabor** has become **Assam's first "zero waste town"** by setting high standards in effective integrated waste management.
- Any town that has **processed up to 80% of waste** can be claimed to be a **zero-waste town**.
- Titabor has set up a material recovery facility where all organic waste is managed through **aerobic composting**.
- Titabor has also started Assam's **first bio-mining project** to completely recover the dumpsite and move toward 100% processing of waste.

ASOM DARSHAN SCHEME LAUNCHED

- The Chief Minister **launched the Asom Darshan Scheme in a programme** held at the Veterinary College Playground in Guwahati.
- Under this scheme, **the State government takes up a comprehensive plan to develop religious places of all faiths including 915 institutions with a budgetary allocation of Rs 710 crore**.
- Underlining the rich heritage and resources of the State, Sonowal said the **Asom Darshan Scheme would help promote religious tourism in Assam**.
- He said that under this scheme the **State government would take steps for improving key infrastructure of religious institutions** for which initially Rs 10 lakh to each identified institution would be provided.

LARGEST SUBTERRANEAN FISH

- **World's largest known subterranean** (occurring under the earth's surface) **fish has been found recently in a cave in a remote forested area of Meghalaya's Jaintia Hills**.
- It is 40 cm long which is nearly five times the mean length for all known subterranean fish to date.
- It is an almost-blind species that seems similar to the Golden Mahseer (Tor Putitora).

- Subterranean ecosystems are considered extreme, high-stress environments characterized by darkness, truncated food webs and food scarcity.



MISCELLANEOUS

ASKDISHA

- **Ministry of Railways** upgraded services of **Artificial Intelligence (AI) based ASKDISHA** chatbot to converse with Railway customers in the Hindi language.
- It aims to resolve queries of railway passengers over the internet pertaining to various services offered.
- ASKDISHA is a **special computer programme** that was designed to simulate conversations with users.

EASE OF LIVING INDEX AND MUNICIPAL PERFORMANCE INDEX 2019

- Ministry of Housing & Urban Affairs launched two Assessment Frameworks, viz. **Ease of Living Index (EoLI) and Municipal Performance Index (MPI) 2019**.
- Indices will help to assess the progress made in cities through various initiatives and empower them to use evidence to plan, implement & monitor their performance.
- Both these indices are designed to assess quality of life of citizens in 100 Smart Cities and 14 other Million Plus Cities.
- **ABOUT MUNICIPAL PERFORMANCE INDEX**
 - ✓ It **will assess performance of municipalities on five enablers- Service, Finance, Planning, Technology and Governance** which include 20 indicators (Education, Health, Water & Wastewater, SWM & Sanitation, Registration & Permits, Infrastructure, Revenue Management, Expenditure Management, Fiscal

Responsibility, Fiscal Decentralization, Digital Governance, Digital Access, Digital Literacy, Plan Preparation, Plan Implementation, Plan Enforcement, Transparency & Accountability, Human Resource, Participation and Effectiveness).

- ✓ This will help Municipalities in better planning and management, filling gaps in city administration and improving live ability of cities.

- **ABOUT EASE OF LIVING INDEX**

- ✓ It is aimed at providing a holistic view of Indian cities -services provided by local bodies, effectiveness of administration, outcomes generated through these services in terms of live ability within cities and citizen perception of these outcomes.
- ✓ **EoLI 2019 will facilitate the assessment of ease of living of citizens across three pillars: Quality of Life, Economic Ability and Sustainability.**

March 2020

POLITY AND CONSTITUTION

MINERAL LAWS AMENDMENT BILL 2020

- **Parliament** passed the **Mineral Laws (Amendment) Bill, 2020**, on 12th March.
- The Bill will replace the ordinance passed for the amendment of the **Mines & Mineral (Development and Regulation) Act 1957** and the **Coal Mines (Special Provisions) Act, 2015**.
- The Mineral Laws (Amendment) Bill **will promote Ease of Doing Business** and take the coal and mining sector into a new level.
- The Bill **aims to transform the mining sector in India and boost coal production and reducing dependence on imports**.
- The law will **increase participation in coal/lignite block auctions** and facilitate the implementation of Foreign Direct Investment (FDI) policy in the coal sector.

