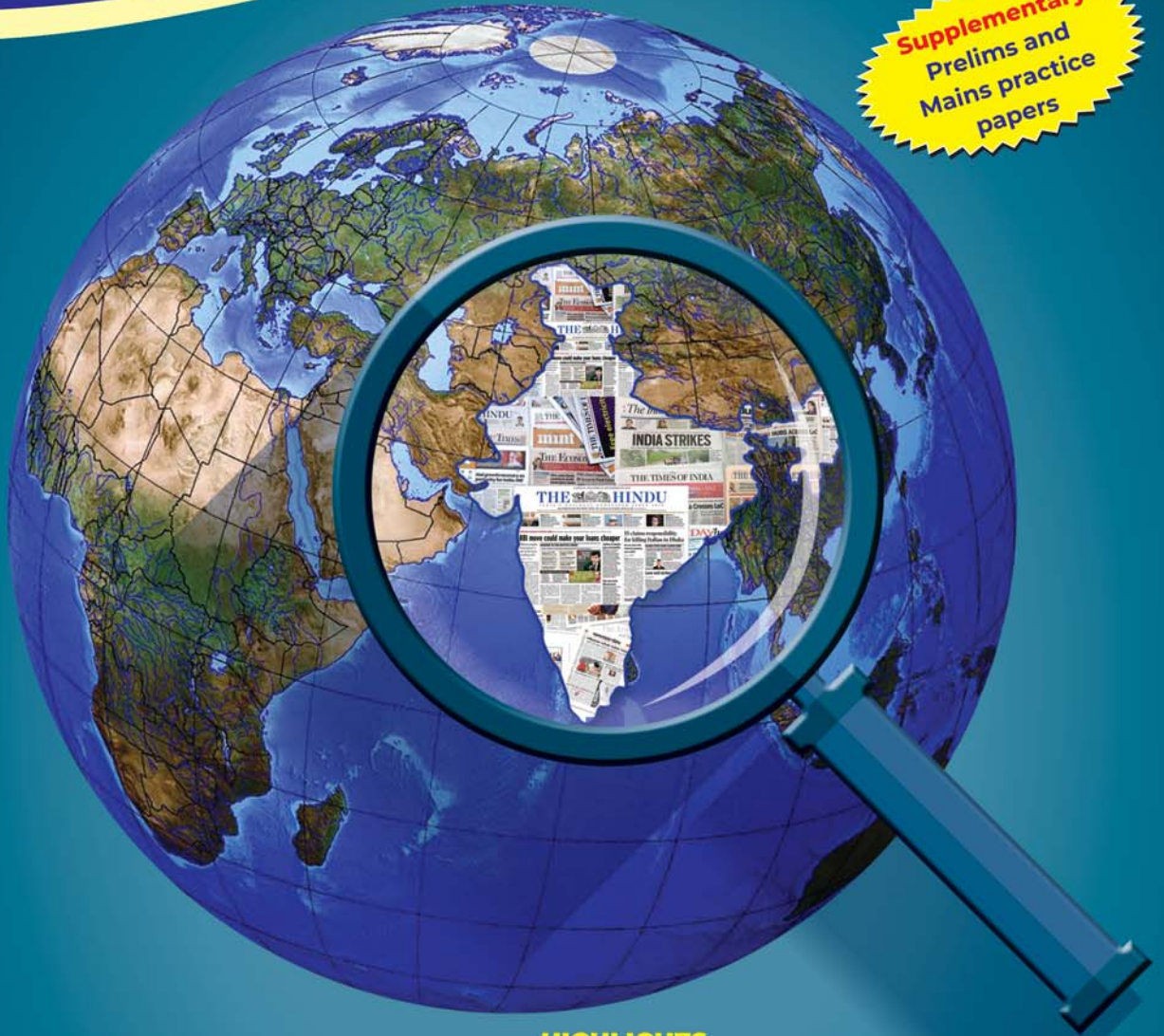


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Prelims and
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Dear Students,

As part of my academic career I have had the good fortune of meeting some of the most amazing and highly motivated students. Of Course they had different aspirations in life. Some of them wanted to be Civil Servants and some wanted to be Mathematicians just to name a few vocations (there are many more). But what all of them had in common was their quest for knowledge. But as times change and young blood flows in, a plethora of changes took place in the learning ecosystem too. In this time and age of the digital uprising a new generation is taking over the reigns from the present, namely "The Millennials".



Srikanth Vinnakota
Editor-in-Chief

Now coming to "The Millennials". They are a different brand altogether. Apart from their "out-of-the-box" career choices what seems interesting to me is the breath of fresh air they bring into all the conventional employment. I am truly inspired by their grit and determination in learning something new altogether like picking up a new language or playing an instrument or staying updated on day to day events happening somewhere else in the world. Also I believe that this attitude is needed these days because finding formal employment through regular means is getting difficult day by day because of the kind of competition that is there for such jobs. In that case having the knowledge of diverse topics would be "the feather in the hat" if not more to be able to not just secure employment for self but to be able to give employment to others as well. The aim of our magazine 'Samiksha' is to equip the reader with this kind of information which is diverse, authentic and useful not only in the present day but also for the future.

Our publishing team which is a dynamic amalgamation of young and the experienced, puts together all the important happening of a month for you. The information is collected from authentic sources and the views expressed are carefully curated keeping in view the realities of our day and age. We pay utmost attention to the fact that our reader can be a college going student or a Civil Services Aspirant or for the matter of fact any other person who is just curious. We try our best to give a comprehensive 360 Degree view of the given topic and cover it in all dimensions possible. We deem it as our privilege to be able to serve the young of our society. In the words of Desiderius Erasmus; "The main hope of a nation lies in the proper education of its youth."

I take your leave and wish you happy reading.

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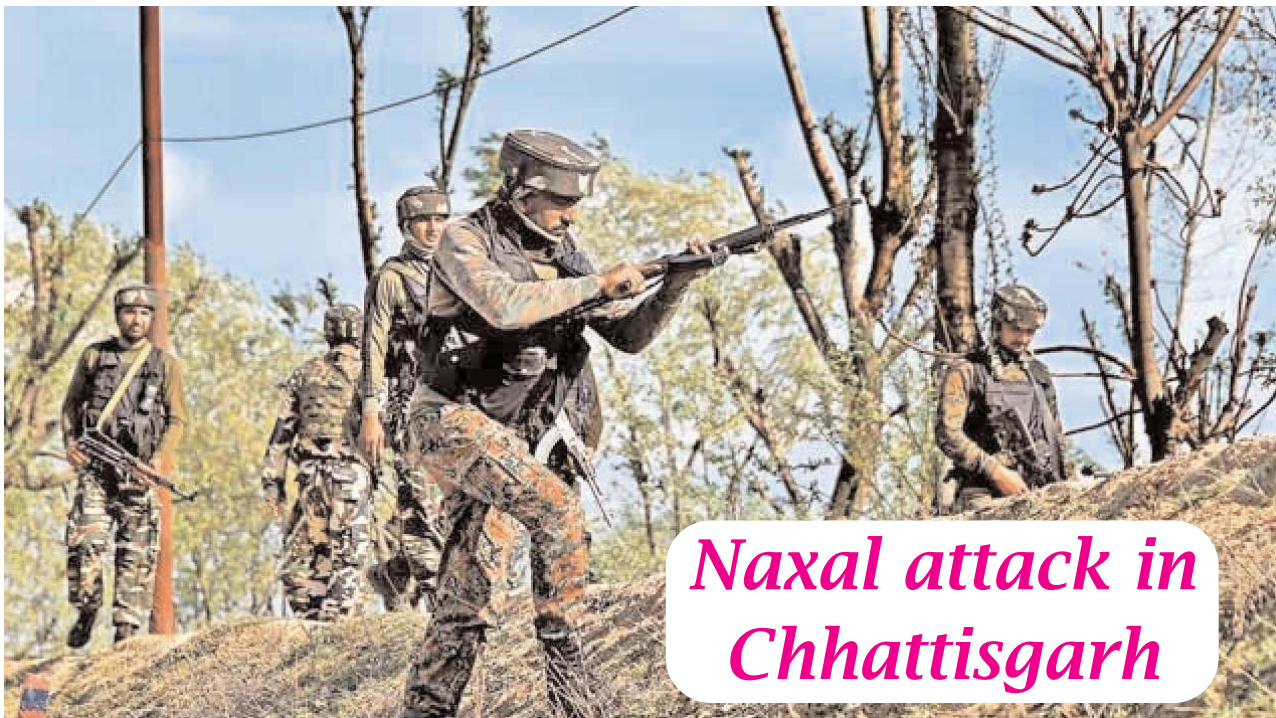
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Naxal attack in Chhattisgarh

On April 2, at least 22 security personnel were killed and around 31 injured in a shoot-out with Naxals along the border of Sukma and Bijapur districts in Chhattisgarh.

- Bodies of 17 jawans were recovered from the site of an encounter between security forces and Maoists in Chhattisgarh's Bijapur district, taking the death toll in Saturday's clash to 22.
- Five security personnel were killed in action and one is still missing.
- Personnel belonging to Central Reserve Police Force (CRPF), its elite unit CoBRA (Commando Battalion for Resolute Action), the District Reserve Guard (DRG), and the Special Task Force (STF) were involved in the operation launched from five places- Tarrem, Usoor and Pamed in Bijapur, and Minpa and Narsapuram in Sukma.
- The operation was mounted against Battalion No. 1 Area Commander Hidma, one of the most dreaded and wanted Maoists who has been responsible for several attacks against

security forces.

- Sources believe Hidma was "actively present" in the area and his team was responsible for the attack on April 2.
- Officials said security personnel were trapped in an ambush while returning from the operation.
- The encounter comes 10 days after five DRG personnel were killed when Naxals blew up their bus with an IED in Narayanpur district.

NAXALISM IN INDIA

- Naxalism is considered one of the biggest internal security threats in India.
- Naxal violence is related to the intensity of feeling of people of their deprivation at their commitment to take revenge against those whom they believed to be responsible for such denial.
- The main supporters of the movement currently in India are the marginalized groups including the Dalits and the Adivasis who believe that they have been neglected by the government.

- The presence of naxals in India is an indication of the loopholes that are present in the law and order of the country which has failed to curb the menace.

What is Naxalism?

- The term naxalism has been derived from the name of the Naxalbari village in West Bengal where a peasant revolt had taken place against the local landlords who had written up a present over a land dispute in 1967.
- The rebellion was initiated with an objective of rightful redistribution of the land to working peasants under the leadership of Kanu Sanyal and Jagan Santhal.
- The Naxalites are considered to be the far-left communists who support the political ideologies of Mao Zedong.
- The movement that initially originated in West Bengal has now moved to the less developed areas in southern and eastern India which includes the states of Chhattisgarh, Jharkhand,

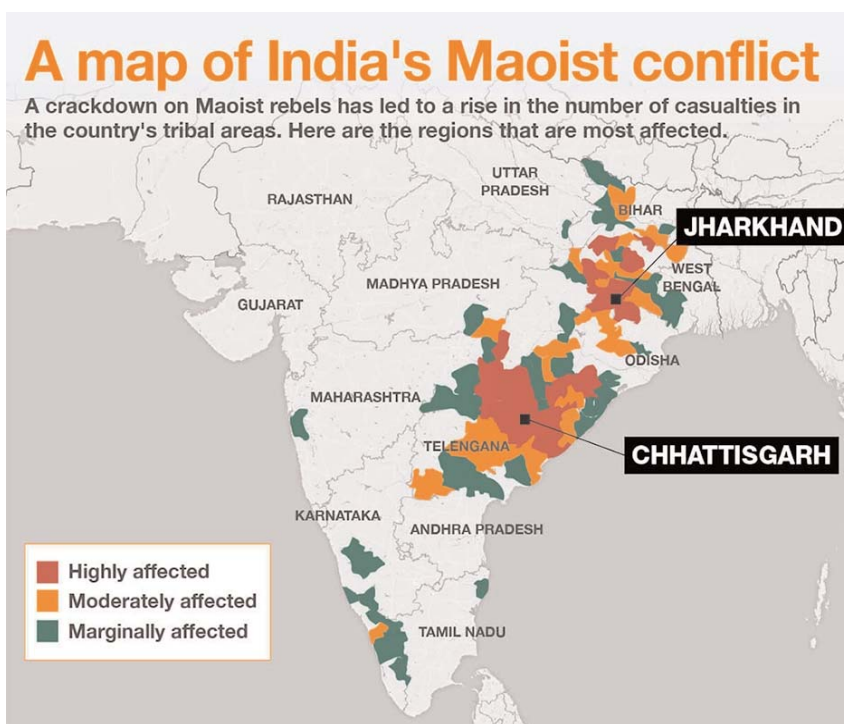
Odisha, Andhra Pradesh and Telangana.

- Some of these Naxalite groups have legal organisations as representatives in the parliament of India like the Communist Party of India (Marxist Leninist) Liberation and the Communist Party of India (Marxist Leninist) Janashakti. At the same time they also maintain underground cadres.
- The Naxalites are also known as Left Wing Extremists or Maoists.
- During the initial phase of the movement, they handled weapons like bows and arrows and country made firearms, but now, they possess sophisticated weapons including rocket launchers and AK rifles.
- There is one common theme among all the groups and that is- they are anti government and desire a violent mass struggle.
- It tries to get the support of the marginalized people in the rural areas by espousing their cause and projecting their real and perceived grievances.
- The most important and dangerous among the naxal groups in India is the Communist Party of India (Maoist) or the CPI-M.

CAUSES OF NAXALISM

1. Jal- Jangal- Zameen

- Evasion of land
- Encroachment and occupation of government and community lands
- Non regularization of traditional land rights
- Land acquisition without appropriate compensation and rehabilitation to the people
- Disruption of the age-old tribal forest relationship in the tribal



areas- the Forest (Conservation) Act, 1980 deprives tribals who depend on the forest produce for a living from even cutting its bark.

2. Development deficit

- Unemployment due to which people engage in such activities
- Poverty spiraling due to rising unemployment that results in economic inequality
- Infrastructure deficit like lack of connectivity, communication facilities, etc.
- Lack of basic facilities like education, health, drinking water, etc.

3. Governance Deficit

- Lack of routine administration
- Incompetent, ill-trained and poorly motivated public personnel
- Mismanagement and corruption in government schemes
- Poor implementation of special laws
- Perversion of electoral politics and unsatisfactory working of local government

4. Social Exclusion and Alienation

- Violation of human rights
- Abuse of dignity of life
- Disconnect with the mainstream society
- Discontent against the government

Steps taken by the Government to curb Naxalism

- In 2006, the government created a separate division in the home ministry- Naxal Management Division and appointed an expert committee headed by D Bandopadhyay.
- The committee recommended a tribal friendly land acquisition and rehabilitation policy.
- Security Related Expenditure (SRE) scheme- funds are given for meeting the recurring expenditure related to insurance, training, and operational needs of the security forces, rehabilitation of the left wing extremist cadres who surrender in accordance with the surrender and rehabilitation policy of the state govern-

Deadly attacks

Sukma has witnessed several Maoist attacks in the past. A look at some of the previous encounters



MARCH 23, 2021: Five DRG personnel of the Chhattisgarh police killed after their bus is blown up by a powerful bomb in Narayanpur district

MAY 9, 2020: A sub-inspector of the Chhattisgarh police killed in an encounter with the Maoists in Rajnandgaon

MARCH 22, 2020: 17 members of a police patrol killed in an ambush in Sukma

OCT. 27, 2018: Four CRPF personnel killed in an ambush in Bijapur district

MARCH 11, 2017: 12 CRPF personnel killed in an ambush in Sukma district

ment concerned, because it is a little infrastructure for village defense committees and publicity material.

- **Special Infrastructure Scheme-** it was approved under the XIth plan to cater to the critical infrastructure gaps which were not covered under the existing schemes like requirements of mobility for police or security forces, measures to enhance security in respect of police stations or outposts located in vulnerable areas. The scheme was later expanded to provide funds for upgradation of infrastructure, weaponry, equipment and training of Special Forces of the states affected by extremism.
- **Central Scheme for Assistance to Civilian Victims/ Family of Victims of the terrorist, communal and naxal violence-** this scheme was started in 2009 with the aim to assist families of victims of terrorist, communal and naxal violence.
- **Integrated Action Plan-** the aim of this initiative was to provide public infrastructure and services in 88 selected tribal and backward districts of the country for accelerated development. Major works taken up under the scheme include construction of

school buildings/ school furniture, anganwadi centers, drinking water facilities, rural roads, panchayat buildings/ community halls, livelihood activities, still development and training activities, etc.

- **Road Requirement Plan for Extremist Affected Areas-** the plan was initiated for improvement of road connectivity in 34 districts of eight states that are extremely affected by left wing extremism viz. Andhra Pradesh, Chhattisgarh, Odisha, Jharkhand, Madhya Pradesh, Bihar, Maharashtra and Uttar Pradesh.
- **Civic Action Programme-** under the scheme, financial grants are sanctioned to civic action programs to undertake development in the affected states. It is a successful scheme that aims to build bridges between the local population and the security forces.
- **Roshni Scheme-** It is a placement linked skill development scheme targeting 50,000 rural men and women, mostly the tribal population in the 24 worst naxal affected districts. It emphasizes special efforts to proactively cover the particularly vulnerable tribal groups (PVTGs) on a priority basis.

- **Operation Green Hunt-** it was started in 2010 with massive deployment of security forces in the naxal affected areas. It managed to bring down the number of naxal affected districts from 223 in 2010 to 90 in 2019.
- The government started the Relief and Rehabilitation Policy to bring naxalites into the mainstream.
- **Aspirational Districts Programme-** it was launched in 2018 with an aim to rapidly transform the districts that have shown relatively lesser progress in key social areas.

Conclusion

Naxalism in India is not merely a law-and-order issue but is directly related to the phenomena of under-development. Exploitation, artificially depressed wages, inadequate employment opportunities, lack of land reforms, all contribute significantly to the growth of the naxalite movement. There must be a multi-pronged composite strategy to deal with the problem of naxalism. Development initiatives should follow security forces' action closely. Through a holistic approach focusing on development and security related interventions, the LWE problem can be successfully tackled.



There is a need to ensure a right balance between the government's role in appointing or removing the police chief and the need to safeguard the Police's operational autonomy.

- Recently, the State government removed Param Bir Singh (Mumbai Police Commissioner) from his post. It brings back the focus on the long-overdue reforms require, in the process of appointing and removing police chiefs.

History of recommendations for police reforms

- In 1979, National Police Commission (NPC), suggested for an independent body for the appointment and removal of police chiefs. The rationale was to avoid Political intervention and to maintain independence of the police.
- Further, the Supreme Court (SC) of India in its judgment, in Prakash Singh Case (2006) reaffirmed the NPC suggestions.
- Further, the Supreme court entrusted the Union Public Service Commission (UPSC) to shortlist candidates. After that, the State government can appoint the police chief from this list.
- However, the Model Police Bill, 2015 placed the responsibility of

shortlisting candidates on the State Security Commission (SSCs).

What reforms are needed?

- First, need to ensure bipartisan-ship in the appointment of police chiefs. For that, the constitution of the State Security Commission (SSCs) is needed.
- For instance, Around 26 States and the Union Territories have established SSCs. However, not a single state adheres to the balanced composition suggested by the SC. Some states do not include the Leader of the Opposition, others do not include independent members.
- Also, in as many as 23 States the governments retain the sole discretion of appointing the police chief.
- Further, there are concerns over concern over non-functioning SSCs. For example, according to RTI information, only four SSCs have held meetings since 2014. As a result, the commissions still remain dominated by the political executive.
- Second, institutionalise an independent and transparent selection process for appointment and removal of police chief based on objective criteria. For instance, The Model Police Act require the SSC to shortlist can-

didates on some requirements. It includes the length of service, service record, and range of experience, and a performance appraisal of the candidates over the past 10 years.

- However, the criteria's used are more subjective rather than objective. For example, what qualifies as a "good" range of experience? Further, there is no scrutiny process to justify removals from tenure posts. This allows for the use of Subjective terms such as "on administrative grounds" or "in the public interest" to justify the removal.
- This is against the Supreme Court ruling in Senkumar vs Union of India case, 2017. The SC ruled that satisfaction of the government" alone is not a sufficient ground to justify removal from a tenure post in government. Rather, it needs to be based on verifiable material that can be objectively tested.

What needs to be done?

- a) First, objective benchmarks need to be integrated into decision-making processes, both on appointments and removals. It will prevent politically motivated actions.
- b) Second, learning from UK's example to improve transparency of the review process. UK's 'The Police Reform and Social Responsibility Act, 2011', introduced public confirmation hearings as an additional layer of check for the appointment of police chiefs. This provides the police chief an opportunity to respond to the allegations leading to their removal.

European Union's Strategy in the Indo-Pacific



Recently, the European Union (EU) approved conclusions on a European Union strategy for cooperation in the Indo-Pacific.

- The renewed EU commitment to the Indo-Pacific will have a **long-term focus** and will be **based on upholding democracy, human rights, the rule of law and respect for international law**.
- Indo-Pacific is a **region spanning from the east coast of Africa to the Pacific island states**.

Key Points

Need:

- **Intense geopolitical competition** adding to **increasing tensions on trade and supply chains** as well as in **technological, political and security areas**.
- Human rights are also being challenged. These develop-

ments increasingly threaten the **stability and security of the region** and beyond, **directly impacting on the EU's interests**.

Aim:

- To **contribute to regional stability, security, prosperity and sustainable development** at a time of rising challenges and tensions in the region.
- Promoting **rules-based multilateralism**, giving centrality to ASEAN (Association of SouthEast Asian Nations), a point also stressed by India.

Main Features of the Strategy:

- **Covid-19:**
- The EU will work together in order to mitigate the economic and human effects of the **Covid-19 pandemic** and work towards ensuring an inclusive and sustainable socio-economic recovery.

Free and Fair Trade:

- The EU's approach and engagement will look to **foster a "rules-based international order**, a level playing field, as well as an open and fair environment for trade and investment, reciprocity, the strengthening of resilience, tackling **climate change** and supporting connectivity with the EU.
- On trade partnerships, the EU will aim to **conclude free trade agreements with Australia, Indonesia and New Zealand** and take further steps towards the **Comprehensive Agreement on Investment with China**.
- It will also continue to explore **deepening economic relations with India**.
- **Security and Defence:**
- It will continue to **develop partnerships in the areas of security and defence**, includ-

ing to address maritime security, malicious cyber activities, disinformation, emerging technologies, terrorism, and organised crime.

- It has taken the decision to **extend the geographic scope of its CRIMARIO (Critical Maritime Routes) II activities from the Indian Ocean into South and Southeast Asia** with a view to contribute to safer sea lanes of communication with the EU.

CRIMARIO:

- The EU Critical Maritime Route Wider Indian Ocean (CRIMARIO) project was **launched in 2015 to improve maritime security and safety** in the Wider Indian Ocean, with a particular focus on selected countries and archipelagos in East Africa, it aims to support countries in the region to enhance their Maritime Situational Awareness (MSA).

Role for India:

- Increasing competition, power rivalry, unilateral actions challenging the multilateral order and international laws are some of the **common concerns shared by India and Europe.**
- With an **enhanced focus on their strategic relations and engagement with other like-**


minded regional players, India and EU can play a significant role in preserving an open, free, inclusive and rules based order in the Indo-Pacific.

- India's recent engagement with European powers in Indo-Pacific:
- India's **support for France's membership of the Indian Ocean Rim Association (IORA).**
- India's backing for a larger European role in the Indo-Pacific. **India has welcomed the interest of Germany and Netherlands** in building a new geopolitical architecture in the Indo-Pacific.
- Some of the **crucial areas that India and EU can work together include** joint efforts in capacity building against challenges like piracy, counter-terrorism etc and

cooperation in enhancing interoperability and domain awareness, maritime technologies, **blue economy** etc.

Way Forward

- There is a **growing realisation of the need for a larger European role in the region**, as the European strategic community has begun to acknowledge that strategic and economic interests of Europe are intrinsically linked to the Indo-Pacific region.
- Increasing convergence of interests and shared values offer scope for **deepening India-EU cooperation in the region** to secure global commons, maintain stability and support economic prosperity in a cooperative manner and together shape a stable multi-polar order.