ASSISTED REPRODUCTIVE TECHNOLOGY REGULATION BILL 2020

- The **Union Cabinet has recently approved the Assisted Reproductive Technology Regulation Bill 2020**.
- The **aim of the bill is to protect and safeguard the reproductive rights of women** and to **prevent misuse and ensure safe and ethical practice** of assisted reproductive technology services in the country.
- Assisted reproductive technology (ART) includes medical procedures used primarily to address infertility. This involves procedures such as
 - ✓ In vitro fertilization,
 - ✓ Intra-cytoplasmic sperm injection (ICSI),
 - ✓ Cryopreservation of gametes or embryos, and
 - ✓ The use of fertility medication.
 - ✓ Art may also be used in surrogacy arrangements, although not all surrogacy arrangements involve ART.

RIGHT TO PROPERTY

- Recently, the **Supreme Court has reiterated that forcible dispossession of a person of his private property without due process of law is a human right violation.**
- The Constitution originally provided for the Right to Property as a fundamental right under Articles 19 and 31.
 - ✓ Art. 19(1) (f) guaranteed to the Indian citizens a right to acquire, hold and dispose of property.
 - ✓ Article 31 of Indian Constitution stated that no person can be deprived of his property without the consent of a proper authority.
 - ✓ Also, Article 31(2) had put two limitations on State power of acquisition of land viz.
 - ❖ Firstly, the compulsory acquisition or requisitioning of land should be for public purpose.
 - ❖ Secondly, the law enacted in that behalf should provide for compensation.
- Finally, **44th Constitutional Amendment Act repealed the entire Article 31 and Article 19(1)(f) and inserted Article 300A.**
- Article 300-A states that no person shall be deprived of his property save by authority of law. This means that –
 - ✓ Property is no longer a Fundamental Right, i.e. the aggrieved individual would not be competent to move to Supreme Court under Article 32, for any violation of Art 300A.
 - ✓ Also, a law will be necessary to deprive a person of his property.

K-FON PROJECT

- The **government has officially cleared the K-Fon project aimed at providing free high-speed Internet connection to over 20 lakh BPL families in Kerala.**
- A consortium led by Bharat Electronics Limited had bagged the bid for the ambitious project to be completed by December 2020.

TULU IN VIII SCHEDULE

- There is a **strong case for adding Tulu, among other languages in the Eighth Schedule of the Indian Constitution.**
- **Article 29** of the Constitution provides that a section of citizens having a distinct language, script or culture have the right to conserve the same.
- Both the state and the citizens have an equal responsibility to conserve the distinct language, script and culture of a people.
- Tulu is a Dravidian language whose speakers are concentrated in two coastal districts of Karnataka and in Kasaragod district of Kerala.
- At present, **Tulu is not an official language** in India or any other country.
- **Efforts are being made to include Tulu in the Eighth Schedule of the Constitution.**

PROJECT 39A

- **Project 39-A is unique initiative of National Law University**, Delhi.
- **Project 39A is inspired by Article 39-A of the Indian Constitution**, a provision that furthers the intertwined values of equal justice and equal opportunity by removing economic and social barriers.
- The fourth edition of 'The Death Penalty in India: Annual Statistics' is published by Project 39A.
- According to the report, the number of death sentences awarded for murders involving sexual offences in 2019 was at the highest in four years.

NATIONAL DATA AND ANALYTICS PLATFORM (NDAP)

- NITI Aayog has released vision plan for the **National Data and Analytics Platform (NDAP).**
- The **platform aims to democratize access to publicly available government data.**
- The NDAP proposes a simple, interactive, visual, and robust platform that will host various Central and state government datasets.

- It will **host the latest datasets from various government websites**, present them coherently, and provide tools for analytics and visualization.
- The first version of the platform is **expected to be launched in 2021**.

INDIA AND WORLD

SAGARMATHA SAMBAAD

- **Sagarmatha Sambaad is the first ever multi-stakeholder diplomatic initiative of Nepal.**
- Leaders of the member countries of the South Asian Association for Regional Cooperation (SAARC) and other global leaders are invited for the event.
- The **event will be focusing on the threat of climate change to the modern world.**

ICoSDiTAUS-2020

- Recently, a two-day International Conference called **ICoSDiTAUS-2020 was held in New Delhi.**
- The conference was organized by the Ministry of AYUSH in collaboration with World Health Organization (WHO).
- ICoSDiTAUS stands for **International Conference on Standardization of Diagnosis and Terminologies in Ayurveda, Unani and Siddha Systems** of Medicine.
- The conference presentations and discussions focused on topics like
 - ✓ Relevance and regulation of Traditional Medicine in Health Systems
 - ✓ Status and challenges for collection and classification of clinical data in traditional medicine.

BIO ASIA SUMMIT 2020

- The **Government of Telangana recently hosted the Bio-Asia Summit 2020.**
- The summit was attended by researchers, investors, conglomerates, start-ups and health care representatives. The focus was on the needs of evolving Life Science industry.

WORLD HAPPINESS REPORT 2020

- Recently, eighth edition of **World Happiness Report released by Sustainable Development Solutions Network.**
- **Finland topped the report as happiest country** amongst 156 nations surveyed.
- **India dropped to rank 144** from previously at 140 and became new entrant to the bottom-fifteen group.
- India ranked lower than neighbours Nepal at 92, Pakistan at 66, Bangladesh at 107 and Sri Lanka at 130.

GENDER SOCIAL NORMS INDEX (GSNI)

- Recently, the **United Nations Development Programme (UNDP) has released the Gender Social Norms Index (GSNI).**
- GSNI is a social norms index which captures how social beliefs can obstruct gender equality along four dimensions: **political, educational, economic and physical integrity.**
- GSNI ranges from 0 to 1. Higher GSNI values indicate higher bias against gender equality. There is no country without bias against gender equality.

GLOBAL INNOVATION INDEX-2019

- The Global Innovation Index 2019 was launched by Commerce and Industry Minister in New Delhi.
- The **theme this year is Creating Healthy Lives - The Future of Medical Innovation,** which aims to explore the role of medical innovation as it shapes the future of healthcare.
- India improved its rank in the **Global Innovation Index to 52.**

EASE OF DOING BUSINESS REPORT 2020

- The World Bank released its latest Doing Business Report (DBR, 2020) 2019.
- **India has recorded a jump of 14 positions against its rank of 77 in 2019** to be placed now at 63rd rank among 190 countries.
- India has improved its rank by 79 positions in last five years.

INDIAN ECONOMY

DIRECT TAX VIVAD SE VISHWAS ACT, 2020

- **Parliament passed Direct Tax Vivad se Vishwas Act, 2020.**
- The **Act provides an opportunity to taxpayers to settle direct tax disputes by paying due taxes with complete waiver of interest and penalty till June 30, 2020.**
- It is applicable to all the appeals/petitions filed by taxpayers or the income tax department, with the following forums: Commissioner of Income-tax (Appeals); Income-tax Appellate Tribunal; High Court; or Supreme Court as on the 31st day of January, 2020 irrespective of whether demand in such cases is pending or has been paid.
 - ✓ Also, Income tax cases being arbitrated abroad are eligible under the Act.
- **Pending appeal may be against disputed tax, interest or penalty.**
 - ✓ In case of disputed tax, taxpayers shall be allowed a complete waiver of interest and penalty if they pay entire amount of tax in dispute up to June 30, 2020, after which amount payable shall be increased by 10% of disputed tax.
 - ✓ Where tax arrears relate to disputed interest or penalty only, then 25% of disputed penalty/interest shall have to be paid if payment is made by June 30, 2020, beyond which it shall be enhanced to 30%.
- Once the dispute is settled under the Act, **taxpayer shall get the following immunities**
 - ✓ Such cases cannot be reopened in any other proceeding by any tax authority or designated authority;
 - ✓ Opting for the scheme shall not amount to conceding the tax position and tax authority cannot claim that taxpayer has conceded to the decision on the disputed issue.
- **Disputes not covered under the Act:**
 - ✓ where prosecution has been initiated before the declaration is filed,