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Forest Fires in Uttarakhand

With over 1000 incidents of forest fire reported over the last six months, including 45 in the last 24 hours alone, Uttarakhand reached out to the Centre for helicopters and personnel from National Disaster Response Force (NDRF) even as the chief minister held an emergency meeting with the state government officials.

- In an emergency meeting, the Chief Minister of the state directed the forest officials and district authorities to not sanction regularly for their staff until the situation is brought under control.
- According to the chief minister's office, over 12,000 forest personnel have been deployed for firefighting operations.
- The data from the forest Department shows that 1028 incidents of forest fire has affected over 13,159 hectares of land since October 1, 2020- after the rains- mainly in the

districts of Nainital, Almora, Tehri Garhwal and Pauri Garhwal.

- There have been reports of the death of at least 5 to 7 animals in these fires.
- This is an alarming situation because the peak time for forest fires is yet to come i.e., the third week of May when the temperature is the highest.
- The Indian Meteorological Department has predicted rains on April 6 and 7 that may bring some relief to the forest fires. but a further dry spell can worsen the situation.
- This is a worrisome situation due to dryness in the atmosphere, high temperatures and wind velocity and there are multiple fires in the state.
- The Fire Protection system in the state has been upgraded to the highest level and officers have been asked to camp at headquarters and senior officers have been assigned dis-

tricts to monitor and review the situation.

- The Chief Minister attributed most of these fires to deliberate acts by mischievous elements although officials said that it may be due to the burning of crop residue in farms.
- There have also been some deaths reported due to the forest fires in the state.

Forest Fires in India

- Forest fires are described as uncontrolled fires that destroy large parts of the forests. It causes an imbalance in nature and endangers biodiversity by destroying the habitats of plants and animals and precious lives. Incidents of forest fires in India have been on an increase in the recent years.
- According to the latest Forest Survey of India (FSI) report, 36 percent of forests in India are prone to fires, of which 95 percent were caused by anthropogenic activities.

- Major forest fire prone regions in India are the Himalayan states of Uttarakhand and Himachal Pradesh. However, such incidents have also been reported in Chhattisgarh, Madhya Pradesh, Maharashtra, Assam and Andhra Pradesh.

Causes of Forest Fires

- **Natural Causes-** Natural fires in forests generally erupt due to lightning or a sudden process of combustion of dry fuel of sawdust and leaves. Natural calamities like earthquakes and Volcanic eruptions have also sometimes led to forest fires.
- Apart from these, forest fires also occur due to spontaneous combustion of dry vegetation. With the advancement of technology, these types of fires can be predicted well in advance and firefighters help in the creation of a buffer zone to manage these fires.
- **Anthropogenic or Man made Causes-** People smoking near the vegetation area and disposing the cigarette into dry vegetation without putting it out is the most common cause of man-made forest fires. In addition to this, sometimes forest fires are arson or intentional.
- Many people who live in the forest take revenge by torching the natural resources when there is a restriction on construction or movement.

Impact of Forest Fires

- Such fires destroy the natural habitats and the intricate relationships of diverse flora and fauna which leads to loss of ecosystems and biodiversity, sometimes even to the extent of extinction of species.

- They lead to degradation of the forest resources as they are a cause for reduction of the quality of certain forest features like soil fertility, biodiversity, and ecosystems.
- Such fires can lead to huge clouds of smoke causing massive air pollution. Moreover, the air purifying capacity of many trees in the forest is destroyed in these fires.
- Trees and vegetation when burned, can lead to an increase in the greenhouse gases in the atmosphere and this can in turn result in global warming.
- Such fires kill beneficial soil microorganisms that are responsible for breaking down the soil and promoting soil microbial activities. In addition, the burning of trees and vegetation cover also leaves the soil bare, making it readily vulnerable to soil erosion, further degrading the soil quality.
- Trees and vegetation cover play a role of watershed protectors as approximately all the water comes from forest-derived water tables. When they burn, the natural protection systems for water tables, streams, and rivers get affected.

Measures by the Government to mitigate forest fires

1. National Action Plan on Forest Fires (NAPFF)- It aims at:

- Minimising forest fires by informing, enabling and empowering forest fringe communities and incentivising them to work with the State Forest Departments.
- Substantially reducing the vulnerability of the forests across diverse forest ecosystems in

the country against fire hazards.

- Enhancing the capabilities of forest personnel and institutions to fight such incidents.

2. Forest Fire Prevention and Management Scheme

- It is the only centrally funded scheme in India that provides assistance to the states in fighting forest fires.
- It has replaced the Intensification of Forest Management Scheme (IFMS).
- It provides the states the flexibility to direct a portion of the National Afforestation Programme (NAP) and Mission for Green India (GIM) funding toward forest fire work.

Way forward

- Educating the people and creating awareness about forest fires among them.
- Installation of Fire detection systems and watchtowers and network for communication
- Continuous and comprehensive Patrolling by the forest department.
- Strict approvals and warnings to those who use the forests for adventure activities and actions against those who defy the rules.
- A major and the most important cause of the increasing incidents of forest fires is the increasing global warming. For Instance, the Australian Bushfires in 2019-20. To combat this there is a need to first deal with the increasing climate change and promote sustainable development that keeps in mind the growth of human beings as well as the flora and the fauna.



Anti Defection Law - Goa Assembly case

After the interference of the Supreme Court of India, the Goa assembly Speaker recently agreed to advance the date of his decision on the disqualification petitions filed against ten former opposition party's MLAs who merged with the ruling government in 2019 from April 29 to April 20.

- Earlier, the former Chief Justice of India Sharad A Bobde asked the Solicitor General, who appeared for the Speaker's office, whether the initial date of April 29 was fixed with an eye on the fact that he would retire on April 23.
- As per the court, the Speaker had resolved the disqualification proceedings for orders on February 26, so April 29 is not acceptable by the bench and asked the Speaker to dispose of the petition as soon as possible.
- The CJI had orally observed that nobody can have vested the right to delay a plea filed

by a opposition leader, thus challenging the Speaker's delay of over 19 months to decide the disqualification petitions.

- The petitioner alleges that the 10 MLAs, purportedly claiming to form a two third of Indian National Congress in the state, decided to merge the said legislature party with the BJP and address a communication to that effect to the Speaker.
- The plea said based on the communication, the Speaker was pleased to take note of the alleged merger of INC's legislative party in Goa's Legislative assembly and allotted the 10 MLAs seats in the assembly along with the members of the BJP.



- The petition has referred to a recent judgment of the Supreme Court which is just the Speakers to decide on disqualification proceedings within a reasonable time, ideally three months.

Anti Defection Law

- The tenth schedule of the Constitution of India also known as the Anti Defection Law was added to the Constitution by the 52nd Constitutional Amendment Act, 1985 to com-

bat the “evil of political defections” in legislatures- both Central and state.

- It lays down the grounds on which the legislators may be disqualified in cases of defection by the Presiding Officer of the House on a petition by any other member of the House. The decision of the Presiding Officer is final in this regard.

Grounds of Disqualification as per the Law

- If an elected member voluntarily gives up his or her membership of a political party.
- If a member votes or abstains from voting in the house, contrary to the directions issued by his or her political party. However, if the member has taken prior permission, or is condoned by the party within 15 days from the voting or abstention, then the member shall not be disqualified.
- If any independent candidate joins any political party after his/ her election to the House.
- If a nominated candidate joins any political party after the end of six months of his election to the house.

Disqualification Procedures

- The decision on the disqualification of a member on the grounds of defection is referred to the Speaker or the Chairman of the house and his/ her decision is final in this regard.
- The proceedings in relation to defection under the 10th schedule are considered to be proceedings in parliament or the legislature of a state as is the case.

Exceptions made under the Law

- The law allows the legislators to change their party without the risk of disqualification in certain circumstances. These include:
- When there is a merger of one party into another party; provided that at least 2/3rd of its legislators are in favor of the merger.
- In such a scenario, neither the members who decided to merge nor the ones who stayed with the original party face disqualification charges.

Kihota Hollohon vs. Zachilhu (1992)

- In the judgment, the Supreme Court clarified that the 10th schedule is constitutionally valid and it neither impinges upon the freedom of speech and expression nor subverts the democratic rights of the elected members.
- It also upheld the sweeping discretion available to the Speaker/ Chairman of the House in deciding cases of disqualification of MLAs.
- However, the apex court also held that the Presiding Officer's decisions of disqualification shall be open to judicial review.

Positive implications of the Anti Defection law

- The law to a certain extent ensures that the elected representatives stay loyal to the mandate given to them by their constituents and that they do not steal the mandate for personal motives.
- Due to this, the toppling of the ruling dispensation has become a difficult task, as legislators are prevented from switching sides.

- It provides a scope to reprimand elected representatives who have defected from their party to another.
- The law helps in promoting party discipline.
- It facilitates mergers of political parties without attracting the provisions of anti defection.

Concerns with the Law

- The law restricts the legislators from voting according to their conscience and thus is a challenge to one's internal judgments.
- Over time, it has been observed that the Presiding Officer who in most cases has a political affiliation fails to perform his duties impartially.
- The Presiding Officer who is the deciding authority lacks enough judicial competence to decide on such sensitive matters.
- It impedes legislative control over the government.
- It affects the spirit of discussion and debate in the legislature.
- The difference between the nominated and the independent members under the law is found to be absurd.
- While the current law provides for disqualification, it is rendered toothless because the resigning MLAs, even if disqualified, are allowed to recontest the by elections and return to the house.

Way Forward

- As per the Dinesh Goswami Committee (1990), the disqualification provision should specifically be limited to defying the party whip in motions of confidence, money bill, and

vote of thanks to the President.

- The disqualifying authority should be vested in the Governor/ President who shall act on the advice of the Election Commission.
- Parity has to be there between the nominated and the independent members.
- The Law Commission in its 170th report recommended for the deletion of the provisions that exempts splits and mergers from disqualification.
- The Commission also recommended that pre-poll electoral fronts should be treated as political parties under anti defection and the political parties should limit the issuance of whips only to such instances when the government's stability is in danger.
- Given the rise in problems in the modern world, it is high time the legislation either reviews or implements the recommendations given by the various committees. What is currently needed is a rationalized version of the Anti Defection law.

Reforms in Tribunals

In as many as nine laws, Recently, Centre has replaced the Appellate authorities, in as many as nine laws and invested those powers in the High Court through the Tribunal Reforms (Rationalization and Conditions of Service) Ordinance 2021, which was promulgated on 4th April 2021.

- These laws are Cinematograph Act; Copyright Act; Customs Act; Patents Act; Airports Authority of India Act; Trade Marks Act; Geographical

Indications of Goods (registration and protection) Act; Protection of Plant Varieties and Farmers Rights Act and Control of National Highways (Land and Traffic) Act.

- Amendments have been introduced to the Finance Act 2017 involving the qualifications and tenure of the Chairperson and members of Tribunals.
- The tenure of Chairperson of a Tribunal has been fixed for a term of four years or till the age of 70, whichever is earlier. Members of a tribunal will also have a tenure of four years or until they turn 67.

About Tribunals

- A tribunal is an administrative body that is established for the purpose of discharging quasi judicial duties.
- The original constitution of India did not have provisions with respect to tribunals.
- They were added in the Constitution through the 42nd Amendment Act, 1976 under Article 323-A (Administrative Tribunals) and Article 323-B (Other Tribunals).
- These perform a number of functions such as adjudicate disputes, determine rights between contesting parties, make an administrative decision, review an existing administrative division, etc.

Tribunals in India

Administrative Tribunals

- Such tribunals were set-up through an act passed by the Parliament of India Administrative Tribunals Act, 1985.
- It owes its origin to Article 323

A of the Constitution.

- It adjudicates the disputes and complaints regarding the recruitment and conditions of service of persons who are appointed to the public services and posts in connection with the affairs of the Union and the States.
- The Administrative Tribunals Act, 1985 provides for three types of tribunals:
- The Central Administrative Tribunal (CAT) established by the Central government.
- The Central Government may, upon receipt of a request from any State Government in this behalf, establish an administrative tribunal for such employees from the state.
- Two or more States might also ask for a joint tribunal, which is called the Joint Administrative Tribunal (JAT), that has powers of administrative tribunals for all the requesting States.

There are tribunals for the purpose of settling various administrative and tax-related disputes, like the Central Administrative Tribunal (CAT), Income Tax Appellate Tribunal (ITAT), Customs, Excise and Service Tax Appellate Tribunal (CESTAT), National Green Tribunal (NGT), Competition Appellate Tribunal (COMPAT) and Securities Appellate Tribunal (SAT), etc.

Central Administrative Tribunal

- It has the jurisdiction to deal with matters that related to services pertaining to the Central Government employees or of any Union Territory, or local or other government under the control of the

Government of India, or of a corporation owned or controlled by the Central Government.

- It was set-up on 1 November 1985.
- It has 17 regular benches, 15 that operate at the principal seats of High Courts and the other two at Jaipur and Lucknow.
- These Benches also hold circuit sittings at other seats of High Courts.
- Composition of a Tribunal- Chairman, Vice-Chairman and Members.
- The Members of CAT are drawn from both judicial and administrative streams with the purpose of giving the Tribunal the benefit of expertise in both legal as well as administrative spheres.
- The appeals against the orders of an Administrative Tribunal are made before the Division Bench of the respective High Court where the Tribunal sits.

State Administrative Tribunal

- Article 323 B of the Constitution of India empowers the state legislatures to set up tribunals for various matters such as levy, assessment, collection and enforcement of any of the tax matters in connection with land reforms (covered by Article 31A).

SIGNIFICANCE OF TRIBUNALS

- Flexibility- The tribunals do not follow the rigid procedures and evidence audience of courts and go by the principle of natural justice for adjudication.
- Less expensive- Administrative justice through tribunals

ensures cheap and quick justice as the procedures followed by them are simple and can be easily understood by a layman.

- Relief the Courts- The tribunals have eased down the burden on the already overburdened courts with numerous suits.
- Adequate justice- Administrative tribunals have come to be the most appropriate means of administrative action in the fast changing world of today and they are also the most effective means of giving fair justice to the individuals.

CHALLENGES

- The tribunals lack sufficient autonomy in their functioning especially in terms of appointment and funding.
- The Supreme Court in Chandra Kumar case, held that the appeals made to such tribunal lies before the courts and this defeats the whole purpose of reducing the burden of the superior courts.
- Since the tribunals are mainly chaired by the retired judges appointed by the government, it may act as an allurements to the present judges who may favor the government in certain matters to gain political patronage and get appointed to such tribunals after their retirement.
- The tribunals lack adequate infrastructure to facilitate their smooth work and functions that are originally envisioned for them.
- It is often found that there is a lack of understanding of the staffing requirements of the tribunals.

WAY FORWARD

- The traditional structures and methods of functioning of tribunals need to be reformed to ensure better justice delivery.
- There needs to be some kind of judicial control over these tribunals in the interest of maintaining the rule of law and society and preserving the individual freedom
- The number of judges must be increased, the existing vacancies need to be filled, and technology must be used to bring in efficiency in the administration of justice.
- Tribunals themselves are better positioned to gauge their own administrative requirements. Therefore, they must be provided with the power to tribunals to create our sanction posts.

National Security Act, 1980

A close scrutiny of the orders by district magistrates invoking the National Security Act shows why the draconian law is so readily invoked. The NSA empowers the state to detain a person without a formal charge and without trial.

- An analysis of records shows that the draconian law was invoked in Uttar Pradesh to prevent the person from being released from judicial custody even if the accused had got bail.
- In 12 detentions under the NSA between January 2018 and December 2020, the person remained in jail for more than 200 days after the Criminal Court had granted bail.
- In 3 detentions, the persons remained in jail for more than 300 days and in one case for

325 days and in another for 308 days.

National Security Act, 1980

- The National Security Act is a preventive detention law in India. It empowers the state to detain a person without the formal charge and without trial.
- Preventive detention refers to the detainment (containment) of a person in order to keep him or her from committing future crimes and/or from escaping future prosecution.

Constitutional Provisions:

- Article 22(3) of the Constitution of India provides for preventive detention and restriction on Personal Liberty for reasons of state security and public order.
- Further, article 22 (4) provides that no law providing for preventive detention shall authorize the detention of a person for a longer period than three months unless:
- an Advisory Board reports sufficient cause for extended detention.
- The 44th Constitutional Amendment Act, 1978 tried to reduce the period of detention without obtaining the opinion of an Advisory Board from three to two months. However, this provision has not yet been brought into force and therefore the original period of three months still continues.
- such a person is detained in accordance with the provisions of any law made by the parliament.

Origin of the law

- The preventive detention laws in India date back to the early

days of the colonial British era when the Bengal regulation III of 1818 was enacted with the purpose of empowering the government to arrest anyone for defence or maintenance of law and order without giving the person recourse to judicial proceedings.

- Later in 1919, the British government enacted the Rowlatt Act which allowed the confinement of a suspect without trial.
- In the post independence era, India got its first preventive detention rule under the government of Prime Minister Jawaharlal Nehru when he enacted the preventive detention Act of 1950 that expired in 1969.
- The National Security Act, 1980 is a close iteration of the 1950 Act.

Powers given to the Government under the Act

- The NSA gives the power to the central or the state government to detain a person and prevent him from Acting in any manner prejudicial to national security.
- The government can also detain a person to prevent him from disrupting public order all for maintenance of supplies and services that are essential to the community.

Period of confinement under the Act

- The maximum period for which a person can be detained under the NSA is 12 months. However, the term can be extended if the government finds fresh evidence against the person.

Why is the law debated?

- The law is often termed as a draconian one as no basic rights are given to the people who are detained under it. This includes:
- The right to be informed of the reason for the arrest (section 50 of the criminal procedure code- CrPC)- A person who is detained under the NSA, can be kept in the dark about the reasons for his or her arrest for up to five days, and in exceptional circumstances up to 10 days.
- Even if the grounds of arrest are provided to the detained person, the government has the right to withhold the information that it considers to be against public interest to disclose.
- Section 56 and 76 of the Criminal Procedure Code also provides that a person has to be produced before a court within 24 hours of his or her arrest. No such facility is given to the persons detained under the NSA.
- As per Article 22(1) of the Constitution of India an arrested person cannot be denied the right to consult and to be defended by a legal practitioner of his or her choice.
- However, a person who is detained under the NSA is not entitled to the aid of any legal practitioner in any matter connected with the proceedings before an Advisory Board which is constituted by the Government for dealing with the NSA cases.
- The detained person also does not have the right to move a bail application before a Criminal Court.

Safeguards under the Act

- A crucial procedural safeguard that has been provided under the NSA is granted under article 22(5).
- It provides for all the detained persons with the right to make an effective representation before an independent Advisory Board, which consists of three members, and the board is chaired by a member who is, or has been a judge of the High Court.
- As provided in this Act, in every case where a detention order has been made under this Act, the appropriate government shall, within three weeks from the date of detention of the person under the order, place before the Advisory Board constituted by it, the grounds on which the detention has been made under representation if any made by the person affected by the order and in case where the order has been made by an officer.

Criticisms of the Act

- The National Crime Records Bureau (NCRB) is the agency that collects and analyzes the crime data in the country. However, there is no provision to include the cases under the NSA in its data as no FIRs are registered in such cases. Hence, it becomes impossible to trace the exact number of detentions made under the Act.
- Even if a person is in police custody, the District Magistrate can slap NSA against him; and if a person has been granted bail by a trial court, he can be immediately detained under the NSA.

- Moreover, even when a person is acquitted by the court, then also he can be detained under the Act.
- The District Magistrate, who passes the order of detention is protected under the Act as no prosecution or any legal proceeding can be initiated against the official who carries out such orders

Judicial Views on the Act

- The higher judiciary has held that the preventive detention under the NSA has to be strictly construed keeping in view through "delicate balance between Social Security and citizen freedom".
- The Supreme Court has held that to prevent the misuse of this potentially dangerous power, the law of preventive detention has to be strictly construed and meticulous compliance with the procedural safeguards has to be ensured.

Way forward

- Since the Act is more than 40 years old, changes are required to ensure that it is not used arbitrarily as this hampers the democracy and basic rights of an individual.
- The views of the Supreme Court in this regard must be held as a guideline and the law must be strictly construed and meticulously complied with procedural safeguards.

Acquittal by Benefit of Doubt

The Supreme Court has held that a public employer can reject a candidate as unsuitable if he/she had, in the past, been acquitted of



a serious crime merely on the benefit of doubt.

- **Benefit of doubt is granted to the accused when there is total absence of evidence** or in the criminal jurisprudence requiring the case to be proved beyond reasonable doubt.

Key Points

Background:

- The Petitioner in the Supreme Court cleared the recruitment for the post of constable in Rajasthan Police Service.
- However, he was not appointed in view of being tried in a criminal case.
- It was found that, though he was acquitted, the charges against him were not of a trivial nature but were serious offences and the candidate was acquitted on the "Benefit of Doubt".
- He was not honourably acquitted by the Court.

Supreme Court Observations:

- The mere fact of an acquittal would not suffice but rather it would depend on **whether it is a clean acquittal**.
- Employers would be well within their rights to consider the antecedent and suitability of the candidate.
- In this context, the employer is entitled to take into account the **job profile for which the selection is undertaken**, and

- the **severity of the charge levelled** against the candidate and
- whether the acquittal in question was an **honourable acquittal or was merely on the ground of benefit of doubt**.
- An acquittal on the benefit of doubt is quite different from an honourable acquittal.
- A person **should be honourably acquitted of a heinous crime to be considered eligible for public employment**.
- The court, however, reminded employers that the **rejection should not be mechanical** since employment opportunity is a scarce commodity in the country.
- **Honourable Acquittal And Acquittal by Extending the “Benefit of Doubt”**

The trial court after giving due consideration to the evidence placed on record and examining the witness may do any of the following:

- Convict the person.
- **Acquit the person unconditionally.** In other words, it is **Honourable acquittal**.
- The term “Honorable acquittal” is nowhere defined under Indian laws and it is the **invention of Indian judiciary**.
- An accused who is acquitted after full consideration of the prosecution evidence and prosecution has miserably failed to prove the charges levelled against the accused.
- **Acquitting the person by extending the “benefit of doubt”** or due to the failure on the prosecution’s side to prove the guilt “beyond reasonable doubt”.

Guidelines by Central Vigilance Commission

The Central Vigilance Commission (CVC) has modified the guidelines pertaining to the transfer and posting of its officials in the vigilance units of government organisations, restricting their tenure to three years at one place. The tenure may be extended to three more years, albeit at a different place of posting.

- The CVC, in its order has mentioned undue long stay of an official in a vigilance department has the potential of developing vested interests, apart from giving rise to unnecessary complaints or allegations.
- The move has been made in order to emphasize the importance of the issue and to ensure transparency, objectivity and uniformity in approach of the Commission.
- As per the modification, the personnel can have two continuous postings in vigilance units but at different places of posting and each posting can be for a maximum period of three years.
- Personnel who have been working for over three years at one place should be transferred in phases, with priority given to those who have served for the maximum period. Those having completed over five years at one place should be shifted on top priority basis.
- As per the Commission the move will be implemented in phases. The first phase of transfer/posting has to be completed by May 31, 2021 and the entire exercise of transferring all the personnel in question

should be completed by June 30.

- As per the order by the Commission, after the transfer from the vigilance unit, there would be a compulsory cooling off period of three years for the concerned personnel before they could be considered again for posting in the unit.
- Personnel, who have completed three years in the vigilance unit of an organisation, could be considered for transfer on deputation basis in the unit of another organisation, subject to the laid down rules.

Central Vigilance Commission

About CVC

- The Central Vigilance Commission (CVC) is the apex vigilance institution in India that is free of control from any executive authority, monitors all vigilance activity under the Central Government and advises various authorities in Central Government organizations in planning, executing, reviewing and reforming their vigilance work.
- **Vigilance-** A process to ensure clean and prompt administrative action to achieve efficiency and effectiveness of the employees in particular and the organization in general, as lack of Vigilance can lead to waste, losses and economic decline.
- The CVC was established by the Government in 1964. This was done on the basis of the recommendations of the Committee on Prevention of Corruption, headed by Shri K. Santhanam. In 2003, the Parliament enacted the CVC Act to confer statutory status on the CVC.