- ✓ which involve persons who have been convicted or are being prosecuted for offences under certain laws (such as the Indian Penal Code), or for enforcement of civil liabilities, and involving undisclosed foreign income or assets.

TIRUR VETILA

- Recently, Tirur Vettila or **Tirur Betel Leaf from Kerala has obtained a Geographical Indication (GI) tag.**
- Tirur Betel Leaf is often appreciated for its mild stimulant, digestive and medicinal properties.
- The betel leaf is unique and known for its high content of chlorophyll, protein and antioxidant capacity.



EASE 3.0 REFORM AGENDA

- Recently, Finance Minister **Nirmala Sitharaman, launched the Ease (Enhanced Access and Service Excellence) 3.0 reform agenda.**
- EASE is set of technology-based banking reforms. It **ensures wider financial inclusion, better banking experience and easier credit distribution.**
- EASE 3.0 aims at improvising banking sector with technology. EASE 3.0 agenda further aims at providing smart, tech-enabled public sector banking for aspiring India. Digitalizing the experience at public sector bank branches is also on the cards under EASE 3.0.

CONSOLIDATION OF PUBLIC SECTOR BANKS

- Government has approved the **amalgamation of ten Public Sector Banks (PSBs).** After the merger, the **number of public sector banks in India has come down to 12.**
- **Benefits of Bank Consolidation:**
 - ✓ **Cost benefits** as larger banks offer better economies of scale, efficiency, cost of funding, risk diversification.
 - ✓ **Revenue benefits** (economies and scope for large deals): **Banks' prudential norms limit the size of lending by banks** as banks take risks as per banks' size.

Hence to invest in large projects, large banks with huge lending capacity are needed, to meet India's aspirations of a \$5 trillion GDP economy.

- ✓ The **adoption of technologies** across the amalgamating banks, access to a wider talent pool, and a larger database would lead PSB's to be in a position to gain **competitive advantage by leveraging analytics in a rapidly digitalizing banking landscape.**
- ✓ Consolidation would help create banks with **scale comparable to global banks** and capable of competing effectively in India and globally enhancing their **competitiveness.**
- ✓ **Customer service:** Larger size of the Bank will help the merged banks to offer more products and services and help in integrated growth of the Banking sector.
- ✓ **Human Resource:** The wide disparities between the staff of various banks in their service conditions and monetary benefits will narrow down.
- ✓ **Improve regulation:** Monitoring and control of a smaller number of banks will be easier after mergers.

FOOD MITRA SCHEME

- On the occasion of World Food Day, Union Minister for Health and Family Welfare Dr Harsh Vardhan **launched Food Safety Mitra Scheme strategy and implementation.**
- Food Safety and Standards Authority of India (FSSAI) has introduced scheme of Food Safety Mitra (FSM) through which it **plans to engage motivated individuals with the food safety ecosystem at ground level.**

RBI'S "OPERATION TWIST"

- **Operation Twist** is the name given to a US Federal Reserve monetary policy operation, which **involves the purchase and sale of government securities to boost the economy by bringing down long-term interest rates.**
- Reserve Bank of India decided to conduct its version of 'Operation Twist' through simultaneous purchase and sale of government securities under Open Market Operations (OMOs) for Rs 10,000 crore each.