- It is not controlled by any Ministry/Department of the government and It is an independent body responsible only to the Parliament of India.

Functions of CVC

- It receives complaints on corruption or to misuse of office and recommends appropriate actions. the institutions, bodies or persons who can approach the CVC include:

1. Central Government
2. Lokpal
3. Whistle Blowers

- Since it is not an investigating agency, it gets the investigation done either through the CBI or through the Chief Vigilance Officers (CVO) in the government offices.
- It has the power to inquire into offences that are alleged to have been committed under the Prevention of Corruption Act (PCA), 1988 by certain categories of public servants.
- It presents an annual report that gives the details of the work done by the commission and points to systemic failures which lead to corruption in government departments. The report also suggests Improvements and preventive measures.

Composition

- The CVC consists of a central vigilance commissioner and not more than two other vigilance commissioners.

Appointment

- These members are appointed by the President of India on the recommendations of a committee that consists of the Prime Minister, Union Home Minister

and Leader of the Opposition (LoP) in Lok Sabha (if there is no LoP in the Lok Sabha, then the leader of the single largest Opposition party in the Lok Sabha is a part of the Committee).

Term

- The term of the Chief Vigilance Officer and other vigilance officers is 4 years or 65 years, whichever is earlier.

Removal

- The Central Vigilance Commissioner or any Vigilance Commissioner can be removed from his office only by an order of the President of India on grounds of proved misbehavior or incapacity after the Supreme Court, on a reference made to it by the President, has, on inquiry, reported that the Central Vigilance Commissioner or any Vigilance Commissioner, as the case may be, ought to be removed.

Governance of CVC

- The CVC has its own Secretariat, a Chief Technical Examiners' Wing (CTE) and a wing of Commissioners for Departmental Inquiries (CDI).
- For the purposes of investigation, the CVC depends on two external sources – the CBI and the Chief Vigilance Officers (CVO).
- The Secretariat of the CVC consists of 4 Additional Secretaries, 30 Directors/Deputy Secretaries (including two Officers on Special Duty), 4 Under Secretaries and other office staff.
- The Chief Technical Examiner's

Organisation acts as the technical wing of the Central Vigilance Commission and consists of 2 Engineers of the rank of Chief Engineers who are designated as Chief Technical Examiners; with other supporting engineering staff.

Jurisdiction of CVC

The jurisdiction of the CVC is defined under the following acts:

1. CVC Act 2003- the CVC is empowered to investigate cases related to:

- Members of All India Service serving in connection with the affairs of the Union and Group A officers of the Central Government
- Officers of the rank of Scale V and above in the Public Sector Banks
- Officers of Grade D and above in Reserve Bank of India (RBI), NABARD and SIDBI
- Chief Executives and Executives on the Board and other officers of E-8 and above in Schedule 'A' and 'B' Public Sector Undertakings
- Chief Executives and Executives on the Board and other officers of E-7 and above in Schedule 'C' and 'D' Public Sector Undertakings
- Managers and above in General Insurance Companies
- Senior Divisional Managers and above in Life Insurance Corporations
- Officers who draw a salary of Rs.8700/- per month and above on Central Government D.A. (Dearness Allowance) pattern, as on the date of the notification and as may be

revised from time to time in Societies and other Local Authorities.

2. The Lokpal and Lokayuktas Act, 2013

- The Act amends some of the provisions of the CVC Act, 2003 through which the Commission has been given the power to conduct preliminary inquiry into complaints referred to it by Lokpal in respect of officers and officials of Group 'B', 'C' & 'D', besides:
- Group 'A' officers, for whom a Directorate of Inquiry for making preliminary inquiry has to be set up in the Commission.
- The preliminary inquiry reports in such matters that are referred to it by Lokpal in respect of Group A and B officers are required to be sent to the Lokpal by the CVC.
- The Commission has also been empowered to cause further investigation (after preliminary enquiry) into such matters referred by Lokpal in respect of Group 'C' & 'D' officials and make a decision on further course of action against them.

3. The Whistleblowers Protection Act, 2014

- The Whistleblowers Protection Act, 2014- The Act makes the CVC as the competent authority:
- To receive complaints related to the disclosure on any allegation of corruption or willful misuse of power or willful misuse of discretion against any public servant and to inquire or cause an inquiry into such disclosure,

- To provide adequate safeguards against victimization of persons who make such complaints and for matters connected therewith and incidental thereto.

Limitations of CVC

- Since it is an advisory body it is often called a powerless agency with limited powers of its own.
- Multiplicity of organizations often leads to duplicity of work and reduces effectiveness of the organisation.
- Although it is a relatively independent organisation, it has neither the resources nor powers to take actions on complaints of corruption.
- The huge delay in investigation of CVC cases acts as an effective deterrent.

Conclusion

In recent years, India has emerged as one of the progressive and vibrant economies. The rapid growth in almost all sectors of the economy and huge investments being made in the country's infrastructure and other sectors throws up CVCs' challenges in the fight against the menace of corruption.

Therefore, there is greater need in such times to address the shortcomings in the system of CVC and enhance its efficiency as an organisation dealing with corruption.

Punjab's Unique Initiative to Combat Vaccine Hesitancy

To fight vaccine hesitancy Punjab Health Department has come up with a special play- Teeke Naal Jit- Victory with vaccine, which is an informative short play

about the importance of vaccination drive against coronavirus and it is being staged in the villages.

- Despite the rising number of cases in Punjab, health authorities have been finding it difficult to convince people to get vaccine shots.
- Not only common people, but a large number of health workers have also declined to take the vaccine.
- To overcome the hesitancy of the people from taking vaccines, the health Department in Punjab has come up with a unique initiative- a play that has actors from the village itself and pure educators, who are part of Rashtriya Kishore Swasthya Karyakram (RKSK).
- The play will be staged in various villages especially those where less response is received to the vaccination drive.

Vaccine Hesitancy

- Vaccine hesitancy is defined by the World Health Organization as a delay in acceptance or refusal of vaccines despite the availability of vaccination services. Vaccine hesitancy has been reported in more than 90% countries of the world.
- The WHO in a report also held that vaccine hesitancy is among the top ten threats to global health.
- It is complex and context specific varying across time, place and the vaccine itself; and is often influenced by a variety of factors.

Causes of Vaccine Hesitancy

- Misinformation- This is the main cause of vaccine hesitancy. People are particularly sus-

ceptible to misinformation due to an intricate combination of cognitive, social and algorithmic biases i.e., information overload and limited attention spans.

- **Religious Propaganda-** Some people believe that the vaccine may contain microbes, chemicals, and animal-derived products which are forbidden by religious laws.
- **Vaccine derived diseases:** Eg- the Oral Polio Vaccine (OPV) contains weakened but live poliovirus. From the vaccine, this virus is excreted by immunized children and it can move from one person to another. Due to this, the virus sticks around and mutates to a more virulent form which further raises the threat of vaccine-derived poliovirus (VDPV).
- **Social Media-** It is used in stirring fear in people by falsely blaming vaccines for unrelated diseases. It has seen a rising number of self-proclaimed experts who have been decoding the ingredients and efficacy of the vaccines through unsubstantiated claims.
- **Side Effects-** A lot of people hesitate to take vaccines especially during the initial phases of the vaccination drive due to concerns over safety, efficacy and possible side effects of the vaccine.
- **Inconvenience-** People hesitate to participate in the vaccination drive due to the difficulties that they have to face in accessing the vaccine especially when it is done through public hospitals owing to the poor conditions of public hospitals.

Approach to combat vaccine hesitancy

A 3C approach needs to be followed in order to eliminate vaccine hesitancy: Confidence, Complacency and Convenience.

- **Confidence-** It is the trust in the effectiveness and safety of vaccines, the system that delivers them, competence of the health care professionals who administer the vaccine delivery and the motives of those who established policies unnecessary vaccines. To build confidence, health care providers must provide reliable sources of information to patients and families.
- **Complacency-** It is the perception that risks of vaccine preventable diseases are low and vaccines are not necessary preventive action. To tackle this, there have to be honest conversations about acute and chronic complications of vaccine preventable diseases and personal anecdotal evidence that includes the personal experience of the provider with vaccine safety.
- **Convenience-** It is the extent to which vaccines are available, affordable, accessible, understood (language and health literacy), and appealing. Offering vaccine services at every clinic visit, before hospital discharge and during prescription pickup as well as informing patients of community resources such as immunization clinics or free or low-cost immunization services are few ways in which we can overcome the issue of convenience.
- In addition to this, other issues like lack of transportation also

emerge and social work consultation can aid in resolution of such problems.

Measures that can be adopted

- The government should focus on the swing population i.e., people who are skeptical but can be persuaded by making them aware of the scientific facts through proper communication.
- Open and honest information to be made available to the general public about the vaccine and its development. A portal can be set up for queries from the people where information is made available from credible sources.
- Giving confidence to the public by discussing the robustness of various processes involved in vaccine development — clinical trial designs, conduct, monitoring, analysis, reporting and the regulatory reviews that happen before it is approved.
- Using the celebrity effect — the ability of prominent personalities including politicians, bureaucrats, film stars and even religious leaders to influence the common population to take vaccines.
- Focusing on the development of inquisitive temper among the common masses regarding anything they read on the social media about the vaccine, its development, its efficacy or side effects to prevent unchecked sharing of misinformation.
- Use of Social Media Platforms like Facebook to counter any misinformation about vaccines as well as vaccination and spread awareness.

Conclusion

The pandemic has given India an opportunity to examine its dispensation of health care. Along with improving access, the government must seriously examine the conduct of vaccination drives and work hard to bolster public trust in it, and monitor the vaccination process for adverse reactions. Vaccine hesitancy is not an easy issue to combat and it may take more than one visit and assistance from more than one provider to put the parents and patients at ease. There needs to be a collective approach that involves the policy makers, bureaucrats, the frontline workers, civil society organizations as well as the common population to burst the myths and misinformation around vaccination.

Left Wing Extremism & Counter Insurgency Strategy

The killing of 22 security personnel by Maoists in Bijapur district of Chhattisgarh serves as a grim reminder that left-wing insurgency continues to be one of the biggest internal security threats for the country.

- LWE situation is the most serious internal threat facing the country.
- The ideology of left-wing extremism is deeply influenced by Marxist and other communist and socialist practices.
- The naxal movement came to Andhra Pradesh with peasants' revolt in tribal dominated Srikalulam region in December 1968.
- It soon spread to coastal areas and later to Telangana and Rayalaseema districts.
- LWE organizations are the groups that try to bring change through violent revolution. They are against democratic institutions and use violence to subvert the democratic processes at ground level.
- These groups prevent the developmental processes in the least developed regions of the country & try to misguide the people by keeping them ignorant of current happenings.
- A significant change came about with the merger of the People's War Group and the MCC to form the CPI (Maoist) in 2004.
- Thus, there had been a fusion of the ideology with the armed groups, both coming together for the first time.
- People's War Group, formed by Kondapalli Seetharamaiah (KS) on April 22, 1980, is the most dominant naxalite force in Andhra Pradesh.

Declining violence

- In the past few years, Maoist violence is receding.
- The government has, in fact, had some major successes in the form of arrests and surrender of important Maoist leaders.
- But this drop could be the result of a "tactical withdrawal" by the Maoists.
- The attack should thus serve as a wake-up call to those who had begun to get complacent about the Maoist threat.

Key strengths of Maoists:

- The Maoist strategy is that not only do they oppose development, development as they see it, development in a parliamentary democracy, but also they take advantage of this feeling of neglect in remote underdeveloped areas
- It appears that Maoists continue to hold on to their key strengths which include:
- a robust and efficient intelligence network;
- the devolution of authority to local commanders;
- an ability to quickly readjust their strategy;
- extensive support from local tribes and the ability to organise them into a tribal militia for short-term tactical purposes and
- domination of the local landscape.

LWE affected states:

- As many as nine Indian states are bearing the brunt of naxalism.
- Of these, Andhra Pradesh, Bihar, Jharkhand and Chhattisgarh are worst-affected while Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh and West Bengal are partially affected.
- Andhra Pradesh and Bihar remain the hot-bed of PWG and MCC operations.
- The ultra-leftist groups active in Bihar are - The most dreaded 'Maoist Communist Centre', CPI(ML) Liberation, CPI (ML) Peoples War, Mazdoor Kisan Sangram Samiti, CPI(ML) Janashakti, CPI(ML) Towards New Democracy and small groups like Santosh Rana group, Shantipal group, Kanu Sanyal group and Jeetender group.

The Counterinsurgency (COIN) strategy of India

- India began using the COIN strategy with its first full-blown insurgency in Nagaland in the 1950s.
- People-centric approach: One strategy says that given the Maoist insurgency posturing itself as a “people’s war”, the mandate is for a people-centric approach of “winning hearts and minds” that is built on the notions of competitive state-building to address economic and governance deficiencies.
- Enemy-centric approach: The other strategy argues that an enemy-centric approach predicated on kinetic operations is best suited for the Maoist insurgency, where the fear of the population seceding from India is remote.
- Most of the states have raised special forces on the lines of Greyhounds, and are being given rigorous training in “counter-guerrilla” tactics and jungle warfare.
- Greyhounds: It was raised in 1989 as an elite anti-naxal force.
- Mixed strategy: But the Andhra government based its COIN strategy on a judicious mix of the enemy-centric and population-centric approaches.
- The successes achieved by the Greyhounds, Andhra’s elite special forces, could only be consolidated through the robust implementation of short-gestation-period developmental works in the Maoist-affected rural areas.
- Moreover, the erstwhile state is also the first state to have a

comprehensive surrender-cum-rehabilitation policy.

- Surrender and rehabilitation policies: After the 2014 guidelines of the central government were brought out, many states have crafted attractive surrender and rehabilitation policies.
- A surrender and rehabilitation policy only works when there is sustained military pressure on the Maoists.
- SAMADHAN: It stands for
 - S- Smart Leadership,
 - A- Aggressive Strategy,
 - M- Motivation and Training,
 - A- Actionable Intelligence,
 - D- Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas)
 - H- Harnessing Technology,
 - A- Action plan for each Theatre, and
 - N- No access to Financing.
- This doctrine is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels.

Way forward:

Indian counterinsurgency has to work with a dual objective of defeating the insurgents militarily and fully quell the insurgent impulses.

- Superior state guerilla: A Maoist guerrilla can only be countered by a state guerrilla.
- The operating environment of these special forces has to demonstrate the employment of superior tactics to defeat the insurgents, something which at times seems lacking. Besides, the Maoists have mastered the

art of exploiting the grey zone areas.

- The jungles around the inter-state borders have always been the preferred hiding spaces for the Maoists.
- Synergy between states: States must do more to synergise their efforts by launching coordinated operations, thereby denying Maoists any space for manoeuvrability.
- These efforts need to be supplemented by well-crafted development schemes. Proper implementation and timely disbursement of benefits add to the credibility of the government policies.
- It is also important to segregate the population from the insurgents both operationally and ideologically.
- Employing mixed strategy: This will need institutional overhauls.
- The conflict over the distribution of resources can be mended with economic development, but the bigger challenge would be to create a system where the tribal population feels that the government is representative, not repressive.
- Opening negotiation channels and policies like surrender and rehabilitation can give such a representative sense to the rebels that the government cares for them if they (rebels) are willing to shun the violent path.

The asymmetry in the distribution of power cannot solely be ironed out by just economic policies, it is critically important to create a system where the distribution of power is not controlled by the traditional elite.

Place of Worship Law

The Supreme Court (SC) has asked the Centre to respond to a plea challenging the Places of Worship (Special Provisions) Act, 1991. In agreeing to examine the law, the court has opened the doors for litigation in various places of worship across the country including Mathura and Varanasi

- Passed in 1991, the law seeks to maintain the “religious character” of places of worship as it was in 1947 — except in the case of Ram Janmabhoomi-Babri Masjid dispute, which was already in court.
- The law was brought in at the peak of the Ram Mandir movement, exactly a year before the demolition of the Babri Masjid.
- The reasons given were that it was adopted to curb communal tension.

Key Provisions

- The clause declares the objective of the law describes it as an Act to prohibit conversion of any place of worship and to provide for the maintenance of the religious character of any place of worship as it existed on the 15th day of August, 1947.
- To maintain the religious character of a place of worship to be the same as it was on August 15, 1947 and that no person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- It provides that All suits, appeals or other proceedings regarding converting the character of a place of worship, that were pending on August 15,

1947, will stand delayed when the Act commences and no fresh proceedings can be filed.

- However, legal proceedings can be initiated with respect to the conversion of the religious character of any place of worship after the commencement of the Act if the change of status took place after the cut-off date of August 15, 1947.

Exemptions

- Act not to apply to Ram Janma Bhumi/Babri Masjid;
- Any place of worship that is an ancient and historical monument or an archaeological site, or is covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958; $\frac{3}{4}$ A suit that has been finally settled or disposed of; and
- To sites where any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.

Issue

- The petitioner has challenged the law on the ground that violates secularism.
- It is also argued that the cut-off date of August 15, 1947 is “arbitrary, irrational and retrospective” and various religious sects from approaching courts to “re-claim” their places of worship which were “invaded” and “encroached” upon by “fundamentalist barbaric invaders.
- Argument is given that the Centre has no power to legislate on “pilgrimages” or “burial grounds” which is under the state list.
- However, the government had said it could make use of its

residuary power under Entry 97 of the Union List to enact this law. Entry 97 confers residuary powers to the Centre to legislate on subjects that are not enumerated in any of the three lists.

Views of SC

- SC manifests the secular values of the Constitution and strictly prohibits retrogression (conversion).
- SC said that, ‘In providing a guarantee for the preservation of the religious character of places of public worship as of the date of Independence.
- The norms of the act implement the Fundamental Duties under Article 51A and are hence positive mandates to every citizen as well.

Chief Election Commissioner

Recently, the President appointed Election Commissioner Sushil Chandra as the Chief Election Commissioner (CEC).

- He replaces **Sunil Arora** who has retired.

Key Points

About the Election Commission of India:

- The **Election Commission of India (ECI)** is an **autonomous constitutional authority** responsible for administering **Union and State election** processes in India.
- It was established in accordance with the Constitution on **25th January 1950 (celebrated as national voters' day)**. The **secretariat** of the commission is located in **New Delhi**.

- The body administers elections to the **Lok Sabha, Rajya Sabha, and State Legislative Assemblies** in India, and the **offices of the President and Vice President in the country**.
- It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate **State Election Commission**.

Constitutional Provisions:

- **Part XV (Article 324-329) of the Indian Constitution:** It deals with elections, and establishes a commission for these matters.
- **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
- **Article 325:** No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll on grounds of religion, race, caste or sex.
- **Article 326:** Elections to the House of the People and to the Legislative Assemblies of States to be on the basis of adult suffrage.
- **Article 327:** Power of Parliament to make provision with respect to elections to Legislatures.
- **Article 328:** Power of Legislature of a State to make provision with respect to elections to such Legislature.
- **Article 329:** Bar to interference by courts in electoral matters.

Structure of ECI:

- Originally the commission had only **one election commissioner** but after the **Election**

Commissioner Amendment Act 1989, it has been made a multi-member body

- The Election Commission **shall consist of the Chief Election Commissioner (CEC) and such number of other election commissioners**, if any, as the President may from time to time fix.
- Presently, it consists of the CEC and two Election Commissioners.
- At the state level, the election commission is helped by the **Chief Electoral Officer** who is an IAS rank Officer.

Appointment & Tenure of Commissioners:

- The **President appoints** CEC and Election Commissioners.
- They have a **fixed tenure of six years**, or up to the age of 65 years, whichever is earlier.
- They enjoy the **same status and receive salary and perks as available to Judges of the Supreme Court (SC)** of India.

Removal:

- They can **resign anytime** or can also be **removed before the expiry of their term**.
- The CEC can be removed from office only **through a process of removal similar to that of a SC judge** by Parliament.

Procedure of Removal

- Judges of High Courts and SC, CEC, **Comptroller and Auditor General (CAG)** may be removed from office through a motion adopted by Parliament on grounds of **'proved misbehaviour or incapacity'**.
- Removal requires a **special majority of 2/3rd members**

present and voting supported by more than 50% of the total strength of the house.

- The Constitution **does not use the word 'impeachment'**, for the removal of the judges, CAG, CEC.
- The term **'Impeachment'** is **only used for removing the President** which requires the special majority of 2/3rd members of the total strength of both the houses which is not used elsewhere.
- **Limitations:**
- The Constitution has **not prescribed the qualifications** (legal, educational, administrative or judicial) of the members of the Election Commission.
- The Constitution has **not specified the term** of the members of the Election Commission.
- The Constitution has **not debarred the retiring election commissioners from any further appointment by the government**.

Powers and Functions of ECI:

Administrative:

- To **determine the territorial areas** of the electoral constituencies throughout the country on the basis of the **Delimitation Commission Act of Parliament**.
- To prepare and **periodically revise electoral rolls** and to register all eligible voters.
- To **grant recognition to political parties** and allot election symbols to them.
- Election Commission **ensures a level playing field** for the political parties in election fray, through strict observance by them of a **Model Code of**

Conduct evolved with the consensus of political parties.

• **Advisory Jurisdiction & Quasi-Judicial Functions:**

- Under the Constitution, the Commission has **advisory jurisdiction in the matter of post election disqualification** of sitting members of Parliament and State Legislatures.
- The **opinion of the Commission in all such matters is binding on the President or, as the case may be, the Governor** to whom such opinion is tendered.
- Further, the **cases of persons found guilty of corrupt practices at elections** which come before the SC and High Courts are also **referred to the Commission for its opinion** on the question as to whether such person shall be disqualified and, if so, for what period.
- The Commission has the **power to disqualify a candidate** who has failed to lodge an account of his election expenses within the time and in the manner prescribed by law.

Register of Indigenous Inhabitants of Nagaland

Recently, an apex body of Naga tribes, Naga Hoho has cautioned the Nagaland Government with respect to preparation of the Register of Indigenous Inhabitants of Nagaland (RIIN), seen as a variant of Assam's National Register of Citizens.

Key Points

Background:

- The State government had formed a **three-member**

Committee in 2019 for studying, examining, and recommending the implementation of RIIN.

• **Functions of RIIN Committee was to determine:**

- The eligibility criteria to be an indigenous inhabitant.
- Authority to authenticate claims of being indigenous.
- Place of registration as indigenous inhabitant.
- The basis of claims of being indigenous.
- The nature of documents that will be acceptable as proof of being indigenous.
- However, the **exercise was suspended following protests** from community-based and extremist organisations.
- Since then the Nagaland government has been trying to **revive the RIIN exercise that was launched in July 2019** with the objective of **preventing outsiders from obtaining fake indigenous certificates** for seeking jobs and benefits of government schemes.

Register of Indigenous Inhabitants of Nagaland:

- The RIIN will be **prepared after an extensive survey with the help of a village-wise and ward-wise list of indigenous inhabitants based on official records.** Also, It will be prepared under the supervision of each district administration.
- **No fresh indigenous inhabitant certificate will be issued after the RIIN is completed** except for children born to the State's indigenous inhabitants who will be issued indigenous certificates along

with birth certificates. The RIIN database will be updated accordingly.

- The RIIN will also be **integrated with the online system for Inner-Line Permit**, a temporary document non-inhabitants are required to possess for entry into and travel in Nagaland.
- The entire exercise will be **monitored by the Commissioner of Nagaland.** In addition, the state government will designate nodal officers of the rank of a Secretary to the state government.

Naga's Concern:

Exclusion of Nagas:

- If RIIN implemented the identification process with **1st December, 1963** (the day Nagaland attained statehood) as the cut-off date for determining the permanent residents of the State, it is likely to **exclude Nagas who have come from beyond the boundaries of Nagaland.**
- **Loss of Property:**
- Naga tribes living in Assam, Manipur and Arunachal Pradesh in India and in Myanmar have a legitimate claim to their **ancestral homeland.**
- There are thousands of Nagas who have bought lands, built houses and settled down in Nagaland for several decades.
- In the absence of records such as land pattas, house taxes paid or enrolment in electoral rolls prior to **1st December, 1963** many procedural anomalies will crop up even within the so-called pure Nagas of Nagaland.