SCIENCE AND TECHNOLOGY

RESEARCHERS DETECTED BIGGEST EXPLOSION SINCE BIG BANG

- **Researchers have detected evidence of a colossal explosion in space** which is five times bigger than anything observed before.
- The huge release of energy is expected to have occurred from a supermassive black hole which is located around some 390 million light-years from Earth.
- Also, the scientists stated that the explosion might have left a giant dent in the **Ophiuchus galaxy cluster**.
- Ophiuchus galaxy cluster is a large galaxy that contains a **supermassive black hole**.

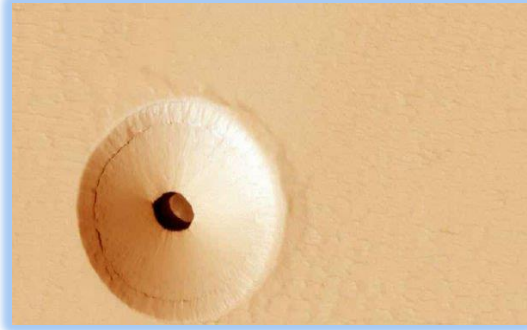
ASTRONOMERS DISCOVERED 17 NEW PLANETS

- Columbia researchers have discovered **17 new planets** by combing through data gathered by **NASA's Kepler space telescope**.
- The **planets include a potentially habitable Earth-sized world**.
- The researchers looked for planets, especially those lying in the potentially habitable "**Goldilocks Zone**" of their stars, where liquid water could exist on a **rocky planet's surface**.
- The **smallest is only two-thirds the size of the Earth** one of the smallest planets to be found with Kepler data so far. The remaining planets range in size up to eight times the size of the Earth.
- The current findings include a rare planet named **KIC-7340288 b**.

NASA REVEALS HOLE ON MARS THAT COULD HOLD CLUE TO LIFE ON RED PLANET

- **NASA** released a photo of the **mysterious hole** on **Mars** that **could hold a clue to life on Mars**.
- The **unusual hole** on the planet **was discovered in 2011**.
- The image depicted the slopes of **Mars' Pavonis Mons volcano**.
- It is expected that the Martian pit might contain life as they have interior caves that remain relatively protected from the planet's harsh surface.

- As per the image, the hole has opened about **35m across** to an underground cavern which is estimated to be around 20 m deep.



ASTRONOMERS FOUND IRON RAINING EXOPLANET

- Astronomers from **Spain's Institute of Astrophysics of the Canary Islands (IAC)** has **discovered an exoplanet WASP-76b where it "rains iron."**
- The conditions of the exoplanet were discovered by **Echelle Spectrograph for Rocky Exoplanets and Stable Spectroscopic Observations (ESPRESSO).**
- Exoplanet WASP-76b is located **360 million light-years away**, toward the constellation Pisces.
- It has days when its temperatures exceed **2,400 degrees Celsius** (4,352 degrees Fahrenheit). The temperature is hot enough to evaporate metals.

ISRO's EARTH OBSERVATION SATELLITES

- According to the ISRO's annual report, the organization will **launch 10 Earth Observation (EO) Satellites in 2020-21.**
- It also includes the launch of **first geo imaging satellite - GISAT-1 by Geosynchronous Satellite Launch Vehicle GSLV-F10.**
- An Earth observation satellite or Earth remote sensing satellite is a satellite used for Earth observation from orbit, intended for non-military uses such as environmental monitoring, meteorology, map making etc.
- The **first remote sensing satellite was Sputnik 1**, launched by the Soviet Union in 1957.
- **GISAT- 1 will provide real-time imaging of the planet Earth.** The image will be taken from its 36,000 km high orbit. These images will help in various sectors and its applications will be utilized in –
 - ✓ Mineralogy,

- ✓ Agriculture
- ✓ Forestry as well as
- ✓ Disaster warning among others.

COVID-19

- World Health Organization officially announced **COVID-19 as the name for the disease caused by the novel corona virus.**
- Coronaviruses are a large family of viruses that circulate among a range of animals, such as bats, cats, and birds. Sometimes these viruses make a jump over from animals to humans (known as Spill over) causing diseases known as Zoonotic diseases.

A MINI-MOON- 2020 CD3

- Astronomers have observed a small object orbiting Earth. It has been assigned as —**mini-moon or the planet 's —second moon.**
- 2020 CD3 is actually a **tiny near-Earth asteroid** and **temporary satellite of Earth.**
- Its diameter is about 1.9-3.5 m. In addition, unlike our permanent Moon, the mini moon is temporary. It will

eventually break free of Earth 's orbit and go off on its own way.



ADITYA L-1 MISSION

- ISRO is preparing to send its **first scientific expedition to study the Sun- Aditya L1 Mission in 2021. It is India's first solar mission.**
- The **aim is to observe the Sun from a close distance** and to obtain information about its atmosphere and magnetic field.
- Aditya L1 is a 400 kg-class satellite. It will be launched using the Polar Satellite Launch Vehicle (PSLV).
- Aditya L1 will be ISRO 's second space-based astronomy mission after AstroSat, which was launched in September 2015.

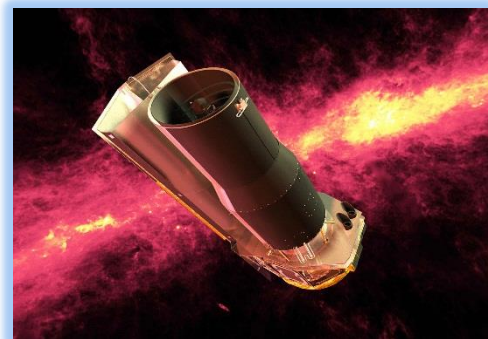
HABITABLE ZONE PLANET FINDER

- Habitable-Zone Planet Finder (HPF) has validated its **first exoplanet called G 9-40b**.
- HPF is an astronomical spectrograph, recently installed on the Hobby-Eberly Telescope at McDonald Observatory in Texas.
- The **instrument is designed to detect and characterize planets in the habitable-zone** (also called Goldilocks Zone) — the region around the star where a planet could sustain liquid water on its surface.
- G 9-40b, a **sub-Neptune sized planet** is about **twice the size of Earth** and orbits its low mass M-dwarf star once every six Earth-days.



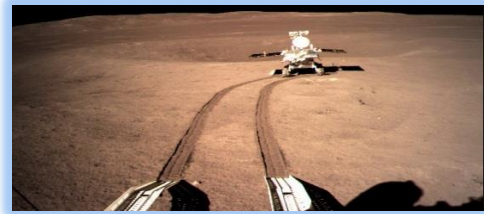
SPITZER SPACE TELESCOPE

- The **Spitzer Space Telescope (SST)**, formerly the Space Infrared Telescope Facility (SIRTF), **was an infrared space telescope that was launched in 2003. It retired on 30 January 2020.**
- The Spitzer Space Telescope is the final mission in NASA's Great Observatories Program - a family of four space-based observatories, each observing the Universe in a different kind of light.
- The Spitzer Space Telescope was to look at the universe in **the infrared part of the electromagnetic spectrum**. It allowed scientists to view objects that are cooler than the stars that emit visible light.



YUTU 2

- China 's **Chang 'E-4 mission has given the first detailed view of the subsurface geology on the far side of the Moon.**
- Chang'e 4 is a robotic spacecraft mission, part of the Chinese Lunar Exploration Program.
- It achieved humanity's first soft landing on the far side of the Moon, on 3rd January 2019.