- **Can Be treated as Illegal:**
- The non-indigenous Nagas could be treated as “illegal immigrants” and their lands and property confiscated. **The idea of the Nagas as a people to live together and their aspiration to live with self-determination will be irreparably damaged.**

Nagas

- Nagas are a **hill people who are estimated to number about 2.5 million (1.8 million in Nagaland, 0.6 million in Manipur and 0.1 million in Arunachal states)** and living in the remote and mountainous country between the Indian state of Assam and Burma.
- There are also Naga groups in Myanmar.
- The Nagas are not a single tribe, but an **ethnic community that comprises several tribes** who live in the state of Nagaland and its neighbourhood.
- Nagas belong to the **Indo-Mongoloid Family**.
- There are **nineteen major Naga tribes**, namely, Aos, Angamis, Changs, Chakesang, Kabuis, Kacharis, Khain-Mangas, Konyaks, Kukis, Lothas (Lothas), Maos, Mikirs, Phoms, Rengmas, Sangtams, Semas, Tankhuls, Yamchumgar and Zeeliang.

Way Forward

- In an already volatile region where the **Armed Forces (Special Powers) Act 1958** is routinely extended, it is **best that Nagaland proceeds with caution in this enterprise**. The RIIN should not ultimately become a vehi-

cle to make outsiders of insiders.

- The NRC experiment in Assam witnessed extremely divisive political posturing. Other Northeastern states are sure to be watching with keen interest what is unfolding in Assam and Nagaland. **Emotive political issues cannot be allowed to drive the compiling of a registry of citizens.**

Opportunity Lost to reform education system

The pandemic offered an opportunity for bureaucrats and administrators to re-examine the educational system, but nothing has changed.

- As a result of the second wave of the COVID-19 pandemic, students in schools and higher education institutions have once again been affected, as they were last year.
- Instead of assisting institutions, faculty, and students in overcoming uncertainty, administrators focused on excessive bureaucratic centralization.
- The phenomenon exposed the administrative inadequacies of the past year.

Why it is a lost opportunity for bureaucrats and administrators?

The pandemic provided the bureaucrats and administrators an opportunity to initiate sustainable reforms in the educational system in the following ways-

- Collaborate with teachers to discuss their concerns -
- Could consider promoting better student-teacher relationships.

- The exam system could have been reformed. They could create a better system for determining the qualifying grade for students to progress to the next level of study.

However, administrators lost this opportunity because-

- Rigid emphasis on rote learning.
- Failure to acknowledge that test results are not the only indicators of a student's skills.
- Unwillingness to collaborate with teachers.
- They ignored plans to evaluate the mental health of teachers, non-teaching staff, and students.

What needs to be done?

Decision-makers need to learn from previous mistakes and take the following steps to find a sustainable solution.

1. Bureaucratic administrators should consult with Academic stakeholders before any decisions.
 2. Institutions need to reconsider their approach -
- Schools and higher educational institutes need to find alternative forms of assessment for promoting students.
 - Need to come up with new ways to assess the teaching and learning process.
 - Make academic evaluation more rigorous and sustainable encouraging students to write creatively. The concept of open-book exams must be considered.
 - The bureaucracy must acknowledge that ‘one order fits all’ approach to improving educational system is not feasible.

Way forward

- Administrators need to concentrate on assisting institutions, faculty, and students in overcoming uncertainty. Thus, they should decentralize decision-making.
- It is important to avoid responses such as canceling and/or postponing exams and remaining fixated with the completion of the academic term.

Bail to Infant's Mother is a Welcome Change

Long pending prison reforms, overcrowded prisons made the situation of prisoners in India, very cruel. The state of women's prisons is much worse than male prisons. But so far the courts do not consider this condition in granting bail to the persons.

Status of women prisoners:

- So far, bail jurisprudence does not empathize with women and children, or the elderly.
- Similarly, the courts do not consider Custodial rape, pregnancy, or childbirth and degrading treatment of women prisoners as cruel, inhumane.
- While granting bail the court does not consider the rights of children of imprisoned parents.

The recent case:

- In *State v. Suman Kumari* case, Delhi High Court made a departure from bail jurisprudence. The court regarded the Rights of children of an imprisoned parent and provided bail to a woman.
- This was a case of dowry murder allegation. In this case, the

court mentioned that the imprisoned woman (accused sister-in-law of the dead victim) was also the mother of a 21-month infant. From December 9, 2020, the mother was in prison.

The reasons stated by the court for granting bail:

The court granted bail by mentioning that the Imprisonment of mothers amounts to the "de facto detention of their infant/toddler wards". The court also observed,

1. This is a serious violation of Article 37 of the United Nations Convention on the Rights of the Child, 1989.
2. Furthermore, the court also held this as a violation of the Juvenile Justice Act, 2015. As under Section 3 of the JJ Act, the best interests of the child are considered paramount. Further, the Act suggests "institutionalization of the child as a step of last resort".
3. The court also points out that the child under "de facto detention" must not suffer worse custodial conditions than the children in conflict with the law.
4. In this case, the court considered "empathy" as "the ground for bail".

Impact of the Covid-19 in Prisons:

This order is more significant as the Covid-19 virus attacks increased in prison. The Covid-19 cases in prisons include,

- In Tihar Jail, so far (up to April 17) 117 prisoners and 14 jail staff found infected with the Covid-19.

- 55 prisoners and 4 jail staff infected with the Covid-19 from the Sabarmati Central jail.
- In Maharashtra, 198 prisoners get infected due to the Covid-19.

Disaster Management Act, 2005 on prisons:

- At the beginning of the Covid-19, the Disaster Management Act, 2005 (DMA) mentioned overcrowded prisons as hotspots of mass contagion. Further, as per the Act, the state government needs to take mandatory mitigation, rescue, or relief works.
- Section 61 of the DMA mentions that the state must provide compensation and relief to the victims of a disaster. The Act also mentions the state shall not discriminate based on the ground of sex, caste, community, descent, or religion.

Earlier committees on women prisoners:

1. In 2020 the NHRC recommended state governments for releasing women prisoners. Especially the pregnant women and mothers with children from prisons. But, most states did not fulfill the recommendations.
2. Similarly, in 2020, the high-powered committee of the Delhi High Court did not release all pregnant women or mothers with infants. The high-powered committee mentions the type of offence, duration of sentence, nationality, etc as a condition to release women in prisons. The committee upheld the Prison rules above the DMA.

The high-powered committee failed to read the DMA along with the prison rules. If it read it together, then the most vulnerable population in Prisons such as women, children, and transgender prisoners might receive relief, mitigation, and compensation.

Suggestions to improve the condition of vulnerable prisoners:

1. The court while hearing the case, shall consider the **release of women, children, and trans-prisoners**. Also, the court should provide support for their survival.
2. The court should consider situations like Custodial rape, pregnancy, or child-birth and **move towards Gender-Sensitive prisons**. This is feasible by creating a system of imprisoning women, children, sexual minorities irrespective of their offense, nationality, or exceptional laws.
3. The Courts also need to **strengthen the law's legal journey for humanity** instead of historical attachment to the custody of prisoners.

Ordinance Making Power has been mis-used increasingly

Recently, the central government Re-promulgated the Commission for Air Quality Management in National Capital Region and Adjoining Areas Ordinance, 2020

- This raises questions over the constitutional validity of issuing ordinances and that of

repromulgating ordinances, that too without their ratification by Parliament.

About Ordinance making power of executives

- The **Article 123 and Article 213** empowers the central and State governments to make laws when Parliament or the State Legislature are not in session.
- The Constitution states that the ordinance will lapse at the end of six weeks from the time Parliament or the State Legislature next meets.
- Originally, it was conceived as an emergency provision and was expected to be used rarely.

Misuse of the Ordinance making power

- **One**, the number of Ordinance issued by the centre has increased from an average of 7.1 per year in the 1950s to 15 in 2020.
- **Two**, States have also been using the ordinance route to enact laws. For example, in 2020, Kerala issued 81 ordinances, while Karnataka issued 24 and Maharashtra 21.
- **Three**, further repromulgation of Ordinance by both centre and state is also increasing. For instance, The Indian Medical Council Amendment Ordinance by the centre and Kerala University of Digital Sciences, Innovation and Technology by Kerala are two recent examples.

What is the court's view regarding promulgation and promulgation of the Ordinance?

- In the **D.C. Wadhwa case**, the court took up the issue of promulgation of 256 ordi-

nances, of which 69 were repromulgated in Bihar between 1967 and 1981.

- The supreme court ruled that repromulgation of ordinances is against **Constitutional morality** and is an **act of Colourable legislation**. Because through ordinance making power the Executive encroaches into the law-making function of the Legislature.
- Further, the court said that there was no such practice of repromulgation by the centre.
- Later, the Centre too started to follow the lead of Bihar. For example, in 2013 and 2014, the Securities Laws Ordinance promulgated 3 times, Land Acquisition Act twice.
- In 2017, the matter came up again in the Supreme Court. This time, the court gave a strong verdict. It declared that Re-promulgation of ordinances is a fraud on the Constitution and a subversion of democratic legislative processes.
- However, the Centre and states are not following this judgement. It is evident in the current case of the Commission for Air Quality Management.

The principle of Separation of Powers and Checks and balances empowers the legislatures and the courts to check the encroachment of the Executive. However, by allowing for repromulgation of ordinances, the Legislature and the court are abdicating their responsibility to the Constitution.

Protecting Children in the Age of AI

The children of the current generation are exposed to a world that

is increasingly powered by virtual reality and artificial intelligence (AI). For example, Alexa, YouTube wormholes,

- The Industrial revolution 4.0 has brought two main concerns towards Child's safety and growth opportunities.
- One, universal access to digital connectivity
- Second, secured digital space for Children

What are the possible threats to Children due to their premature exposure to AI?

- **First, concerns over Child safety.** For instance, many digital platforms such as Fortnite, Battle Royale, provide online space for children to socialise with their friends. But such platforms also serve as "honeypots" for child predators. Surveillance or supervision by parents over Child's Online activity has also become more difficult due to the Digitalisation of education.
- **Second, digital addiction** is another major concern among children. The AI-driven video games and social networks are designed to keep Children attracted to their online sites. This makes them prey to digital addiction.
- **Third, it disturbs their cognitive growth** at a very young age. For instance, their earlier exposure to the negative side of the digital space (such as fake news, conspiracy theories, hype, online bullying, hate speech) disturbs their understanding of this world.
- **Fourth, concern over hacking and spying on children.** For instance, many AI toys are used to promote enhanced literacy,

social skills, and language development. However, they also collect data on the children in the absence of any regulatory framework. Recently, Germany banned Cayla, an Internet-connected doll, because of concerns that it could be hacked and used to spy on children.

- **Fifth,** though the usage of AI in education improves educational outcomes it also brings new challenges. **For instance,** pedagogical approaches to the child's needs such as intelligent tutoring systems, tailored curriculum plans, engaging interactive learning experiences can improve educational outcomes. However, algorithms can also amplify existing problems with education systems. For example,
- **One,** failure in AI's algorithm can deprive thousands of students of college admissions and scholarships.
- **Two,** open access to educational and performance data on children can harm their future opportunities

What needs to be done?

- **First,** need to reduce the **digital divide gap** by providing Internet access to all children. According to UNICEF and the International Telecommunication Union (ITU), nearly two-thirds of the world's children do not have access to the Internet at home.
- **Second,** need for legal and technological safeguards to regulate AI products. For example,
- **Technological safeguards like-** trustworthy certification and rating systems,

- **Legal safeguards like-** banning anonymous accounts, restriction on algorithmic manipulation, profiling and data collection, etc.,
- **Third, the need** to create greater awareness among parents, guardians, and children on how AI works to prevent them from future online risks.
- **Fourth,** enforcing ethical principles of **non-discrimination and fairness** in the policy and design of the AI system.
- **Fifth,** need to develop online culture tools that help prevent addiction and also promote attention-building skills, social-emotional learning capabilities.
- **Sixth,** Laws and policies to prevent a range of abuses and violence, such as the National Policy for Children (2013), can be extended for children in a digital space.

A recent, landmark decision by the UN Committee on the Rights of the Child to implement the Convention on the Rights of the Child and fulfilling all children's rights in the digital environment is a step in the right direction towards ensuring Ethical AI for Generation AI.

Need to Strengthen the Secondary Health Care Services

The Indian health system is generally divided into the primary, secondary and tertiary level.

- The second wave of Covid-19 has exposed the deficiencies in the current reactive approach of the government.
- People are dying due to a lack of access to treatment facilities

rather than inadequate solutions to treat the virus.

Reactive approach:

- Under this, the government transforms well-performing facilities at the tertiary level into state-of-the-art COVID-19 hospitals.
- Similarly, many temporary COVID-19 facilities are created by hiring buildings and open spaces providing only beds.
- The government has also created many first-line treatment centres under this approach.
- This approach is being adopted in the majority of states.

Concerns associated with Reactive approach:

- People are unable to access their routine hospital services from these facilities. Because routine hospitals are turned into COVID facilities.
- The temporary structures without adequate infrastructure were unable to cater to the needs of patients in real-time situations.
- First-line treatment centres are failing to generate trust among people and were shut down when the cases went down.

Therefore, many experts are now advising the government to leverage the potential of the secondary level.

New Approach of using Secondary Level Health Services:

- Under this, the functional facilities at the secondary level can be converted into exclusive COVID-19 care centres. It will be useful to treat those patients who don't need ICU support.

- In rural areas, the Community Health Centre (CHCs) can cumulatively add up to 50000-75000 beds.
- A CHC covers a population of 80,000-1,00,000 in rural areas.
- It functions as the first referral unit for curative care services referred from primary health centres (PHCs).
- The PHC (Primary Health Centres) must be strengthened to cater to the needs of people for other curative care services.
- In urban areas, states must develop peripheral hospitals at the secondary level within the government sector. Ideally, 100-150 bedded hospitals for every 3 lakh population.

Benefits of the Secondary Level Health Services:

- It will reduce the workload on tertiary care especially in states like Bihar, Uttar Pradesh and Chhattisgarh, which possess poor health infrastructure.
- Specialists for these secondary centres can be easily directed from district hospitals or medical colleges. Thereby providing better feasibility.
- These new centres can be used for sample collection and vaccine delivery as well. As the centres are already functional and command a certain level of trust.
- Post the Pandemic, these facilities can return to their normal work and won't be closed like temporary structures.

Way Forward:

- The states must leverage the potential of this new secondary level approach.
- They should provide the sec-

ondary level units with sufficient funds and personnel so that they can duly function as COVID-19 care centres.

World Press Freedom Index 2021

India has ranked 142nd yet again out of 180 nations in the recently unveiled World Press Freedom Index.

- The index is **published each year by** the international journalism not-for-profit body, **Reporters Without Borders (RSF)**.

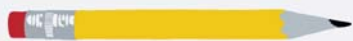
Key Points

About the World Press Freedom Index:

- It has been published every year since 2002 by **Reporters Sans Frontieres (RSF)** or Reporters Without Borders.
- Based in Paris, RSF is an independent NGO with consultative status with the **United Nations, UNESCO, the Council of Europe and the International Organization of the Francophonie (OIF)**.
- OIF is a 54 french speaking nations collective.
- The Index **ranks countries and regions according to the level of freedom available to journalists**. However it is **not an indicator on the quality of journalism**.
- The **parameters include** pluralism, media independence, media environment and self-censorship, legislative framework, transparency, and the quality of the infrastructure that supports the production of news and information.

2021 World Press Freedom Index

Selected countries (change in ranking from 2020 shown in brackets)



1. Norway (--)

2. Finland (--)

3. Sweden (+1)

...



13. Germany (-2)

...



33. UK (+2)

...

44. USA (+1)

...

150. Russia (-1)

...

153. Turkey (+1)

...

158. Belarus (-5)

...

174. Iran (-1)

...

177. China (--)

...



180. Eritrea (-2)

Global Scenario:

- **Journalism**, the main vaccine against disinformation, is **completely or partly blocked** in 73% of the 180 countries.
- Only 12 of the Index's 180 countries (7%) can claim to offer a **favourable environment for journalism**.
- **Covid-19 pandemic** has been used to perfection by nations to control the spread of information.
- The Report has **raised concern about the larger Asia-Pacific region** as several nations in an attempt to curb freedom of

press have in place **draconian laws on 'sedition,' 'state secrets' and 'national security'**.

- Norway has topped yet again for the fifth year in the row, followed by Finland and Denmark.
- Eritrea is at the bottom meanwhile China is ranked 177, and is only above North Korea at 179 and Turkmenistan at 178.

India's Performance Analysis:

- India was ranked 142 in the year 2020 as well, thus showing no improvement in the environment it provides to its

journalists.

- India has fared poorly amongst its neighbours with Nepal at 106, Sri Lanka at 127 and Bhutan at 65. Pakistan is a close follower at 145th spot.
- India is among the countries classified "**bad**" for journalism and is termed as one of the most dangerous countries for journalists trying to do their jobs properly.
- The report has blamed an **environment of intimidation created by the nationalist government for any critical journalist** often brandishing them as anti state or anti national.
- The **situation is worrying in Kashmir**, where incidents of harassment of reporters by police and paramilitaries have surfaced.

Reasons Behind India's Poor Performance:

- Journalists are exposed to every kind of attack, including police violence against reporters, ambushes by political activists, and reprisals instigated by criminal groups or corrupt local officials.
- The journalists have often been subjected to **coordinated hate campaigns** on social networks.
- Such campaigns are **particularly violent when the targets are women**.

Freedom of Press

- The Constitution, the supreme law of the land, guarantees **freedom of speech and expression under Article 19**, which deals with 'Protection of certain rights regarding freedom of speech, etc.'

- Freedom of press is not expressly protected by Indian legal system but it is **impliedly protected under article 19(1) (a) of the constitution**, which states - "All citizens shall have the right to freedom of speech and expression".
- In 1950, the Supreme Court in **Romesh Thappar v. State of Madras** observed that freedom of the press lay at the foundation of all democratic organisations.
- However, Freedom of press is also **not absolute**. It faces certain restrictions under Article 19(2), which are as follows-
- Matters related to interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

New CJI Needs to Address Present Issues in Judiciary

The new Chief Justice of India - N.V.Ramana- must seriously consider the Challenges in Judiciary. He must free himself from the bias in constituting benches. Also, he should take concrete steps to revitalise the administration of justice. There are certain serious challenges in Judiciary. One of the most important ones is to reform the Judiciary to provide "Justice to all".

Constitution on Supreme Court:

1. The framers of the Constitution understood the importance of the oath of office of judges of the

Supreme Court of India (SC). They carefully designed its language. o The oath contains "without fear or favour" to "uphold the constitution and the laws". These words show the significance and stress the court to a ferociously independent.

2. Similarly, Article 50 of the Constitution provides "The State shall take steps to separate the judiciary from the executive in the public services of the State"

Constituent Assembly debate on Separation of Judiciary:

- K T Shah moved an amendment to Article 50 proposed an important amendment. He proposed "separation of powers as between the principal organs of the State. I.e., the Legislative, the Executive, and the Judicial. He mentions the separation of Judiciary alone will result in the following. Such as,
- This will make Judiciary open to suspicion from the Executive and the Legislative
- The separation of Judiciary and Executive will also rule out the possibility of translation from a high judicial office to an equally high executive office and vice versa.
- Over a period of time, the Judiciary will suffer from their personal privileges or personal ambitions.
- Overall, this will affect the civil liberties in the country.
- On the other hand, Shibban Lal Saxena was of the opinion that the complete independence of the Judiciary from the state was an important one.

- He mentions that the High Courts at that time were are not independent. They are influenced by the political consequences of their actions.
- So he wanted the future Judiciary to be free from these influences.
- Further, he also mentioned that the Supreme court has to observe the principles inhere influence of government in the Judiciary.
- But B R Ambedkar rejected these views. Furthermore, he was of the opinion that the chances of influencing the conduct of a member of the judiciary by the Government are very less. o He predicted that the judiciary will very rarely decide the cases between citizens and the Government.
- He also predicted that the judiciary will decide the cases in which the Government has very little or no interest at all.
- But history shows even a great man can go wrong. Today the Judiciary is deciding numerous cases in which the government has a direct interest. CJI being a Master of the Roster is constituting these benches and allocate matters.

Challenges in Judiciary: There are various challenges in Judiciary. These are,

- The SC is expected to look for strict accountability from the legislature and executive. Moreover, the SC also corrects any violation of the Constitution and laws. But this is not happening in reality. There are many instances where the court sided executive of the day and not stand for the people of India.

- The Judiciary is also facing few fundamental challenges. Such as, o Millions of cases pending in Judiciary o Quality of Judges and Judiciary o Organisational issues in the Judiciary such as gender gap in Judiciary, etc. o Challenges to integrity and impartiality of Judiciary.
- All these challenges in the Judiciary deprive and elude Justice to the common man, especially the vulnerable sections of society. The present CJI also highlighted this deprivation of Justice

Suggestions to improve the Judiciary:

1. The Preamble of the Indian Constitution begins with “We, the people of India”. So the powers of the Judiciary is also come from the people, like the executive and the legislature. The Judiciary has to accept this.
2. Revitalising the administration of justice: This is feasible if the CJI take concrete steps such as a. Freeing himself from the bias in constituting benches and allocating cases b. He can seriously introspect and review the actions of his immediate predecessors,
3. All this will restore the “rule of law” and the proper fulfilment of the provisions of the Constitution.

During the NJAC judgment (2015) one of the Judges observed that the decisions of CJI have immeasurable political and financial consequences. Further, he also mentions the farreaching public interest of CJI's decisions. So, the

current CJI has to make serious efforts to address these challenges

Maharashtra's Two-Child Norm

A woman officer from the Maharashtra Prison Department was dismissed from service after an inquiry revealed that she violated the Maharashtra Civil Services (Declaration of Small Family) rules because she suppressed the information from the authorities that she has three children.

What is the 'two children' service rule for Maharashtra government employees?

- Maharashtra is one of the few states in the country that have a 'two children' policy for appointment in government jobs or even for the elections of some local government bodies.
- The Maharashtra Civil Services (Declaration of Small Family) Rule of 2005 defines a small family as wife, husband and two children and stipulates that a person is not eligible for a job with Maharashtra Government if he or she has more than two children after 2005.
- The rules mandate filing a small family declaration at the time of applying for a government job.
- The definition of child under these rules does not include adopted children.
- The rules also empower the state government to give relaxation in 'just and reasonable' manner and mandates recording such reasons.
- Other states such as Rajasthan, Madhya Pradesh, Andhra

Pradesh and Telangana, Gujarat, Odisha, Uttarakhand and Assam have similar kind of children policy for appointment to government services

Analysis of the Provision

- Leading by example: These mandatory norms were formulated for Civil servants with an intention to set an example before citizens for following two-child policy for population control.
- Tool of Population Control: As a policy it was also meant to discourage people from having more than two children by barring them from the prospects of government service.
- Penal Provisions to deter violations: There have been many cases in the past where employees have continued lying about the number of children by using various means. Some people have also been charged with IPC provision for 'criminal breach of trust by public servants
- Lackadaisical Implementation: The disqualifications of serving employees under the rules has been done in rare cases. In most instances, cases come to light when someone complaints to authorities about an employee having more than two children.

Conclusion

While only a few states in the country have made mandatory rules for government employees and local level elections, the two child norm is something that calls for more informed consensus on the issue and wider implementation.

Demands for Delinking of State and Religion

Some religious groups in Tamil Nadu are demanding delinking of state from religious affairs. However, minimal state intervention to promote justice and equality is permitted by the constitution.