SOLAR ORBITER MISSION

- The Solar Orbiter Satellite Mission was recently launched.
- The **Solar Orbiter is a Sun-observing satellite**, developed by the European Space Agency (ESA) and NASA.
- Solar Orbiter is intended to perform detailed measurements of the inner heliosphere and nascent solar wind. It will perform close observations of the polar regions of the Sun.
- This is the **first mission that will provide images of the sun's north and south poles.**



SUNSPOT CYCLE

- Researchers from IISER Kolkata identified Sunspots that herald **the start of a new Sunspot cycle.**
- **Sunspots are areas that appear dark on the surface of the Sun and are cooler than other parts of the Sun's surface.**
- They form at areas where magnetic fields are so strong that they keep some of the heat within the Sun from reaching the surface.

- So far, astronomers have documented **24 such cycles, the last one ended in 2019**. Recent observations point to the signs that **25th cycle has just begun**.
- Solar activities affect space weather, which can have an impact on space-based satellites, GPS, power grids and so on.
- **Sunspot Cycle was discovered in 1843** by German astronomer Samuel Heinrich Schwabe

HANTAVIRUS

- Recently, a **man from China's Yunnan province died from Hantavirus**.
- Hantaviruses are a family of viruses spread mainly by rodents and can cause varied disease syndromes in people.

ASTEROID 2020 AV2

- The **2020 AV2 asteroid is the first discovered asteroid entirely inside the orbit of Venus**, with help of the Virtual Telescope Project.
- **Asteroid 2020 AV2 has the shortest orbital period** known so far in the asteroid population.
- Out of hundreds of thousands of known asteroids, only 21 asteroids are entirely inside the Earth's orbit called Interior-Earth objects (IEOs)

i.e. their orbit has an aphelion (farthest point from the Sun) smaller than Earth's perihelion (nearest point to the Sun), which is 0.983 astronomical units (AU).



GEOGRAPHY AND ENVIRONMENT

NORTHERN EUROPEAN ENCLOSURE DAM

- Scientists have proposed the construction of the **Northern European Enclosure Dam (NEED) enclosing all of the North Sea.**
- The **aim of the NEED is to protect economic regions of 15 Northern European countries from Sea-level Rise (SLR)** as a result of climate change.
- The project intends to **separate the North and Baltic Seas** from the Atlantic Ocean to protect Northern Europe against SLR.
- The proposed NEED **aims to construct two dams** of a combined length of 637 km.
- The first dam will be between northern Scotland and western Norway (476 km) and the second between France and southwestern England (161 km).

THE FLAME THROATED BULBUL

- The **flame-throated bulbul**, also called the Rubigula, **has been chosen as the mascot of the 36th National Games.**
- The Flame-throated Bulbul is endemic to southern peninsular India where it is locally distributed in southern Andhra Pradesh, eastern Karnataka, Goa, Orissa, eastern Kerala and northern Tamil Nadu.
- It comes under **Least Concern Category in IUCN status.** It is **state bird of Goa.**



BIOROCK TECHNOLOGY

- The Zoological Survey of India (ZSI), with help from Gujarat's forest department, is attempting for the first time a **process to restore coral reefs using biorock or mineral accretion technology.**
- **Mineral Accretion Technology** also called Biorock Technology, is a method that applies safe, low voltage electrical currents through seawater, causing dissolved minerals to

crystallize on structures, growing into a white limestone (CaCo₃) similar to that which naturally makes up coral reefs and tropical white-sand beaches.

- **Biorock, also known as Seacrete or Seament**, refers to the substance formed by electro-accumulation of minerals dissolved in seawater. The formed material has strength similar to concrete. It can be used to make robust artificial reefs on which corals grow at very rapid rates.