- Amidst the electoral process, some Religious groups are demanding delinking of state and religion in Tamil Nadu.
- They are opposing laws like Tamil Nadu Hindu Religious and Charitable Endowments (HR&CE) Act 1959. The law allows the state to intervene in the affairs of Hindu public endowments.
- Under this, the government can appoint a State Commissioner for general superintendence over all Hindu religious endowments.
- The commissioner will further appoint executive officers to temples.
- They will ensure that the funds are being properly applied. Arguments by protestors in favour of delinking:
- First, intervention by the state is against the secular and democratic credentials of India.
- Second, intervention undermines their freedom of religion which is guaranteed by the constitution under Articles 25 and 26.
- Article 25 gives the freedom of conscience and the right to freely profess, practice, and propagate religion.
- Article 26 protects group rights. It grants to every "religious denomination" the right:

to establish institutions; to manage its own affairs in matters of religion; also, to own and acquire property; and administer that property in accordance with law

- Third, there is an unequal degree of control amongst religions. They argue that a lenient attitude is shown towards other religions like Islam and Christianity.

Arguments against Delinking:

- No credible successor: Apart from the state, no institution or group can curtail the evil practices surrounding a religion.
- Strengthening Evil practices: Delinking might uphold the interest of dominant communities and strengthen the evil hierarchical division in society. For instance, the government of Madras formulated a law in 1927 to intervene in the management of religious establishments. As powerful castes and communities within the Hindu fold appropriated control over them.
- Indian Concept of Secularism: The constituent assembly adopted a model based on the notion of principled distance and not complete isolation like the western model. It allows intervention for establishing a free and egalitarian society.
- Constitutional Provisions: Articles 25 and 26 are subject to public order, health, and morality. This gives ample scope to the state to frame a law regulating any economic, financial, or other secular activity associated with religion. Using this, the government of Madras enacted a Hindu Religious and Charitable

Endowments Act in 1951. It was later replaced by the 1959 Act.

- Judicial Backing: The supreme court in Shirur Mutt Case (1954) case upheld the 1951 Act. The court said the act was in consonance with the state's power under Articles 25 and 26.
- Laws for other religions: There are laws for other religions as well. The amount of intervention depends on the gravity of the situation. For instance, the Waqf Act 1995 gives the government substantial supervisory control over the management of properties dedicated for religious purposes under Muslim law.

Way Forward:

- Complete state isolation is not possible as per the constitutional directives. Although the deficiencies in HR&CE law must be re-examined on its merits.
- People should constantly demand transparency and hold the state responsible to the administrative standards prescribed under the law.

Joint Logistics Node

The Chief of Defence Staff General Bipin Rawat has operationalised the third Joint Logistics Node (JLN) in Mumbai.

- **Other** operationalised JLN's are in **Guwahati and Port Blair**.

Key Points

Significance of Joint Logistics Nodes:

- These JLN's will provide **integrated logistics cover to the Armed Forces** for their small arms ammunition, rations, fuel, general stores, civil hired trans-

port, aviation clothing, spares and also engineering support in an effort to synergise their operational efforts.

- It would accrue advantages in terms of **saving of manpower, economical utilisation of resources**, besides financial savings.
- This is the **precursor to the joint logistics command** which is being planned and is **imperative for the optimisation of the combat potential of integrated theatres**.
- One of the means to achieve jointness is through the **setting up of integrated theatre commands** for the best use of military resources to fight future battles.

Integrated Theatre Command:

- An integrated theatre command envisages a **unified command of the three Services**, under a single commander, for geographical theatres (areas) that are of strategic and security concern.
- The commander of such a force **will be able to bear all resources at his disposal**—from the Army, the Indian Air Force, and the Navy—with seamless efficacy.
- The integrated theatre commander **will not be answerable to individual Services**.
- Integration and jointness of the three forces **will avoid duplication of resources**. The resources available

under each service will be available to other services too.

- The services will get to know one another better, **strengthening cohesion in the defence establishment**.
- The Shekatkar committee has recommended the **creation of 3 integrated theatre commands**—northern for the China border, western for the Pakistan border, and southern for the maritime role.

Present Tri-Services Command:

- The **Andaman and Nicobar Command (ANC)** is a theatre command, which is headed by the chiefs of the three services in rotation.
- It was **created in 2001** to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca by increasing rapid deployment of military assets in the islands.
- The **Strategic Forces Command** was **established in 2006** and is a functional tri-

services command. It looks after the delivery and operational control of the country's nuclear assets.

Chief of Defence Staff

About:

- He is in the **rank of a four-star General** with salary and benefits equivalent to a Service Chief.
 - The **retirement age for the CDS is 65 years**, which is three years more than the retirement age of the three service chiefs.
 - The creation of a CDS was **suggested by the Kargil Review Committee (KRC) in February 2000**.
- Role of CDS:** Fundamentally, the CDS will perform two roles:
- **First Role:** The CDS will act as the **principal military adviser to the defence minister** on tri-Services issues.
 - **Second Role:** The CDS will **lead the Department of Military Affairs (DoMA)** dealing with the three services.


ANALOG
IAS ACADEMY



ANALOG IAS ACADEMY IS PROUD TO CONTRIBUTE

61

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M V Satya Sai Karthik AIR 103	Keerthana H S AIR 167	Shailaja Das AIR 190



India Russia Talks

An important round of discussion between India and Russia take place on 6th April, 2021, between the green glove visiting Russian Foreign Minister Sergey Lavrov and External Affairs Minister of India.

- Russian Foreign Minister, accompanied by Moscow's special envoy on Afghanistan, Zamir Kabulov, is expected to brief the Indian side about Russian plans regarding the difficult peace process underway in Afghanistan.
- The meeting will also provide India with a window to share its frank assessment about the continuing scenario in eastern Ladakh along the Line of Actual Control (LAC).
- The visit by the Russian foreign minister coincides with the tour of India by the US special presidential envoy for climate, John Kerry.
- The US embassy's spokesperson said that Washington viewed India as an important partner in future clean energy, research, development and deployment.
- Mr. Lavrov recently visited China where both the countries put up a joint front against the US.
- India on the other hand, has called upon China to withdraw from the remaining friction points along the LAC following the spirit of disengagement that was achieved at Pangong Tso earlier.
- The presence of Moscow's special envoy on Afghanistan at the discussion will provide a first-hand briefing on the latest Russian moves on Afghan front. He has argued for engaging the Taliban for a fruitful negotiation.
- Russia recently held a summit 'one Afghanistan' on March 18th, 2021, where India was not invited.
- The present meeting is therefore being interpreted as a move to update New Delhi about the latest on the Afghan issue.
- Another major item that is expected to feature in the current talks is the pending delivery of the Russian S 400 missile defense system to India
- India is expected to receive the first S 400 system later this year.
- The delivery may attract U.S. sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA).
- Despite the differences, the other shared ties have remained strong. The Prime Minister of India, visited Russia's Vladivostok to participate in the 20th India Russia annual summit and the 5th eastern Economic Forum.
- This was the first Indian Prime Minister's visit to the Russian Far East which gave a new direction, new energy and new speed to the bilateral relations between the two countries.
- As India and Russia both desire a multipolar world, they are equally important for each other in fulfilling each other's national interests. However, going by the changing geopolitical scenario around the globe, the relations between the two countries are not as good as it used to be in the Cold War era.

Importance of Russia for India

- Defence- Russia has remained the largest importer of defence equipment to India.
- Nuclear Energy- Russia recognises India's need to develop nuclear energy for peaceful purposes. In December 2014, the Department of Atomic Energy (DAE) and Russia's Rosatom signed the Strategic Vision for strengthening cooperation in peaceful uses of atomic energy between India and Russia. Kudankulam Nuclear Power Plant (KKNPP) is being built in India with Russian cooperation.

India Russia Relations

- Russia has been an all-weather friend of India for a long time. The relationship with the country is a key pillar of India's foreign policy.
- The bilateral ties in recent times have suffered minor drawbacks mainly due to India's inclination to the West and Russia's growing relationship with China.

- Strategic- considering strong ties between Russia and China, India sees it as an actor that can influence China amidst increasing clashes between India and China. Russia recently organised a trilateral meeting among the foreign ministers of Russia, India, and China following deadly clashes in the Galwan Valley in the disputed territory of Ladakh.
- Space cooperation - The year 2020 marked the 45th anniversary of the launch of India's first satellite "Aryabhata" on a Russian (then USSR) launch vehicle "Soyuz". Both sides are also exploring the possibility of cooperation in manned space flight.
- Combating terrorism- India and Russia have been working closely to finalize the comprehensive convention on international terrorism as clearly as possible.
- Emerging New Sectors of Economic Engagement- apart from the traditional areas of cooperation like weapons, hydrocarbons, nuclear energy and diamonds, there are several new sectors of economic engagement that are likely to be large in the near future. These include- mining, agro industrial, and high technology including robotics, nanotechnology as well as biotechnology.
- In addition to this, India's presence in the Russian forest and in the Arctic is likely to expand in the near future and the connectivity projects may get a boost too.
- Support at Multilateral Forums- Russia has been a supporter of

India's candidacy for permanent membership of the United Nations Security Council as well as the Nuclear Suppliers Group (NSG).

Major Concerns regarding India-Russia Relations

1. India's growing inclination to the West: China's expansionist foreign policy has forced India to shed its past hesitations and actively pursue closer relations with the West, especially the US. This can be seen in a determined restart of the Quad process and a clearer enunciation of a free and inclusive Indo-Pacific by both India as well as the US.
2. Russia's growing inclination to the East: The Western countries have imposed harsh economic sanctions on Russia after its annexation of Crimea in 2014.
 - Russia has responded to these efforts to isolate it, by revving its own "Pivot to the East" Policy.
 - The most distinct results of this include the markedly improved relations with China, and better ties with Turkey, Iran, and Pakistan.
 - Russia's Pivot to the East policy is not in synergy with that of the US and this in turn affects the relationship between India and Russia suffers.
3. Russia's decision to supply M-35 Hind attack Helicopters to Pakistan has further alarmed the Indian defense establishment.

Way Forward

- India must rebuild on its strengths and concerns with the Russians.

- Both the countries need to revitalize their earlier agreement on sharing intelligence for a joint strategy on terrorism.
- India needs to pursue and facilitate Russia's engagement in the Indo Pacific as it could contribute to make the Indo Pacific truly free and inclusive.
- There is a need to promote a mutually beneficial trilateral cooperation between Russia, India and China that could contribute towards the reduction of mistrust and suspicion between India and China. The RIC (Russia-India-China) Forum can act as a platform for such an engagement.
- India and Russia continue to share a common strategic rationale for their relationship.
- Apart from bilateral synergies, the two countries are members of various multilateral organizations like BRICS, RIC, G20, East Asia summit and SCO. These provide avenues for cooperation on issues of mutual importance and must be used effectively by both the countries.

Issue of Chinese Disengagement from Ladakh

India hopes that China will work with it to ensure disengagement of troops in the remaining areas of eastern Ladakh at the earliest, and asserted that the de-escalation of tension alone will lead to restoration of peace and tranquility in the border areas and provide conditions for the progress of bilateral ties between the two countries.

- In February 2021, India and China decided to finally reach an agreement on the disengage-

ment at Pangong Lake that has been at the heart of the recent LAC tensions.

- Both sides agreed to a withdrawal of frontline personnel, armored elements, and also proposed the creation of a buffer zone that will put a temporary moratorium on patrolling in the disputed lake.

• **India- China Border**

- India shares a 3488 kilometer long boundary with China. however it is unfortunate that the entire boundary is disputed.
- The line which delineates the boundary between the two countries is popularly known as the McMahon Line, after its author Sir Henry McMahon.
- In 1913, the British India government had called a trip a tight conference, where the boundary between India and Tibet was formalized after a discussion between the Indians and Tibetans.
- A convention was adopted, which resulted in the delimitation of the Indo Tibetan boundary. This boundary is not accepted by China which terms it as illegal.
- In 1957, China occupied Aksai Chin and built a road through it. This move by China was followed by intermittent clashes along the border that finally resulted in the border war of 1962.

After this war, the boundary known as the Line of actual Control (LAC) came into existence. It is a military held line.

China also asked India to vacate the heights it occupied in an effective counter move in the Kailash range.

- This engagement procedure between the two countries is a promising start towards the restoration of peace and tranquility in the border areas.
- It is a significant step forward and it has provided a good basis for resolution of other remaining issues along the Line of Actual Control in the western sector.
- The two sides had detailed exchange of views on the remaining issues both at the senior commanders' meeting and discussions held under the Framework of Working Mechanism for Consultation and Coordination on Border Affairs.

Border Dispute between India and China

- The border between India and China is not clearly demarcated throughout and there is no mutually agreed Line of actual Control (LAC).
- The LAC is divided into 3 sectors: Western, Eastern and the Middle.
- The boundary dispute in the western sector (Ladakh) what means to the Johnson line that was proposed by the British in the 1860s and extended up to the Kunlun Mountains and put Aksai Chin in the then princely state of Jammu and Kashmir. India used this line and claimed Aksai Chin as its own. China however did not recognize it and it accepts the McDonald line that puts Aksai Chin under its control.
- In the middle sector i.e., Himachal Pradesh and Uttarakhand, the dispute is a minor one and India and China

have exchanged Maps on which they broadly agree.

- In the eastern sector that is Arunachal Pradesh and Sikkim, the dispute is over the McMahon line in Arunachal Pradesh. This was decided in 1914 in a meeting of representatives of China, British India and Tibet in Shimla. Though the Chinese representatives at the meeting initiated the agreement, they subsequently refused to accept it. The Tawang tract claimed by China was taken over by India in 1951.

History of India- Border Standoffs

1. 1967

- Tensions started to increase along the two mountain passes, Nathu La and Cho La, That connected Sikkim, which was then a Kingdom and protectorate of India and China's Tibet autonomous region.
- A scuffle broke out when the Indian troops began laying barbed wire along the Indian recognized India China border.
- The scuffle soon escalated after a Chinese military unit began firing artillery shells at the Indians.
- The ensuing conflict killed more than 150 Indians and 340 Chinese.
- India prevailed as it destroyed Chinese fortifications in Nathu La and pushed them further back into their territory near Cho La.
- The change in positions however meant that China and India had different and conflicting ideas about the location of the Line of Actual Control.

2. 2013

- After decades of patrolling the border, Chinese platoon pitched a camp near Daulat Beg Oldi in April 2013.
- The Indians soon followed and set up their own base that was less than 1000 feet away from the Chinese base.
- The camps were later fortified by troops and heavy equipment.
- By May 2013, the two sides had agreed to dismantle both encampments, but the disputes about the location of the Line of Actual Control (LAC) still persisted.

3. 2017

- India and China engaged in a standoff at Doklam Plateau, an area of the Himalayas that is controlled by Bhutan.
- The Chinese set to work building a road in the Doklam plateau in June 2017.
- The Indian troops carrying weapons and operating bulldozers confronted the Chinese with the intention of destroying the road.
- This was followed by a standoff where soldiers threw rocks at each other and the troops from both sides suffered injuries.
- In August 2017, both the countries agreed to withdraw from the area and China also stopped the construction of the road

4. 2020

- The current disengagement process between the two countries is to resolve the 2020 standoff in Ladakh.
- Violence broke out in the Galwan Valley on the India

China border and claimed the lives of about 20 Indian soldiers.

- The Valley is strategically located between Ladakh in the West and Aksai Chin in the East, which is currently controlled by China as part of its Xinjiang Uighur autonomous region.
- At the western end of it is the Shyok River and the Darbuk-Shyok-Daulat Beg Oldie (DSDBO) road, whose eastern mouth lies not far from China's vital Xinjiang Tibet road, now known as the G219 highway.
- The Chinese soldiers also crossed the LAC around the Galwan River Valley and moved into the Indian Territory at multiple locations in eastern Ladakh, across the LAC leading to the high levels of tensions between India and China.
- The reasons for the Chinese interventions include infrastructure development along the Line of Actual Control, reorganization of Jammu and Kashmir global backlash against China for mishandling of gold 19 under growing India US proximity.

The Disengagement Process

- India and China agreed to resolve the nine-month military standoff along the Line of Actual Control in Ladakh and the Chinese and Indian troops on the southern and northern shores of Pangong Tso began a synchronized and organized disengagement in line with the consensus reached between the Corps commanders in January, 2021.
- The disengagement process for now seems restricted to

the North and South banks of Pangong Tso.

- Both the sides agreed to remove the forward deployment in a phased, coordinated and verified manner.
- China agreed to pull its troops on the North bank towards the East of Finger 8 and India agreed to position its forces at its permanent base at Dhan Singh Thapa post near Finger 3. Similar action was agreed to be taken by both the parties in the South Bank area as well.
- The two sides also agreed that the area between Finger 3 and Finger 8 will become a non patrolling zone temporarily, till both sides reach an agreement through military and diplomatic discussions to restore petroleum.
- The North and South banks of Pangong Tso are two of the most significant and sensitive regions when it comes to the recent standoff that began in May 2020. This is because the area marked the beginning of the standoff and is one of the areas where the Chinese troops had come around 8 kilometer deep West of India's perception of the Line of Actual Control.
- After this action, India also repositioned its troops on the North bank to occupy the Heights overlooking Chinese positions on the North bank as well.

Way Forward

- India should pitch hard to club the Depsang Plains issue along with the Ladakh border dispute and find a holistic solution to both of them.
- The response by India should not be confined to just manag-

ing the border dispute but also extend to attack Chinese commercial interests in India and aligning itself more closely with its quad partners, especially in the maritime domain.

- India should explore other routes like diplomatic and militaristic conquest of China. India also needs to establish formal diplomatic ties with Taiwan.
- The crisis created in Ladakh should be looked upon as an opportunity to carry out the long pending defence reforms in India like the military's internal organization, rise in pension expenditure, etc.

Exercise La Perouse

Indian Navy Ships INS Satpura and INS Kiltan along with P8I Long Range Maritime Patrol Aircraft are participating, for the first time in multilateral maritime exercise La Pérouse, being conducted in the Eastern Indian Ocean Region from 5th to 7th April 2021.

- Post conduct of La Perouse, the Indo-French Naval exercise "Varuna" is scheduled in the Western Indian Ocean, wherein UAE too shall be participating.

Key Points

About the Exercise:

- The first edition of La Pérouse joint exercise, initiated by France in 2019, included ships from Australia, Japan and the US.
- The exercise is named after the eighteenth century French Naval explorer.
- India's participation in 2021 completed the QUAD force

representation in the French led Naval Exercise.

- QUAD is a grouping of India, USA, Australia and Japan which aims to safeguard the interests of democratic nations in the Indo-Pacific region and address global challenges.
- It will witness complex and advanced naval operations including surface warfare, anti-air warfare and air defence exercises, weapon firing exercises, cross deck flying operations, tactical manoeuvres and seamanship evolutions such as replenishment at sea.
- It will provide an opportunity for these five like-minded, high-end naval forces to develop closer links, sharpen their skills, and promote maritime cooperation throughout a free and open Indo-Pacific.

Naval Significance of Indo-Pacific:

- The Indo-Pacific is slowly but surely turning into a serious Naval Theatre for multinational activities with a vision to establish a free, open, inclusive and a rule-based ordering of the Indo-Pacific to support the freedom of navigation and peaceful cooperative use of the seas.
- The goal is to respect and adhere to the international laws like the United Nations Convention on the Law of the Sea (UNCLOS) and peaceful resolution of territorial sea disputes.
- The role of the QUAD navies in the IOR (Indian Ocean Region) has been well illustrated by the effective cooperative

engagement capabilities of the multi-national Naval powers through naval exercises like formation sailing, live fire drills, Search and Rescue (SAR) operations etc.

- Navies of member countries of QUAD participated in Malabar wargaming exercise in November 2020.
- On the other hand, China endeavours to establish a defensive perimeter around its seas (Yellow Sea, East China Sea and part of South China Sea) by following a sea denial policy in these regions.

QUAD+ France Pacific Ocean Concerns:

- The region of Pacific Islands stretches from Hawaii in the north to Tonga in the south, and Easter Island in the east to New Caledonia in the west.
- US interest in the Indo-Pacific region has always been well illustrated with the fact that US Indo-Pacific Command established after World War II is the largest unified command.
- France has a direct strategic and economic stake in New Caledonia, French Polynesia, and Wallis and Futuna. France is a member of the Pacific Community and the Secretariat of the Pacific Regional Environment Programme (SPREP).
- Japan although has trade ties with China but has always been suspicious of China's growth as a military power. China's assertiveness closer to Japanese waters and airspace have been a testing time for Japan.

- **Indian Navy** has always maintained a tactical advantage over the IOR to ensure compliance to the internationally established Rules of the Road (ROR) for the seas.
- This has been respected by the world (like declaration of warships transiting IOR etc.), but Indian Navy has **observed and reported multiple sightings of undeclared Chinese ships and submarines** suspiciously lurking within the IOR.

India-Seychelles Relations

Recently, a virtual meet was held between the Prime Minister of India and the President of Seychelles.

Key Points

Events at the Meet:

- **Joint Inauguration:**
- Inaugurated the **new magistrates' court building in Mahé** constructed with a USD 3.5-million, a **1 MW solar power plant** built at a cost of USD 3.4 million, and **10 community development projects** in Seychelles.
- All the projects were built by the **help of India**.
- India has so far taken up **29 small people-oriented development projects in Seychelles**, while the 1MW solar project was built in addition to installing solar systems at **146 government buildings and domestic households**.
- The solar plant will meet the electricity needs of around **400 houses round the year**.
- **Fast Patrol Vehicle:**
- India handed over a **fast patrol vessel (PS Zoroaster)** to the island nation.



- The 48.9-metre patrol boat was built by **Garden Reach Shipbuilders and Engineering** (under the administrative control of the Ministry of Defence) at a **cost of Rs. 100 crore** and has a **top speed of 35 knots** and an **endurance of 1,500 nautical miles**.
- The vessel will be **used for multi-purpose operations**, such as patrolling, anti-smuggling and anti-poaching operations, and search and rescue.
- India **gifted similar vessels to the Seychelles in 2005, 2014 and 2016**.

India's Stand:

- Seychelles is central to India's vision of **Security and Growth for All in the Region (SAGAR)**.
- India is **honoured to be a partner of Seychelles** in the development of its security capabilities and in meeting its infrastructural and developmental needs.

Seychelles Stand:

- **India is a reliable and trusted partner.**
- India's precious donation of **50,000 doses of Covid-19 vac-**

cines had **helped Seychelles in moving towards the goals of achieving 70% herd immunity** by the end of April 2021 and opening up the economy.

- Seychelles was the **first country** to receive the Covid vaccine from India.

India-Seychelles Relation

Background:

Diplomatic ties were established with Seychelles after its independence in **1976**.

- When Seychelles attained freedom, a contingent from the **Indian Naval Ship, INS Nilgiri**, took part in the **Independence Day celebrations**.
- Since then the tradition of Indian military participation at the Seychelles National Day celebrations has continued till date.
- An **Indian Mission** was established in **1979 in Victoria**, Seychelles with the High Commissioner based in **Dar-es-Salaam (Tanzania)** and concurrently accredited to Seychelles.
- The **first resident High Commissioner** was appointed

in 1987, while Seychelles opened its resident mission in New Delhi in early 2008.

Economic Relation:

- India exported goods worth USD 84.49 million and imported goods worth USD 5.27 million from Seychelles during the financial year 2018-19.
- **Tax Information Exchange Agreement (TIEA)** between India and Seychelles was signed in August 2015. Seychelles is also keen to sign the **Double Tax Avoidance Agreement (DTAA)**.

Energy & Environment:

- **Blue Economy** Protocol between India and Seychelles was signed in August 2015.
- Recently, India has been accepted as an observer of the **Indian Ocean Commission**, of which Seychelles is a member.
- With the ratification of the **International Solar Alliance (ISA)** Framework Agreement in September 2017, Seychelles has officially become one of the Founding Members of ISA.
- **ISA is an Indian Initiative.**

Cultural Relations:

- With a significant presence of **Indian Diaspora** in Seychelles, cultural contacts between the two countries have been primarily community-driven with support from the two governments.
- At the initiative of prominent **Person of Indian Origin (PIO)** associations in Seychelles, several Indian cultural troupes regularly visit Seychelles for performance.

- In June 2018, **Cultural Exchange Programme (CEP)** was signed with Seychelles to mark the friendship and goodwill between the two countries.

Indian Community:

- The number of PIOs with Seychelles citizenship is estimated to be around 10,000 (or 11% of the population), which is significant in a country with a total population of 96,000 (April 2019).
- There are about 10,000 Indian citizens holding Gainful Employment Permits, who are mostly workers in the construction sector, shop assistants and a few professionals.

Defence:

- India and Seychelles have an elaborate architecture of defence and security cooperation that has deepened over the years with the growing piracy menace and other economic offences in the strategic **Indian Ocean region**.
- **India gifted and installed six coastal surveillance radar systems in Seychelles** in 2015 enabling better coastal security for Seychelles.
- The **Seychelles government has leased the Assumption Island to the Indian Navy** to build an overseas base of operations there.
- Developing infrastructure on **Assumption Island in Seychelles is a key piece in India's proactive maritime strategy** as it counters China's moves in the Indian Ocean region.
- Developing its infrastructure is being regarded as a "strategic asset" in India's arsenal.

SAGAR

- Security and Growth for All in the Region (**SAGAR**) was launched in 2015. It is **India's strategic vision for the Indian Ocean Region (IOR)**.
- Through **SAGAR, India seeks to deepen economic and security cooperation with its maritime neighbours** and assist in building their maritime security capabilities.
- Further, **India seeks to safeguard its national interests** and ensure Indian Ocean region to become inclusive, collaborative and respect international law.
- The key relevance of **SAGAR emerges when seen in conjunction with India's other policies** impacting the maritime domain like **Act East Policy, Project Sagarmala, Project Mausam**, India as 'net security provider', focus on **Blue Economy** etc.

Way Forward

- Seychelles has been a **strategic destination for several major powers** with vested interests in the region, however India's image and visibility in Seychelles is very high as compared to others.
- The **geo-strategic importance of Seychelles's location remains undiminished** in contemporary times, and will become enhanced and **China is fighting to get an upper hand which India must not allow**.
- There is also a **need to strengthen shared efforts of both the countries to combat drug trafficking, IUU (Illegal, unreported and unregulated) fishing, piracy and climate change** while protecting the ocean ecosystem.

India – Russia looks for Reset

The year 2020 witnessed a break in the annual India-Russia bilateral summit. Before this, the leaders of two countries met every year for the last 2 decades.

- Russia's Foreign Minister visit aimed at preparing the ground for the next India-Russia bilateral summit.

Outcome of the visit:

- A joint statement was released on areas of cooperation and collaboration.
- The diverging issues were less focused like views over Afghanistan.
- The Russian foreign minister was not able to meet the Indian PM. This was an unprecedented event and shows the existence of numerous concerning issues between the countries.

Concerning Issues in India-Russia relations:

- Indo-Pacific region: Russia doesn't welcome the use of the term Indo-Pacific. Because it symbolizes US leadership, thus it prefers to use the term 'Asia Pacific'.
- QUAD Group: Russia views the grouping as a political-military alliance against the Russia-China grouping. Furthermore, the US wants to use the grouping as a tool to counter China's rise as a superpower.
- Declining India-China relations: The recent border clashes in Galwan region have marked a new low in relations. On the other side, there has been an enhanced collaboration between Russia and China. For instance, Russia accounted for 77% of China's arms imports in 2016-20.

- Russian closeness with Pakistan: Russia is increasing its proximity with Pakistan as seen especially in the defense sector. Consequently, it is now Pakistan's second-largest defense supplier, accounting for 6.6% of its arms imports in 2016-20.
- CAATSA: Many Russian companies are listed as adversaries under the CAATSA (Countering America's Adversaries Through Sanctions Act). This may impair future Russia-India interaction.

Importance of Russia:

- All-weather Friend: The bilateral relations between the countries had stood the test of time. Russia provided constant support to India since its independence.
- Defence Cooperation: The Stockholm International Peace Research Institute (SIPRI) records that Russia supplied 49% of India's arms imports in 2016-20.
- India's Strategic Interest: The geographical location of Russia and India automatically demands cordial relations amongst them. Because this would fulfill India's strategic interest in Central Asia and West Asia. Further, it will help in materializing projects like the International North-South Transport Corridor.

Way Forward:

- India needs to carefully glide through the new alliances in the world order. The gliding must enable the country to maximize its global influence.
- Further, the country should leverage Russian potential in its future endeavors like India's manned space program.
- Both the countries should cooperate on current commit-

ments like a \$1 billion Indian line of credit for projects in the Russian Far East and activation of a Chennai-Vladivostok maritime corridor.

India-Cuba Relations

The retirement of Raul Castro as the first secretary of Cuba's ruling Communist Party brings to an end the six-decade-long rule of the "historic generation", who, under the leadership of Fidel Castro, captured power in 1959 through an armed revolution.

- Earlier in January 2021, the US State Department had **designated Cuba as a State Sponsor of Terrorism** for repeatedly providing support for acts of international terrorism in granting safe harbour to terrorists.

Key Points

History of Cuba:

- From the 15th century, it was a **colony of Spain until the Spanish-American War of 1898**, when Cuba was occupied by the United States and gained nominal independence as a de facto United States protectorate in 1902.
- In 1940, Cuba attempted to strengthen its democratic system, but mounting political radicalization and social strife culminated in a **coup and subsequent dictatorship under Fulgencio Batista in 1952**.
- Open corruption and oppression under Batista's rule led to his ousting in January 1959 by the 26th of July Movement, which afterwards established **communist rule under the leadership of Fidel Castro**.
- Since 1965, the state has been governed by the **Communist Party of Cuba**.

- **The country was a point of contention during the Cold War** between the Soviet Union and the United States, and a nuclear war nearly broke out during the **Cuban Missile Crisis of 1962**.
- In 2019, a **new Constitution was approved** which officially recognizes the right to private property, while also reassuring the central government's authority over the regulation of production and land.

India-Cuba Relations:

Political:

- India was amongst the first countries to extend **recognition to Cuba after the 1959 Revolution**. Both countries have maintained close contacts with each other in various international fora, such as the **United Nations (UN), Non-Aligned Movement (NAM), World Trade Organization (WTO)**, etc.
- India has been supporting Cuba against US supported resolutions at the **UN Human Rights Council** and also consistently voted in favour of Cuban sponsored resolutions in the UN General Assembly calling for lifting of US sanctions against Cuba.
- Cuba **supports India's inclusion as a permanent member in the restructured UN Security Council**.
- Cuba also **voted in favour of India's candidature for Non-Permanent Seat in UNSC**.
- Cuba has also joined the **International Solar Alliance**, an India-France initiative.

Economic:

- Bilateral trade between India and Cuba stands at **USD 38.81 Million** (as of 2017).

- India and Cuba agreed to collaborate in the areas of **Biotechnology, Homeopathy** and the **traditional system of medicine** during the visit of the President of India to Cuba in 2019.
- India provides development assistance to Cuba in various sectors, and **in January 2019 made a donation of 60 tractors** with accessories, medicines and medical equipment to the island.

Cultural:

- In Cuba, Yoga and Vipassana meditation are practiced. Interest in **Ayurveda** and Indian Naturopathy is increasing.
- **Rabindranath Tagore's** birth anniversary is celebrated every year.
- In May, 2007, a bust of Rabindranath Tagore donated by the **Indian Council for Cultural Relations (ICCR)** was unveiled in Old Havana.
- There is a bust of Mahatma Gandhi and a statue of **Mother Teresa** in Havana.
- Cuba also celebrated **International Day of Yoga, Mahatma Gandhi's 150th birth anniversary** and 550th anniversary of **Guru Nanak Dev**.

Way Forward

- Both Cuba and India have been united for many years and **there is common ground in their struggles to achieve a multi-polar world**. Both countries are great friends, however these **magnificent political ties must be developed more in the economic and commercial field**.

India Pakistan Agreement on Consular Access

An Indian fisherman named Ramesh Taba Sosa is the recent victim of an inhuman and crooked system involving India and Pakistan. Sosa died in a prison hospital in Malir Jail, Karachi, Pakistan and his mortal remains have not been returned yet.

- There is no guarantee when his family in Nanavada, in Gujarat, will be able to conduct his last rites.
- Sosa was arrested in May 2019 when his fishing boat entered Pakistani waters. His sentence in the Pakistani prison ended on July 3, 2019, but neither he was sent back home nor he was given consular access till his death. This is an issue of basic human rights.
- In 2008, India and Pakistan signed the Agreement on Consular Access. Section 4 of the agreement states that the governments of both nations would provide consular access. This has to be provided within three months to citizens of another country, under arrest, detention, or imprisonment in the other country.
- Section 5 of the agreement provides that within one month of confirmation of the national status and completion of sentences both governments should release and return people.

What are the impacts of not implementing an agreement on consular access?

- More than 300 Indian fishermen are in Pakistan's

custody in Malir jail. The nationality of a person cannot be confirmed without consular access, which is not easily available. There are several instances in which both countries did not confirm nationality for as long as 18 months.

- In very rare cases, it had happened that a prisoner repatriated the day he completed the prison sentence.
- Other similar cases:
- A fisherman named Vaaga Chauhan died in Pakistani custody in December 2015. His mortal remains reached his village in April 2016.
- Latif Qasim Sama accidentally crossed over to Pakistan in 2018. He was arrested and his sentence ended in April 2019. Latif didn't get consular access. Ismail Sama returned from a Pakistan jail after 13 years for the same mistake.
- Fishermen from the Saurashtra region of Gujarat often get arrested when they accidentally cross over into Pakistani waters.
- Dharam Singh from Kashmir had unknowingly crossed over in 2003. He spent 18 years in a Pakistani prison. He was later punished by 14 years of imprisonment. This ended in December last year but he reached home this month.

What should be done?

- In 2007, India and Pakistan set up a joint judicial committee on prisoners including four retired judges from both sides. The committee used to assemble twice a year to meet prisoners. It facilitated many repatriations.

- However, its last meeting was held in 2013 after which it was stopped. In 2018, efforts were made to restart it, but Pakistan is yet to appoint judges or call for a meeting.
- The committee should be revived at the earliest. Delay is costing lots of lives.

India-U.S. Climate Partnership

Context: Recently, the Leaders' Summit on Climate was convened by the US President virtually. 40 world leaders, including the Prime Minister of India, were invited to the event to underscore the urgency of stronger climate action.

At the Summit US and India launched a new high-level partnership, the "U.S.-India Climate and Clean Energy Agenda 2030 Partnership"

Key Features of the Partnership are:

- It envisages bilateral cooperation on strong actions in the current decade to meet the goals of the Paris Agreement
- The Partnership will proceed along two main tracks:
- The Strategic Clean Energy Partnership, co-chaired by Secretary of Energy Granholm,
- The Climate Action and Finance Mobilization Dialogue, co-chaired by Special Presidential Envoy for Climate John Kerry.
- The partnership will work together in achieving ambitious climate targets of both countries
- USA has set an economy-wide target of reducing its net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030 (announced in this summit)

- India has set a target of installing 450 GW of renewable energy by 2030
- The Partnership will aim to
- Mobilize finance and speed clean energy deployment;
- Demonstrate and scale innovative clean technologies needed to decarbonize sectors including industry, transportation, power, and buildings;
- Build capacity to measure, manage, and adapt to the risks of climate-related impacts.
- The partnership could also create templates of sustainable development for other developing countries.
- US has also announced in this summit to double its public climate financing to developing countries and triple public financing for climate adaptation in developing countries by 2024.

India's Position w.r.t Climate Change

- Although China, the U.S. and India are the top three emitters of CO₂ in absolute terms, the U.S. has a much greater per capita emission statistic than China and India.
- India's per capita carbon footprint is 60% lower than the global average. It is because our lifestyle is still rooted in sustainable traditional practices,
- India is among the few countries whose NDCs or Nationally Defined Contributions are 2-degree-Celsius compatible
- India is targeting a 2030 GDP emissions intensity (i.e., volume of emissions per unit of GDP) that is 33%-35% below 2005 levels. It also seeks to have 40% of power generated from non-fossil fuel sources by 2030.

Conclusion

- Through this collaboration, US and India aim to demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.

An unquiet Neighbourhood of India: Afghanistan and Myanmar

The efforts to normalize the situation in India's neighborhood countries- Myanmar and Afghanistan have become intense.

- Recently, in the month of February 2021, Myanmar's de facto leader Aung San Suu Kyi was detained, along with the President of the country, following a military coup in the country.
- The increasing protests and regressive violent actions of security forces led the country on the verge of civil war.
- In Afghanistan, U.S.A and Taliban signed an agreement that paved the way for the first direct talks between the Taliban and representatives of the Afghan republic since 2001, but the recent developments are in the doldrums.
- Taliban has refused to attend any summits until all foreign forces are pulled out of Afghanistan.

MYANMAR

- After getting independence in 1948, Myanmar witnessed first entry of a military personal in 1958, when the Chief of Staff General Ne Win became the interim prime minister.

- Ne Win got control of the Army and he restructured it along Socialist lines. Soon he dismantled the federal structure of the nation and installed the Socialist Programme Party (SPP) as the only legal party in the state.
- Ne Win nationalised the economy, banned free media, free healthcare for all, expelled foreigners, and jailed political adversaries. Till the time he stepped down in 1988, Myanmar was declared Least Developed Nations by the UN.
- It was the time Aung San Suu Kyi aims to bring back democratic processes without any military intervention through her party NLD, but soon put under house arrest.
- In 1989, the new military regime changed the country's name from the Union of Burma to the Union of Myanmar, and the capital, Rangoon, was renamed Yangon.
- In 2010, Suu Kyi released from detention after 14 years and rejoined the political processes. The NLD re-registered as a political party for the next elections in 2015.
- Led by Suu Kyi, the party wins enough seats. And after almost 50 years of a military government, Myanmar forms a democratically elected government.

Recent Developments

- The Myanmar's army, popularly known as Tatmadaw, took charge of the nation in a coup in early February and has cracked down hard on protesters since.
- Since then, many lives have been lost in the protests.

- Association of Southeast Asian Nations (ASEAN) has stepped up and began a diplomatic opening with Myanmar's military leadership.
- Political forces are not confident about the ASEAN initiative and fear that it will legitimise the coup and give the military leadership time to consolidate.

AFGHANISTAN

- Afghan crisis began in 1978 when anticommunist Islamic guerrillas and the Afghan communist government locked horn with each other. It results into overthrowing of the government in 1992.
- Soviet or Russia retreated but soon in 2001, after 11 September attacks, U.S.A jumped into the war torn country and fuelled the Afghanistan War (2001-14).
- In February 2020, the US - Taliban peace deal was signed enabling the US and NATO to withdraw their troops, which has been a longstanding demand of the Taliban.

US-Taliban Deal

- It was four-page pact signed between US Special Representative for Afghanistan Reconciliation and political head of the Taliban.
- As per agreement a permanent and comprehensive ceasefire was be an item on the agenda of the intra-Afghan dialogue and negotiations.
- The participants of intra-Afghan negotiations were needed to discuss the date and modalities of a permanent and comprehensive ceasefire, including joint implementation mechanisms.

- The deal included the withdrawal of US troops along with bringing down NATO or coalition troop numbers within 14 months from when the deal was signed.
- Taliban committed to not allow any of its members, other individuals or groups, including al-Qaeda, to use the soil of Afghanistan to threaten the security of the United States and its allies.

Recent Developments

- Recently, Taliban skipped a peace summit on Afghanistan, seeking to end decades of conflict there, scheduled to take place in Istanbul over the weekend.
- Though the US and NATO have agreed to leave Afghanistan before September 11, still Taliban's refused to join any such peace conference until all foreign forces leave Afghanistan.
- The Taliban wants to weaken the Kabul and its international supporters of the last bit of their declining military leverage.

COMMON THEMES IN Both THE CASES

Ending violence

- Ending violence before reaching any consensus or agreement is the utmost priority.
- Afghanistan: Taliban has agreed to stop violence or deadly attack on US forces but government forces or the civilians are still its target.
- Myanmar: ASEAN calls for an immediate cessation of violence and utmost restraint from all sides. But as in Afghanistan, here also, per-

suading main perpetrators is not easy.

Constructive dialogue among all parties

- Afghanistan: Bringing the parties for productive engagement is the difficult task to be done. Taliban has always excuses to skip or delay the dialogues with the Kabul government that it always saw as illegitimate.
- Myanmar: In case of Myanmar, the Tatmadaw can be ready to engage the opposition in a prolonged dialogue and defuse international pressure, but it will be hard for the victims of the coup to accept a dialogue on the army's terms.

Role of third party mediators

- In case of Afghan, it cannot work smoothly as the issue has been already internationalized and major stakeholders-whether its regional actors and neighbours or powerful countries have their own interests.
- Myanmar: ASEAN, playing the third party mediator role, agreed to send special envoy to the region to engage all parties to the conflict. Now it is to be seen on what kind of terms Myanmar might set for the visit and the dialogue with the opposition.

INDIA'S REACTION

- World leaders all over the world criticized the Military coup in Myanmar but India remains silent.
- India does not want to upset the Myanmar Army because it will hamper its efforts with the Myanmar against the rebel groups from India's Northeast based in Myanmar's Sagaing Division.

- It does not want to give away the military junta to the waiting arms of the China.
- India supported talks between the Afghan government and the Taliban. US formally included India in the peace deliberations.
- To play a role of long trustworthy friend India will keep its talk positive to see a secure, stable, and economically dynamic country.

Way forward

- Peace diplomacy usually followed carrot and stick. United States is accounting on the needs of Taliban, like, significant international economic assistance for reconstruction and political legitimacy in the future. For this, Taliban has to leave its hardliner positions.
- ASEAN and other international players understand that the military would want to avoid the risks of political isolation and economic punishment.

Developments also depends upon the calculations done by the Taliban and Myanmar Army that how they would analyse the costs and benefits. As they have a long experience of surviving such international pressure they can resort to long term solution and can exploit the differences among the major powers.

What went wrong with India's vaccine diplomacy?

In the Second Wave, India's growing coronavirus deaths have taken the sheen of the government's diplomacy during the COVID-era. With more than three lakh new cases a day, India is the country with the biggest surge at present

India's COVID Diplomacy

- Lifted restrictions on HCQ Drug: India lifted its ban on exports of the drug HCQ, when there was demand for it across the world.
- Medical Assistance: India sent medical teams to countries in the neighborhood to assist the government to tackle the rising cases of COVID-19
- Vaccine Supply: Under its massive Vaccine Maitri programme, India exported more than 66 million doses of COVID-19 vaccines to 95 countries worldwide. Of these about 10 million were grants from the government, 20 million were sent as part of the global COVAX facility, and the rest 36 million were commercial export
- Forefront of multilateral diplomacy efforts: The Quad plan aims for production of one billion vaccines to be offered to South East Asian countries
- Fight at WTO: India-South Africa are putting efforts at the WTO to have all vaccine patents (TRIPs) waived for the coronavirus pandemic duration

What were actions by other countries?

- China has exported 80 million doses to about 60 countries, but only after it managed its own internal COVID-19 crisis.
- The European Union (EU) has exported 113.5 million doses to 43 countries, but the EU is made up of 27 countries.
- The worst affected United States, which through the use of executive orders and its Defense Production Act, made

domestic production and use of COVID-19 vaccines and pharma supplies its priority, refusing exports at present.

So why is the government now facing criticism for its diplomacy?

- Prematurely declaring Victory: Government did not anticipate the current second wave crisis and sent out the wrong message internationally when on January 29th, during his speech at the Davos forum, PM Modi said that the country had won the war on COVID-19.
- At the time, India was seeing about 11,000 new cases a day nationwide and 1.5 lakh active cases. Today that number has grown to 3 lakh new cases and 24 lakh active cases on an upward trend.
- Poor Preparedness on domestic & Trade front: India did not leverage its strengths over the past few weeks to ramp up hospital bed strength, pharma supplies and oxygen production through imports and for not halting those exports like pharmaceuticals and oxygen, that were needed the most.
- Wrong time to launch Vaccine Maitri Programme: Indian launched Vaccine Maitri programme at exactly the same time as the domestic vaccination programme began, without properly estimating the need or the urgency of vaccinating the whole population of India.
- In all, 66 million vaccine doses were exported, while India's entire vaccine programme over three months from mid-January to mid-April has given 130 million doses. This means that at the very least, India

exported what could have been used for a month of vaccinations domestically.

- Vaccine Exporter to Vaccine Importer: As the government has declared vaccines for all over 18 years to be opened up from May 1, India has gone from being a vaccine exporter, to needing vaccine imports, including the Russian Sputnik vaccine, U.S. developed Johnson and Johnson, Moderna and Pfizer and others.
- Cancelled Diplomatic Meeting: Lack of awareness of the problem was most obvious in the international visits that were planned during this period — visits to India by Rwanda President Kagame, Danish PM Frederiksen, UK PM Johnson, Japanese PM Suga, all of which have had to be cancelled.

What is the government's defence?

- The government's defence, expressed by EAM S. Jaishankar is — India cannot ask the world for help, for vaccine supplies if it is not willing to export its own product to help others.

Counter Arguments:

- India is the world's second most populous country, and after the U.S., has the highest number of cases, active cases and deaths. If it helps its own citizens, it will take a large load off the global pandemic worry.
- U.S. response on why it wasn't exporting excess vaccines, was that it is "not only in US interest to see Americans vaccinated, it's in the interests of the rest of the world to see Americans vaccinated." The same should be true for India and Indians.

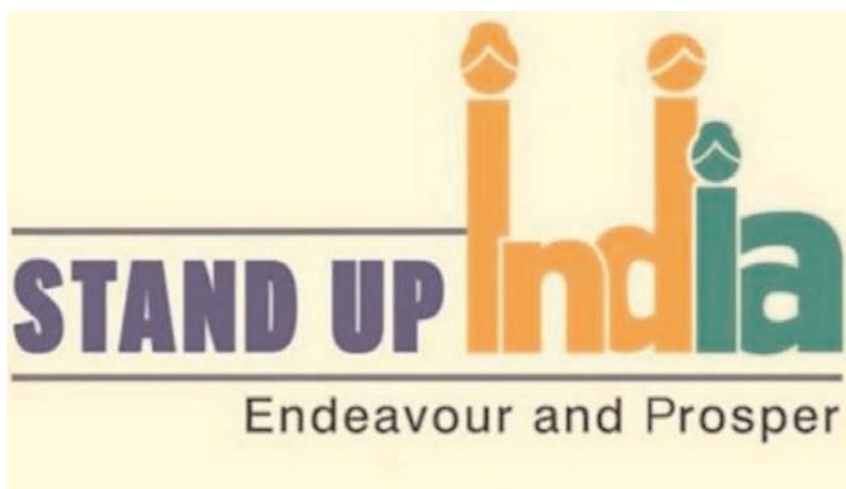
ECONOMY



Stand Up India Scheme

Five years after the Stand Up India scheme was launched by the government to promote entrepreneurship among women, Scheduled Castes (SC) & Scheduled Tribes (ST), banks have sanctioned more than Rs 25,000 crore to over 1.14 lakh accounts.

- The Stand Up India scheme was launched in the year 2016.
- As per the scheme, bank loans between Rs 10 lakh and Rs 1 crore are routed to at least one SC or ST borrower, and at least one woman borrower, by each branch of the scheduled commercial banks.
- Official data suggests that women-led enterprises have dominated the sanctions so far under the scheme, which has now been extended till 2025.
- Rs 25,586 crore has been sanctioned under the Stand Up India Scheme to over 1,14,322 accounts up to 23.03.2021 since its inception.
- Over 93,000 of those loans worth Rs 21,200 crore were



sanctioned to women-led business enterprises. 16,258 S.C. entrepreneurs received sanctions for loans worth Rs 3,335.87 crore while loans worth Rs 1,049 crore were approved for 4,970 ST borrowers.

Stand Up India Scheme

- The scheme was launched in 2016 that he claimed to provide the people belonging to the Scheduled Caste (SCs), Scheduled Tribes (STs) or women of the country a loan between Rs.10 lakhs and Rs. 1 crore.

- The loans are given based on the requirement of the beneficiary.
- It aims to promote entrepreneurship among them.

Main Features

- The scheme is a part of an initiative by the Department of Financial Services (DFS), Ministry of Finance to promote entrepreneurial projects in the country.
- The amount given under the scheme as loan ranges from Rs. 10 lakhs to Rs. 1 crore, Inclusive of the working capital required for setting up a new enterprise.