INDIAN OCEAN COMMISSION

- **India has become observer of Indian Ocean Commission**
- The Indian Ocean Commission (IOC) is an intergovernmental organization created by the **Port-Louis Declaration in 1982**.
- The IOC was institutionalized in Seychelles in 1984 by the **General Agreement for Cooperation**, better known as the **Victoria Agreement**.
- Composition- IOC is the only regional organization in Africa composed exclusively of islands, which brings together **five-member states** –
 1. The Union of the Comoros
 2. Réunion (French overseas territory)
 3. Madagascar
 4. Mauritius
 5. Seychelles
- **Observer members-** China, European Union, Malta, International organization of Francophonie (is an international organization representing countries and regions where French is a lingua franca or customary language), Japan, United Nations and India.

ECO-SENSITIVE ZONES

- The Ministry of Environment, Forest and Climate Change (MoEF&CC) **declared the National Chambal Sanctuary in Madhya Pradesh as eco-sensitive zone (ESZ)**.
- The MoEF&CC notified an area to an extent of zero to two kilometres around the boundary of National Chambal Sanctuary as the National Chambal Sanctuary ESZ.

- National Chambal Sanctuary, also known as National Chambal Gharial Sanctuary, was **declared a national sanctuary in 1979** and sits across three states: **Madhya Pradesh, Uttar Pradesh and Rajasthan.**
- It was formed to protect the Chambal river eco-system. It is home to naturally living population of **75% of gharial.** The sanctuary also harbors **national aquatic animal** - the freshwater **Gangetic dolphins**, 9 species of freshwater turtles and more the 290 species of migratory birds.
- National Chambal Sanctuary is the **first and only tri-state riverine protected area in India for breeding population of Gharial.**

LIVING ENTITY

- Punjab and Haryana High Court recently declared **that Sukhna Lake in Chandigarh is a “living entity”** or “legal person” with rights, duties and liabilities of a living person.
- The court observed that Sukhna Lake is required to be declared as a legal entity for its survival, preservation and conservation.
- The Chandigarh administration has been directed to **declare it a wetland within a period of three months.**
- The **man-made Sukhna Lake** was built in 1958 by Le Corbusier, the architect of Chandigarh.
- Located in the foothills of the Shivalik Hills, it was designed to collect runoff water from the Hills.
- It also has a nearby Sukhna wildlife sanctuary that is home to sambar, pangolin, wild boars etc.



ART AND CULTURE

POOMPUHAR

- The Department of Science and Technology, **Government of India shall be reconstructing Poompuhar.**
- **Poompuhar was a Chola Dynasty port city** in Tamil Nadu.
- It vanished from maritime history around 1,000 years ago. It had submerged due to rising levels of the sea.
- The reconstruction of the southern port city is a part of the **Indian Digital Heritage mission** of the Department of Science and Technology.
- The first project under the mission was **‘Digital Hampi’**, which is currently on display at the National Museum in Delhi.

HUNAR HAAT

- Hunar Haat is being organized by ministry of minority affairs.
- It has become a —**Mega Mission of indigenous Craft, Cuisine & Culture and economic empowerment of master artisans, craftsmen.**
- The success of —Hunar Haat can be gauged from the fact that about 3 lakh needy master artisans, craftsmen & culinary experts have been provided employment and employment opportunities through —Hunar Haat in the last about 3 years.
- It is not only providing employment opportunities to master artisans and craftsmen, it is also **preserving and promoting India’s indigenous traditional legacy of master artisans and craftsmen which was on the verge of extinction.**



ASSAM AND NORTHEAST

VEER SAMRITI

- On January 30, 2020 Assam Rifles (military unit) has constructed a war memorial **“Veer Samriti” in Nagaland, Kohima** for 357 Army & Assam Rifles personnel, who died while fighting insurgency in north-eastern state. It is **first of its kind in Nagaland.**
- The names of the 357 martyrs have been carved on a single granite stone. The memorial is spread over 13,500 sq feet & was built by 44 Assam Rifles.
- The **19 feet high war memorial is having 3 converging posts signifying the Army, Air Force and Assam Rifles.**