- The scheme states that each bank branch needs to facilitate two entrepreneurial projects on an average- one for scheduled caste/ scheduled tribe and one for women entrepreneurs.
- For the purpose of withdrawal of credit, a RuPay debit card will be provided to the borrowers.
- The credit history of the borrower is maintained by the bank to prevent the use of money for any personal use.
- A refinance window through Small Industries Development Bank of India (SIDBI) with an initial amount of Rs. 10000 crores was set up.
- A web portal has been created to assist people for the purpose of online registration and other support services.
- The borrowers are supported by the provision of comprehensive support for pre loan training like facilitating the loan, factoring, marketing, etc.
- The major purpose of the scheme was to benefit the institutional credit structure by reaching out to the minority sections of the population by initiating bank loans and the non farm sector.
- The scheme also provides an advantage for the ongoing schemes of other departments.
- It is led by the Small Industries Development Bank of India (SIDBI) along with the involvement of Dalit Indian Chamber of Commerce and industry (DICC) and other sector specific institutions.
- The designation of Stand Up Connect Centres (SUCC) will be provided to SIDBI and National Bank of Agriculture and Rural Development (NABARD)
- An initial amount of Rs.10,000 crore will be allotted to the Small Industries Development Bank of India (SIDBI) to provide financial aid.
- There will be a pre-loan and an operational phase for this scheme and the system and Officials tend to help people throughout these phases.
- To help the credit system reach out to the entrepreneurs, the margin money for the composite loan will be up to 25 per cent.
- The people who apply for this scheme will be familiarized with the online platforms and other resources of e-marketing, web-entrepreneurship, factoring services and registration.
- It provides an endeavor to create an ecosystem which facilitates and continues to provide her supportive environment for doing business.
- The scheme seeks to give access to loans from bank branches to borrowers to help them set up their own enterprise.
- The scheme, which covers all branches of Scheduled Commercial Banks, will be accessed in three potential ways:
 - Directly at the branch or,
 - Through Stand-Up India Portal (www.standupmitra.in) or,
 - Through the Lead District Manager (LDM).

PURPOSE OF THE SCHEME

- Promotion of entrepreneurship amongst women, Scheduled Castes (SCs) and Scheduled Tribes (STs) Category.
- Provision of loans for setting up Greenfield enterprises in manufacturing, services or the trading sector and activities allied to agriculture by both ready and trainee borrowers.
- Facilitate bank loans between Rs. 10 lakhs and Rs. 1 crore to at least one scheduled caste/ scheduled tribe borrower and at least one woman borrower per bank branch of Scheduled Commercial Banks.

Why Stand Up India?

- It is based on the recognition of the challenges faced by SC/ ST and the women entrepreneurs in setting up enterprises, obtaining loans and other support needed from time to time for succeeding in business.

Need for the Scheme

- India is rapidly growing where hopes, aspirations and expectations are increasing day by day.
- There is a large group of potential entrepreneurs particularly women and Scheduled Castes (SC), Scheduled Tribes (ST) who wants to set up an enterprise of their own, which allows them to grow and thrive.
- Such entrepreneurs are spread across the country and are bubbling with ideas on what they can do for themselves and their families.
- However, they face challenges in converting their dreams to reality.

Benefits of the Scheme

- It encourages and motivates new entrepreneurs so as to minimize unemployment.
- It is a platform where the investors get professional advice, time and knowledge

about laws and also assistance in the startup for the initial two years of the work.

- Since the period of repayment of the loan is 7 years, it reduces the stress among the borrowers.
- It helps to eradicate legal, operational and other institutional obstacles for the entrepreneurs in setting up their enterprises.
- It provides a very positive boost in terms of job creation which leads to the social economic empowerment of the Dalits, women and tribals.
- It can also act as a driving force for other government schemes like Skill India, Start-up India and Make in India.
- It will help in protecting the demographic dividend in India.
- It will also lead to financial and social education of the vulnerable strata of the society with the access to bank accounts and technological education.

Conclusion

As the scheme completes 5 years, the progress of the scheme is worthwhile discussing. More than Rs. 25000 crores have till now been sanctioned under the scheme to over 1,14,322 accounts and more than 81% i.e., 93,094 accounts with an amount of Rs. 20,749 crores have been sanctioned to women entrepreneurs but the progress among the SCs and STs has been slow with just 14% and 4% of the total accounts respectively. This indicates that a lot more needs to be done in order to realise the actual objectives of the scheme which has the potential to transform India into an ATMANIRBHAR

BHARAT as well as a \$5 trillion economy by 2024.

Amendments in Insolvency law

According to a notification by the government, an ordinance was promulgated to amend the Insolvency and Bankruptcy Code (IBC) on April 4, 2021.

- The move comes less than two weeks after the suspension of certain IBC provisions ended.
- The suspension- wherein fresh insolvency proceedings were not allowed for a year starting from March 25, 2020, was implemented amid the coronavirus pandemic disrupting economic activities.
- As per the ordinance, it is considered necessary to urgently address the specific requirements of Micro, Small and Medium enterprises (MSMEs) relating to the resolution of their insolvency, due to the unique nature of their businesses and simpler corporate structures.
- According to the ordinance, it is considered expedient to provide an effective alternative insolvency resolution process for MSMEs to ensure quicker, cost effective and value maximizing outcomes for all stakeholders, in a manner which is least disruptive to the continuity of their businesses and which preserves jobs.
- The amendment is modeled on a debtor in possession approach and vests significant consent rights to the financial creditors, such that the mechanism cannot be misused by errant promoters.

- Further, adopting the plan evaluation process akin to Swiss challenge, greeting competitive tension such that promoters proposed plans with least impairment to rights and claims of creditors.

THE INSOLVENCY AND BANKRUPTCY CODE

- Insolvency- it refers to a situation where individuals or companies are unable to repay their outstanding debts.
- Bankruptcy- it refers to a situation whereby a court of competent jurisdiction has declared a person or other entity insolvent, having past appropriate orders to resolve it and protect the rights of the creditors. This means it is a legal declaration that reflects one's inability to pay off debts.
- The insolvency and Bankruptcy Code, 2016 is the bankruptcy law of India that seeks to consolidate the existing framework by creating a single law for insolvency and bankruptcy. the code aims to streamline and speed up the resolution process of the failed businesses.

Objectives of IBC

- To consolidate and amend all the existing insolvency laws in India.
- Simplification and expedition of the insolvency and bankruptcy proceedings in India
- Protection of the interests of the creditors including the stakeholders in a company
- Promotion of entrepreneurship
- To get the necessary relief to the creditors and consequently increase the credit supply in the economy

- To work out a new and timely recovery procedure to be adopted by the banks, financial institutions or the individuals
- Setting up off an Insolvency and Bankruptcy Board of India
- Maximization of the value of assets of corporate persons

AIM OF IBC

- The code seeks to provide a time bound process for the purpose of resolution of insolvency.
- It stipulates the resolution procedure of a stressed company to be completed within 180 days or within the extended period of 90 days and mandatorily to be completed within 330 days.

Significance of IBC

- It provides for a stipulated time frame for the resolution of cases of insolvency by stressed companies. Before IBC, resolution processes took an average of 4-6 years, after the enactment of IBC they came down to 317 days.
- It has helped in bringing down the rising NPAs in the economy because of the defaulting companies. Non-performing assets (NPAs) recovered by Scheduled Commercial Banks (SCBs) through the Insolvency and Bankruptcy Code (IBC) channel increased to about 61 per cent of the total amount recovered through various channels in 2019-20.
- According to a statement by the World Bank, IBC has improved the recovery rate of stressed assets in India to 48% in two years from 26% in the pre-IBC period.

- It provides a mechanism to companies that facilitate an easy exit from the market, if they are not running properly or if they become nonviable.
- Since it consolidates provisions of the earlier legislative framework to form a common forum for debtors and creditors of all classes to resolve insolvency, the process of resolution has become much easier.
- According to the Resolving Insolvency Index, India's ranking improved to 52 in 2019 from 108 in 2018. The recovery rate has increased from 26.5% in 2018 to 71.6% in 2019 and time taken in recovery has improved from 4.3 years in 2018 to 1.6 years in 2019.

Institutions facilitating the Resolution of Insolvency under IBC

1. Insolvency Professionals (IPs)

- The insolvency professionals are appointed to administer the resolution process, manage the assets of the debtor, and provide information to the creditors to assist them in decision-making.
- They have the power to furnish performance bonds equal to assets of the company under insolvency resolutions.

2. Insolvency Professional Agencies (IPAs)

- The insolvency professional agencies are responsible for conducting examinations to certify the insolvency professionals and enforcing a code of conduct for their performance.

3. Information Utilities

- Creditors will report the financial information of the debt owed to them by the debtor.

Such information will include records of debt, liabilities and defaults.

4. Adjudicating Authorities

- There are two adjudicating authorities responsible for the proceedings of the resolution process- the National Company Law Tribunal or NCLT for the companies and Debt Recovery Tribunal or DRT for the individuals and partnership firms other than limited liability partnerships.
- These authorities have the duty to provide approval to initiate the resolution process, appoint the insolvency professional and approve the final decision of the creditors.

5. Insolvency and Bankruptcy Board of India

- The board seeks to regulate insolvency professionals, insolvency professional agencies and information utilities that are set up under the code.
- It consists of representatives from the Reserve Bank of India and the Ministries of Finance, Corporate Affairs and Law.
- It promotes transparency and governance in the administration of the IBC and is involved in setting up the infrastructure and accrediting insolvency professionals and information utilities.

Challenges Ahead

- Lack of operational NCLT benches- Though the government had announced setting up of 25 additional single and division benches of NCLT at various places in July 2019, most of these remain non-operational or partly operational due

to lack of proper infrastructure or adequate support staff.

- Lower rate of approval for the resolution plans- According to a report by the Insolvency and Bankruptcy Board of India (IBBI), out of the 2,542 corporate insolvency cases filed between December 1, 2016 and September 30, 2019, only about 156 have ended in approval of resolution plans i.e., only 15%.
- High number of liquidations- They become a major cause of worry for the companies as they violate the principal objective of IBC i.e., resolving bankruptcy.
- Slow judicial process in India due to which the resolution processes drag on; this was the same reason for limited success of the previous laws- Sick Industrial Companies Act (SICA) or Recovery of Debts Due to Banks (RDBD).

Conclusion

The IBC has been a phenomenal step that has improved India's performance in the Ease of Doing Business but there have been several factors that undermine the effective functioning of the Code. It is definitely a big leap compared to previous insolvency laws. However, a lot more needs to be done for its successful implementation. Timely amendments, which provide more teeth to the Code, can only rescue the process.

Production Linked Incentive for Food Processing

The union cabinet recently approved a production linked incentive scheme for the food processing industry with an outlay of 10,900 crores.

- The Minister of Consumer Affairs, Food and Public Distribution announced the scheme as a fitting tribute to the farmers as it would generate employment for 2.5 lakh people. It would also lead to additional exports of Rs. 30,000 crores to Rs. 35,000 crores.
- The intended objectives of the scheme were to support creation of global manufacturing champions, strengthen select Indian brands of food products for global visibility and wider acceptance in the international markets, increase employment opportunities of off-farm jobs and ensure remunerative prices of farm produce and higher income to farmers.
- The scheme would cover ready to cook, ready to eat, processed fruits and vegetables, marine products and mozzarella cheese. Organic products, free range eggs, poultry meat and egg products were also covered under the scheme.
- The implementation of the scheme would facilitate expansion of processing capacity to generate processed food output of Rs. 33,494 crores and create employment for nearly 2.5 lakh people by the year 2026-27.
- The applicant selected for the scheme would be required to invest in plant and machinery in the first two years- 2021-22 and 2022-23.

What are Production Linked Incentive (PLI) schemes?

- These are output and outcome-oriented schemes where incentive is paid by the government only for the minimum thresh-

old of incremental sales and investment is achieved.

- The incentives in these schemes are paid in the form of cash for an initial period of five to seven years.
- These are aimed at the sunrise sectors i.e., for sectors that are promising but need support in the initial stages of their development.
- These schemes focus on production in India (both by domestic and foreign companies) and creation of a diverse manufacturing base in sunrise industries.
- The aim of the scheme is to help India participate in export-oriented supply chains.
- The total incentive given to each company is decided by an empowered committee.

Need for the Scheme

- Sunrise sectors are promising sectors but they may need support in the initial stage.
- Export base can be developed in these sectors under the PLI scheme.
- There is a growing demand in the world for diversification in supply chains and India can become a major player.

Benefits to the food processing Sector

- **PLI Scheme for Food Processing Industries**
- With an approved outlay of Rs. 10,900 crores, the scheme aims to boost local production and export of food items in four categories, apart from special support for innovative items and small and medium enterprises in this sector.

- The four categories that are given preference in the scheme are:
- ready to eat (RTE) and/ or ready to cook (RTC);
- processed fruits and vegetables;
- marine products;
- mozzarella cheese
- The small and medium enterprises (SMEs) with innovative and organic portfolios in free range eggs and poultry meat will also be covered by the scheme. In addition to this the conditions of stipulated minimum sales and mandated investment will not be applicable for entities that are selected for making innovative/ organic products.
- The scheme will be implemented over a period of six years from 2021-22 to 2026-27.
- It has been designed to offer incentives to select food producers from India to expand their presence in the foreign markets by growing their production base, retail presence, and marketing and branding in the export markets.
- The Ministry of Food Processing Industries (MoFPI) will be the nodal agency for the implementation of the scheme and will prepare an Annual Action Plan covering various activities for the implementation of the scheme apart from selection of applicants for coverage under the scheme and sanction and release of funds as incentives.
- The scheme will be monitored by the Empowered Group of Secretaries, which will be chaired by the cabinet secretary and a third party evaluation

and midterm review mechanism would be built in to maintain transparency.

A National Level Portal will be set up wherein the applicant enterprise will be given the facility to apply to participate in the scheme. all the scheme activities would be undertaken on the National Portal.

The implementation of the scheme will help in the expansion of processing capacity to generate processed food output of Rs. 33,494 crores and help in the creation of employment for about 2.5 lakh People by the year 2026-27.

- It will help in raising the processed food sector's share in India's total export basket by around Rs. 30,000-35,000 crores.
- It will also enable in cutting the farm produce wastage, by offering better prices to the farmers for their produce. Patently the farm produce waste age in India accounts for over Rs. 90000 crores worth of agricultural produce every year.
- Leading FMCG companies have done the extension of the scheme for the food processing sector as a game changer which would help bring more investment, increase the income of the farmers and boost agricultural exports.
- It would ensure the availability of a wider range of value-added products for consumers and the Indian companies to establish themselves in the foreign markets.
- Given India's competitive advantage in terms of resource endowment, domestic market

size, and potential for promoting value-added goods, the PLI scheme could go a long way in achieving the sector's maximum potential while encouraging Indian brands to improve their role in the global value chain.

Benefits of the PLI Scheme

- New Industries- It will help in the growth of new industries that were till now apprehensive.
- Micro Small and Medium Enterprises (MSMEs)- It will facilitate the growth of the MSMEs that can use the fiscal incentives.
- Competition- It will make the Indian manufacturers and manufacturing sectors globally competitive.
- Technology- It will help to attract investment in the core areas of competency and cutting-edge technology.
- Exports - It would boost the exports by increasing the cost competitiveness in sectors facing stiff competition.
- Efficiency- It would help create economies of scale and ensure efficiencies for the Indian manufacturing sector.
- This is an important scheme that will help to promote manufacturing under Atma Nirbhar Bharat as there is huge import reliance for certain items in India at present.

Expansion of Emergency Credit Line Guarantee Scheme

Recently, the government has extended the Rs. 3-lakh-crore Emergency Credit Line

Guarantee Scheme (ECLGS) until 30th June 2021, and also widened its scope to new sectors, including hospitality, travel and tourism.

- ECLGS was rolled out in May 2020 as part of the Centre's **Atmanirbhar package** in response to the **Covid-19** crisis.
- The **objective was to support small businesses** struggling to meet their operational liabilities due to the imposition of a nationwide lockdown.

Key Points

ECLGS 1.0:

- To provide fully guaranteed and collateral free additional credit to **MSMEs**, business enterprises, **MUDRA borrowers** and individual loans for business purposes to the extent of 20% of their credit outstanding as on **29th February, 2020**.
- **MSMEs** with up to **Rs 25 crore outstanding** and **Rs. 100 crore turnover** were eligible.
- However, the turnover cap was removed post amendment to ECLGS 2.0 in **November 2020**.

ECLGS 2.0:

- The amended version focused on entities in **26 stressed sectors** identified by the **Kamath Committee** along with the healthcare sector with credit outstanding of more than **Rs. 50 crore** and up to **Rs. 500 crore** as of 29th February, 2020.
- The scheme also mandated borrower accounts to be less than or equal to 30 days past due as of 29th February, 2020, that is, **they should not have been**

classified as SMA 1, SMA 2, or NPA by any of the lenders as of **29th February 2020**.

- **SMA**s are **special mention accounts**, which show signs of incipient stress, that lead to the borrower defaulting in servicing the debt.
- While **SMA-0** are accounts having payments partially or wholly overdue for **1-30 days**, **SMA-1** and **SMA-2** accounts have payments overdue for **31-60 days** and **61-90 days** respectively.
- The revised scheme also **has a five-year repayment window** up from four years in ECLGS 1.0.

ECLGS 3.0:

- It involves **extending credit of up to 40% of total credit outstanding** across all lending institutions as on 29th February 2020.
- The **tenor** of loans granted under ECLGS 3.0 would be **6 years**, including a **moratorium period of 2 years**.
- Covers business enterprises in **Hospitality, Travel & Tourism, Leisure & Sporting sectors**,
- Which had, as on **29th february 2020**,
- Total credit outstanding not exceeding **Rs. 500 crore and overdues**, if any, were for **60 days or less**.
- **National Credit Guarantee Trustee Company** (NCGTC) is the guarantee provider under the ECLGS scheme.

Decline in Forex Reserves

According to the recent data from the Reserve Bank of India

(RBI), India's Foreign Exchange (Forex) reserves declined by USD 2.986 billion to reach USD 579.285 billion in the week ended 26th March 2021.

- The gold reserve component of the Forex Reserve increased whereas the other components - Special Drawing Rights (SDR), the Foreign Currency Assets (FCA) and the Reserve Position witnessed decline.

Key Points

About:

- Foreign exchange reserves are **assets held on reserve by a central bank in foreign currencies**, which can include bonds, treasury bills and other government securities.
- It needs to be noted that **most foreign exchange reserves are held in US dollars**.

Objectives Behind Holding Forex Reserves:

- Supporting and maintaining **confidence in the policies for monetary and exchange rate management**.
- Provides the **capacity to intervene** in support of the national or union currency.
- **Limits external vulnerability** by maintaining foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed.

India's Forex Reserve include:

- **Foreign Currency Assets**
- **Gold reserves**
- **Special Drawing Rights**
- **Reserve position with the IMF**

Foreign Currency Assets:

- FCAs are assets that are **valued based on a currency other**

than the country's own currency.

- FCA is the **largest component of the forex reserve**. It is **expressed in dollar terms**.
- The FCAs include the **effect of appreciation or depreciation of non-US units** like the euro, pound and yen held in the foreign exchange reserves.

Gold Reserves:

- Gold occupies a special position in the foreign reserves of central banks as it is widely stated to be **held for reasons of diversification**.
- Moreover, the unique property of gold is believed to be **its ability to enhance the credibility of the central bank when it holds adequately** and this has been proved time and again.
- Gold compares extremely favorably to other traditional reserve assets with **high-quality and liquidity** helping Central Banks to **preserve capital, diversify portfolios, mitigate risks** on the medium/long-term.
- Gold has **consistently outperformed the average returns of other alternative financial assets**.

Special Drawing Rights:

- The SDR is an **international reserve asset, created by the International Monetary Fund (IMF) in 1969** to supplement its member countries' official reserves.
- The SDR is neither a currency nor a claim on the IMF. Rather, it is a **potential claim on the freely usable currencies of IMF members**. SDRs can be exchanged for these currencies.

- The value of the SDR is calculated from a **weighted basket of major currencies**, including the US dollar, the euro, Japanese yen, Chinese yuan, and British pound.
- The **interest rate on SDRs or (SDRi)** is the interest paid to members on their SDR holdings.

Reserve Position in the International Monetary Fund:

- A reserve tranche position implies a **portion of the required quota of currency each member country must provide to the IMF** that can be utilized for its own purposes.
- The reserve tranche is basically an **emergency account that IMF members can access at any time without agreeing to conditions or paying a service fee**.

World Economic Outlook: IMF

The latest edition of the International Monetary Fund's (IMF) World Economic Outlook has raised its Financial Year (FY) 2021 growth forecast for India to 12.5% from 11.5% estimated earlier in January 2021.

Key Points

Indian Economy:

- Indian economy is expected to grow by **12.5% in 2021 and 6.9% in 2022**.
- In 2020, India's economy witnessed an **estimated contraction of 8%**.
- Growth rate for India in 2021 is **stronger than that of China**.
- China was the **only major economy to have a positive growth rate of 2.3% in 2020**, and is expected to grow by 8.6% in 2021 and 5.6% in 2022.

Global Economy:

- The IMF predicted stronger recovery in 2021 and 2022 with growth projected to be **6% in 2021 and 4.4% in 2022**.
- In 2020, the global economy **contracted by 3.3%**
- The contraction for 2020 is 1.1% points smaller than previous projection, **reflecting:**
- **Higher-than-expected growth outturns in the second half of the year** for most regions after **lockdowns** were eased and as economies adapted to new ways of working.
- **Additional fiscal support in a few large economies** and the



anticipated vaccine-powered recovery in the second half of the year.

Suggestions:

- **Health Care:**
- The emphasis should be on escaping the health crisis by **prioritising health care spending, on vaccinations, treatments, and health care infrastructure**. Fiscal support should be well targeted to affected households and firms.
- **Accommodative Monetary Policy:**
- **Monetary policy** should remain **accommodative** (where **inflation** is well behaved), while proactively addressing financial stability risks using macroprudential tools.
- **Tailored Approach:**
- **Policymakers will need to continue supporting their economies** while dealing with more limited policy space and higher debt levels than prior to the pandemic.
- This requires better **targeted measures to leave space for prolonged support if needed**. With multi-speed recoveries, a **tailored approach is necessary, with policies well-calibrated to the stage of the pandemic**, the strength of the economic recovery, and the structural characteristics of individual countries.
- **Priorities:**
- The priorities should include **green infrastructure investment** to help mitigate **climate change**, digital infrastructure investment to boost productive capacity and strengthening social assistance to arrest **rising inequality**.

International Monetary Fund

- The IMF was set up along with the **World Bank** after the **Second World War** to assist in the **reconstruction of war-ravaged countries**.
- The two organisations were agreed to be set up at a conference in Bretton Woods in the US. Hence, they are known as the **Bretton Woods twins**.
- Created in 1945, the IMF is governed by and accountable to the 189 countries that make up its **near-global membership**. **India joined on 27th December, 1945**.
- The IMF's primary **purpose is to ensure the stability of the international monetary system** — the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other.
- The Fund's mandate was updated in 2012 to include all macro-economic and financial sector issues that bear on global stability.

Reports by IMF:

- **Global Financial Stability Report**
- **World Economic Outlook**

World Economic Outlook

- It is a survey by the IMF that is usually **published twice a year** in the months of April and October.
- It **analyzes and predicts global economic developments** during the near and medium term.
- In response to the growing demand for more frequent forecast updates, the WEO Update is published in January and July between the two main

WEO publications released usually in April and October.

RBI and Monetary Policy in India

The Reserve Bank of India's Monetary Policy Committee (MPC) voted unanimously to leave the policy repo rate unchanged at 4%.

- Though the economic prospects for 2021-22 had strengthened with the progress of the vaccination program, but the recent surge in infections had however imparted greater uncertainty to the outlook which needs to be closely watched, especially as localized and regional lockdowns could dampen the recent improvement and demand conditions and delay the return of normalcy.
- The Monetary Policy Committee, decided to retain the accommodative policy stance by voting unanimously to keep rates steady.
- The current focus must be on containing the spread of the virus as well as an economic revival by consolidating the gains achieved so far and sustaining the impulses of growth in the new financial year and a key aspect of this strategy will be to and then the backdrop of macroeconomic stability that has anchored India's revival from the pandemic.
- The RBI is optimistic about a pickup in demand and an expansion of business activity this year.
- Taking various factors into consideration, the projection of real GDP growth for 2021-22 has been retained at 10.5% con-

sisting of 26.2% in Q1; 8.3% in Q2; 5.4% in Q3; and 6.2% in Q4.

MONETARY POLICY IN INDIA

- The monetary policy of a country is the process of managing the money supply in the economy to achieve specific goals such as constraining inflation, achieving full employment, etc.
- It is made by the central Bank of the country and involves various methods like changing interest rates, either directly or indirectly through open market operations, setting reserve requirements or trading in foreign exchange markets.
- The monetary policy can be of two types: Expansionary and Contractionary.
- Expansionary monetary policy- Such a policy increases the total supply of money in the economy by easing its availability by a relaxation in the rates. In this sense, it can be said that expansionary monetary policy facilitates cheap money supply. Such a policy is used to revive economic growth.
- Contractionary monetary policy- Such a policy decreases the total supply of money in the economy by increasing the interest rates and thus making the money dear. Such policies aim to reduce the prices that have gone up due to excessive money supply.

Monetary Policy Committee (MPC)

- The government in 2016 amended the RBI Act to constitute a Monetary Policy Committee (MPC) in the Reserve Bank of India, headed by its governor.

- It was entrusted with the responsibility of price stability and inflation targeting.
- The decision was taken in the view of adding value and transparency to monetary policy decisions.
- Instruments available to the RBI to achieve the monetary policy ends: Quantitative and Qualitative Quantitative instruments. Quantitative tools
 1. Bank Rate Policy (BRP): The bank rate refers to the rate at which the central bank (i.e., the RBI) rediscounts bills and prepares commercial banks or provides advance to commercial banks against approved securities.
 - It is “the standard rate at which the bank is prepared to buy or rediscount bills of exchange or other commercial paper eligible for purchase under the RBI Act”. If the RBI increases the bank rate, then it reduces the volume of commercial banks borrowing from the RBI and it deters banks from further credit expansion as credit becomes dear. On the other hand, if the RBI reduces the bank rate, borrowing for commercial banks will be easy and cheaper. This will boost the credit creation.
 - Thus, any change in the bank rate is normally associated with the resulting changes in the lending rate and in the market rate of interest.
- 2. Repo Rate: The (fixed) interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).

3. Reverse Repo Rate: The (fixed) interest rate at which the Reserve Bank absorbs liquidity, on an overnight basis, from banks against the collateral of eligible government securities under the LAF.
4. Open Market Operation (OMO): It refers to the purchase and/or sale of short term and long-term securities by the RBI in the open market.
- It is used to wipe out shortages of money in the money market, to influence the term and structure of the interest rate and to stabilize the market for government securities, etc.
- If the RBI sells securities in an open market, commercial banks and private individuals buy it and this reduces the existing money supply as money gets transferred from commercial banks to the RBI.
- On the other hand, when the RBI buys the securities from commercial banks in the open market, commercial banks get back the money they had invested in them. Through this the stock of money in the economy increases.
5. Variation in the Reserve Ratios (VRR): The Commercial Banks have to keep a certain proportion of their total assets in the form of Cash Reserves. Some parts of these cash reserves are their total assets in the form of cash.
- A part of these cash reserves are also to be kept with the RBI for the purpose of maintaining liquidity and controlling credit in an economy. These reserve

ratios are named as Cash Reserve Ratio (CRR) and a Statutory Liquidity Ratio (SLR).

- The CRR refers to some percentage of commercial bank's net demand and time liabilities which commercial banks have to maintain with the central bank.
- SLR refers to some percent of reserves to be maintained in the form of gold or foreign securities.
- Any change in the VRR brings out a change in commercial banks' reserves positions.
- RBI increases VRR during the inflation to reduce the purchasing power and credit.

Qualitative Instruments

1. **Fixing Margin Requirements:** It is the "proportion of the loan amount which is not financed by the bank". A change in a margin implies a change in the loan size. This method is used to encourage credit supply for the needy sector and discourage it for other non-necessary sectors. This can be done by increasing margin for the non-necessary sectors and by reducing it for other needy sectors.
2. **Consumer Credit Regulation:** Under this method, consumer credit supply is regulated through hire purchase and installment sale of consumer goods. This can help in checking the credit use and then inflation in a country.
3. **Publicity:** Through it the RBI publishes various reports stating what is good and what is bad in the system.

This information can help commercial banks to direct credit supply in the desired sectors. Through its weekly and monthly bulletins, the information is made public and banks can use it for attaining goals of monetary policy.

4. **Credit Rationing:** Credit is rationed by limiting the amount available for each commercial bank. For certain purposes, the upper limit of credit can be fixed and banks can be told to stick to such limits. This helps in lowering banks credit exposure to unwanted sectors.
5. **Moral Suasion:** It refers to the pressure exerted by RBI on the banks in India without any strict action for compliance of the rules. It helps in restraining credit during inflationary periods. Commercial banks are informed about the expectations of the central bank through a monetary policy. Under moral suasion central banks can issue directives, guidelines and suggestions for commercial banks regarding reducing credit supply for speculative purposes.
6. **Control Through Directives:** Under this method the central bank issues frequent directives to commercial banks. These directives guide commercial banks in framing their lending policy. The RBI issues directives to commercial banks for not lending loans to speculative sectors such as securities, etc. beyond a certain limit.

7. **Direct Action:** Under this method the RBI can impose an action against a bank. If certain banks are not adhering to the RBI's directives, the RBI may refuse to rediscount their bills and securities. Secondly, RBI may refuse credit supply to those banks whose borrowings are in excess to their capital. Central bank can penalize a bank by changing some rates. Lastly, it can even put a ban on a particular bank if it does not follow its directives and works against the objectives of the monetary policy.

Significance of Monetary Policy

- The monetary policy helps in making money available to the market at reasonable rates and in adequate amounts at the right time to achieve:
- Stability in prices
- Accelerating the growth of the economy
- Exchange rate stabilization
- Balancing the savings and investments
- Generating full employment
- Financial stability of the economy

Why RBI's Monetary Policy Committee kept rates unchanged?

Growth vs inflation trade-off

- The RBI's decision comes amid a surge in Covid-19 cases that has prompted many states to impose fresh curfew restrictions, triggering concerns over the economic recovery that is underway.
- The MPC voted unanimously to keep rates steady and retain

the accommodative monetary policy stance.

- The annual Consumer Price Index-based retail inflation rate rose to a three-month high of 5.03 per cent in February. The MPC judged that monetary policy should remain accommodative till prospects of sustained recovery are well secured.

Projections on growth and inflation

- Retail inflation is projected to stay around 5 per cent next year: 5% in Q4 of FY'21; 5.2% in Q1 and Q2 FY'22; down to 4.4% in Q3 FY'22 and 5.1% in Q4 FY'22. The RBI maintained its GDP growth forecast at 10.5 per cent for 2021-22.

The central bank has slashed the repo rate — benchmark lending rate — by a total of 115 basis points (one basis point is one-hundredth of a percentage point) since March 2020, coming on top of the 135 bps of cumulative cuts since early 2019.

Conclusion

Monetary policy changes are aimed at bringing about the desired effects in the growth of the economy through demand management, price management, credit availability, asset prices like stock and real estate and consumption. With the introduction of the monetary Policy Committee (MPC), specialized experience, diversity of views and independence of opinion in the monetary policy decisions will be imparted that can help in improving the representativeness in the overall decision-making process.

The Economic Rationale of Bank Nationalisation

Banking plays a very important role and is the key driving force in any economy. However, in recent years, the Indian banking sector has witnessed multiple Public Sector Banks (PSBs) getting scammed and faced huge losses due to high Non-Performing Assets (NPAs).

Due to this, many economists have suggested the government privatizing PSBs and now the RBI and the government are contemplating privatizing banks in the sector.

However, before taking any decision, the government should actively consider the pros and cons of PSBs remaining nationalized.

Arguments for Banks Remaining Nationalised

- **Democratization of Banking:** Banks in India were nationalized for the first time in 1969. Before which they had been lending 67% of their funds to industry and virtually nothing to agriculture.
- Also, the commercial banks couldn't lend money to farmers because they were only present in less than 1% of villages.
- Farmers were unable to get bank loans just when the Green Revolution was getting underway and they needed credit to buy the expensive inputs required to increase output.
- Thus, nationalizing banks helped in the democratization of banking services of the masses.
- **Undermining Social Welfare:** Public banks open branches,

ATMs, banking facilities, etc even in the non-profitable rural areas of India or the poorer sides where the possibility of getting big deposits or making money is less.

- However, Private banks are not inclined to do so and they may prefer opening such facilities mostly in megacities or urban areas.
- If the corporate sector is allowed to dominate banking again, profit will become the prime motive rather than the desire to serve the public.
- **International Precedent:** Most East Asian success stories have been underpinned by financial systems effectively controlled by governments.
- On the other hand, the governments of western countries, where banking is largely in the hands of the private sector, have had to rescue private banks from bankruptcy.

Argument Against Banks Remaining Nationalized

Privatization means selling whole or partially a government-owned company to the private sector or it simply means transferring ownership to the private sector. This step was taken as a part of a new economic policy, 1991 to liberalize India's economy from being a relatively closed economy.

However, in recent years, the following factors have been pushing the Government of India to privatize the nationalized banks.

- **Bulk of NPAs:** The banking system is overburdened with the non-performing assets (NPAs) and the majority of which lies in the public sector banks.
- **Lack of Regulatory Oversight:** PSBs are dually controlled by

RBI (under the RBI Act, 1934) and Finance Ministry (under the Banking Regulation Act, 1949).

- Thus, RBI does not have all the powers over PSBs that it has over private sector banks, such as the power to revoke a banking license, merge a bank, shut down a bank, or penalize the board of directors.
- **Lack of Autonomy:** Public sector bank boards are still not adequately professionalized, as the government still has a major say in board appointments.
- This creates an issue of politicization and interference in the normal functioning of Banks.
- This results in the practice called telephone banking, whereby the politicians ring bank officials with instructions to lend money to their cronies.
- **Draining of Profits:** Private banks are profit-driven whereas the business of PSBs is disrupted by government schemes like farm loan waivers etc.
- In general, PSBs have to respond to public demand to finance unproductive projects.

Way Forward

- **Improving Governance:** In order to improve the governance and management of PSBs, there is a need to implement the recommendations of the PJ Nayak committee.
- **De-Risking Banks:** There is a need to follow prudential norms for lending and effective resolution of NPAs.
- In this context, the establishment of the bad bank and speedy resolution of NPAs through the Insolvency

Bankruptcy Code steps in the right direction.

- **Corporatization of PSBs:** Rather than blind privatization, PSBs can be made into a corporation like Life Insurance Corporation (LIC). While maintaining government ownership, will give more autonomy to PSBs.

Conclusion

Even though private sector banks have better balance sheets than PSBs, it is very important to consider that Privatization alone would not solve all of the problems faced by the sector. A better solution than privatization may well be giving PSBs autonomy to reform themselves and function free of political interference.

e-SANTA

Recently the Union Commerce and Industry Minister has inaugurated an electronic platform named e-SANTA, which will connect aqua farmers and the buyers.

Key Points

About:

- The term **e-SANTA** was coined for the web portal, meaning **Electronic Solution for Augmenting NaCSA farmers' Trade in Aquaculture**.
- e-SANTA is a **digital bridge** to end the market divide and will act as an alternative marketing tool between farmers & buyers by eliminating middlemen.
- The farmers can **freely list their produce and quote their price** while the exporters have the freedom to list their requirements and also to choose the products based on their requirements such as

desired size, location, harvest dates etc.

- The Platform is available in **many languages**, which will help the local population.

Significance:

- e-SANTA will **RAISE** income, lifestyle, self-reliance, quality levels, traceability, and provide new options for aqua farmers by:
 - Reducing Risk
 - Awareness of Products & Markets
 - Increase in Income
 - Shielding Against Wrong Practice
 - Ease of Processes
- It will enable the farmers and buyers to have greater control over the trade and enables them to make informed decisions.
- It will provide a cashless, contactless and paperless electronic trade platform between farmers and exporters.
- e-SANTA can become a tool to advertise collectively the kind of products the buyers, fishermen & fish producing organisations are harvesting.
- It will help people in India & internationally to know about the products availability and has the potential of becoming an auction platform in future.

A Looming Economic Crisis

The last fiscal year, FY 2020-21 was no less than a roller coaster ride for India's economy, witnessing nationwide partial and complete lockdowns, curfews and increase in unemployment with no projections of the economy returning to the 2019-20 levels of GDP even in FY 2021-22.

- However, with the easing of lockdown restrictions, these projections were revised favourably in late 2020.
- Just when there was growing optimism over India's economic rebound, when the IMF upgraded India's GDP forecast for FY 21-22 to 12.5%, the second Covid-19 wave has come as a rude shock to businesses and consumers alike.
- India's daily new cases have been hitting higher peaks every day, with the country contributing almost 20% to the global tally of fresh daily cases. The situation is worse than last year's peak situation where the only sigh of relief is India now has access to vaccines.

India's Economic Recovery

- **Factors Facilitating the Growth:** The gross tax collections are estimated to have touched ₹20.16 lakh crore (₹ 20.16 Trillion), up ₹ 1.2 lakh crore from the revised estimates detailed in the Union Budget a few months ago.
- The Centre's indirect tax collections have touched ₹ 10.71 lakh crore in 2020-21, even higher than the collections in 2019-20.
- Indicators like the Purchasing Managers' Index (PMI), tractor & two-wheeler sales, Goods and Services Tax collection, E-way bills, and rail freight traffic showed sustained growth in 2021.
- The exports figures have also seen a huge jump standing at 31 billion dollar

Impacts of Resurging Covid Cases and Consequent Lockdowns

- Highest Week-on-Week Decline as per NIBRI: The Nomura India

Business Resumption Index (NIBRI), is a weekly tracker of the pace of normalisation of economic activity.

- The index reached 99 points in February, 2021 but slipped down to 90.5 in the month of April, registering its biggest week-on-week fall.
- The reason for this downfall is mainly the second wave of Covid-19.
- City-wise Impact: States like Maharashtra, Madhya Pradesh, Punjab, and Chhattisgarh, which are witnessing the highest surge in COVID-19 cases, account for over 30% of India's GDP.
- Even partial lockdowns and curbs in these states will impact economic activity majorly and if the lockdowns are extended further due to uncontrolled infections, the damage will be even more extensive.
- Contraction in Industrial Output: The Index of Industrial Production (IIP) has witnessed the sharpest contraction in the month of February 2021 (since August 2020), at the rate of 3.6%.
- The recent spike in Covid-19 cases has raised concerns over the economic recovery, especially with the imposition of harsher restrictions on activities now being a possibility.
- The restrictions currently being imposed such as night curfews and weekend lockdowns are economically less painful. However, if the situation worsens, harsher measures cannot be ruled out.
- Manufacturing and Other Sectors: While manufacturing

may not be directly hit due to partial lockdowns, the impact on the contact services sectors like hospitality, travel, and tourism will have a multiplier effect, as these sectors have strong backward linkages with other sectors of the economy.

Way Forward

- **Significant Role of Vaccines:** The only effective way to safeguard the economy from another massive disruption is to relax both demand and supply for vaccines.
- More than 10 crore shots have been administered so far, however, it accounts for only 8% of the country's population that has received at least one shot, the US and the UK, in contrast, have vaccinated close to 50% of their total population.
- Vaccination is a key element in controlling the second wave of Covid-19, but a shortage of vaccines could slow the progress of vaccine rollout.
- Therefore, the government shall now increase the reach of the vaccines and make the eligibility criteria for vaccination more expansive.
- **Reducing the Tax Levies:** The RBI, which has been stridently seeking a reduction in the tax levies, foresees inflation averaging 5.2% in the April-June quarter.
- The price pressures are unlikely to ease significantly in the near term, unless the Centre and the States bite the bullet by agreeing to forego some near-term revenue from petroproducts and reduce fuel taxes.
- **Role of Policy Makers:** More efforts and better policies are needed on the part of

Policymakers, to nurse back demand and this must be done without letting quickening inflation undermine purchasing power and overall economic stability.

- Moreover, policymakers should not lose sight of the fact that India is better equipped to fight the virus compared to last year.
- At this juncture, the primary objective of governments, both at the Centre and states, should be to ramp up the vaccination drive.
- **Expenditures as Proposed in the Union Budget:** The support from the rebound in global growth and implementation of the Union Budget's proposed capital expenditures will reinforce India's economic revival.
- Moreover, the agricultural growth and rural demand have been quite robust until now, which is also expected to support growth.

Conclusion

- If the choice between flattening the Covid-19 curve and economic hardship was difficult last year, it will be even more difficult this year, as businesses and workers are still nursing the wounds of the first lockdown.
- The second wave has coincided with the beginning of the new fiscal year which means that even the conservative revenue targets in the Budget could be jeopardised.
- In all these difficult circumstances, the only silver lining that India has is the availability of the Vaccines and its ongoing Vaccination Drive. It must be taken advantage to the fullest.

Payment System Operators to take direct membership in RTGS and NEFT

Recently, the Reserve Bank of India (RBI) has proposed to enable, in a phased manner, payment system operators to take direct membership in RTGS and NEFT.

- **Real Time Gross Settlement System (RTGS) and National Electronic Fund Transfer (NEFT)** are the **Centralised Payment Systems (CPSs)** of the RBI.
- **Non-bank payment system operators**, regulated by the RBI, will be allowed to take direct membership in CPSs.

Key Points

Direct Membership of NEFT & RTGS to Payment System Operators:

- **About:**
- This is **expected to minimise settlement risk in the financial system and enhance the reach of digital financial services** to all user segments.
- These entities will, however, **not be eligible for any liquidity facility** from RBI to facilitate settlement of their transactions in these **Centralised Payment Systems (CPSs)**.
- This **will be subject to an overall limit of Rs. 2 lakh for non-banks**.
- **Non-Bank Entities becoming the Members of CPS:**
- **Prepaid Payment Instrument (PPI)** issuers, **Card Networks**, **White Label ATM operators**, **Trade Receivables Discounting System (TReDS)** platforms are

going to become members of CPS.

- **Mobile wallets** like Google Pay, Mobikwik, etc. can provide NEFT and RTGS facilities etc to their customers.
- Transfer will be allowed only to **KYC (know your customer)-compliant entities**.

Facility of Cash Withdrawal:

- RBI has also **proposed to allow the facility of cash withdrawal**, subject to a limit, to non-bank entities — full-KYC PPIs of non-bank PPI issuers.
- **Currently, cash withdrawal is allowed only for full-KYC PPIs issued by banks** and this facility is available through ATMs and Point of Sale terminals.
- Holders of such PPIs, **given the comfort that they can withdraw cash**, are less incentivised to carry cash and consequently more likely to perform digital transactions.

Advantages:

- **Increase Digital Transactions:**
- Just as use of **Unified Payment Interface (UPI)** increased over the last 4-5 years since it was opened to third-party aggregators, opening the payment system to non-banks would increase digital payments and transactions significantly.
- **Centralized & Decentralized Payment Systems**
- The **centralized payment systems** will include **Real Time Gross Settlement (RTGS) System and National Electronic Fund Transfer (NEFT) system** and any other system as may be decided by RBI from time to time.

- **RTGS:** It enables real-time transfer of funds to a beneficiary's account and is primarily meant for large-value transactions.
- Real time means the processing of instructions at the time they are received and gross settlement implies that settlement of funds transfer instructions occurs individually.
- **NEFT:** It is an electronic fund transfer system in which the transactions received up to a particular time are **processed in batches**.
- It is **generally used for fund transfers of up to Rs. 2 lakh**.
- The **decentralized payment systems** will include **clearing houses managed by RBI** (Cheque Truncation System (CTS) centres) as well as other banks (Express Cheque Clearing System (ECCS) centres) and any other system as decided by RBI from time to time.

It will enable non-banks to go for full KYC compliance and interoperability.

- **Better Record of Transactions:**
- It will prepare a **digital trail of all individuals doing digital transactions on channels outside the banking system**, which could help the overall financial system.
- **Increase in Market Size:**
- Interoperability of the PPI wallet will **expand the market size and will be beneficial to the end consumers**.
- **Financial Inclusion:**
- This will **open new opportunities for PPI issuers** as they will be able to provide RTGS and NEFT services to the wallet users. Overall, this will take

financial inclusion deeper in the country.

Concerns:

- The opening up of fund transfer and cash withdrawal through non-banks is certainly a sign of a changing banking horizon. **Traditional brick-and-mortar banking is slowly disappearing** with non-banks entering the space.
- The RBI says **India is on the way to becoming Asia's top FinTech hub with an 87% FinTech adoption rate as against the global average of 64%**.
- **Fintech (Financial technology)** refers to the integration of technology into offerings by financial services companies in order to improve their use and delivery to consumers.
- The FinTech market in India was valued at **Rs. 1.9 lakh crore in 2019 and is expected to reach Rs. 6.2 lakh crore by 2025** across diversified fields such as **digital payments, digital lending, peer-to-peer (P2P) lending, Crowdfunding, block chain technology, distributed ledgers technology, big data, RegTech and SupTech**.

Way Forward

- In a world where FinTech companies are leading in terms of the volume of digital transactions and playing a more active role in the banking and finance industry, **it is important that commercial banks adapt to the technological changes and work in tandem with these entities** so that in future they are part of the ecosystem rather than competing with FinTech companies for business.

New Digital Currency Bitcoin

British authorities are exploring the possibility of creating a Central Bank Digital Currency, being touted as "Bitcoin."

- It is a step towards future proofing Pound Sterling (currency of the United Kingdom) against **crypto currencies** and improving the payments system.

Key Points

About Bitcoin:

- In the wake of declining cash payments in the country partly due to the **Corona pandemic**, the Bank of England and the Treasury are considering creating **Digital Currency**.
- The Digital currency, if passed, **would exist alongside cash and bank deposits and act as a new form of money** to be used by households and businesses in England.
- It would **sit at the interface between cash and private payments systems** and would **not necessarily be based on distributed ledger technology**.
- This 'bitcoin' **would be tied to the value of the pound** to eliminate holding it as an asset to derive profit.
- The move **could have an economic impact in the form of wider investment** into the UK tech sector and lower transaction costs for international businesses.
- Britain's digital currency would be different in a key sense as if passed, it **would be issued by state authorities**.
- Currently, only the Bahamas has such a currency, though

China is trialing it in several cities.

Digital Currency:

- Digital currency is a **payment method which is in electronic form and is not tangible**.
- It can be transferred between entities or users with the help of technology like computers, smartphones and the internet.
- Although it is similar to physical currencies, digital money allows borderless transfer of ownership as well as instantaneous transactions.
- Digital currency is also known as digital money and cyber-cash. **E.g. Cryptocurrency.**

Central Bank Digital Currency:

- A central bank digital currency (CBDC) uses an electronic record or digital token to **represent the virtual form of a fiat currency** of a particular nation (or region).
- **Fiat Currency:** It is government-issued currency that is not backed by a physical commodity, such as gold or silver, but rather by the government that issued it.
- A CBDC is **centralized**; it is issued and regulated by the competent monetary authority of the country.
- Each unit acts as a secure digital instrument equivalent to a paper bill and can be used as a mode of payment, a store of value, and an official unit of account.

Benefits:

- CBDC **aims to bring in the best of both worlds**—the convenience and security of digital form like cryptocurrencies, and the regulated, reserved-backed

money circulation of the traditional banking system.

- New forms of digital money **could provide a parallel boost to the vital lifelines that remittances provide** to the poor and to developing economies.
- It will ensure that **people are protected from financial instability** caused due to the failure of private payments systems.
- **Ensures that central banks retain control over monetary policy** against the remote possibility that payments might migrate into cryptocurrencies over which they have no leverage.

Risk Associated:

- There is a need to enforce strict compliance of Know Your Customer (KYC) norms to prevent the **currency's use for terror financing or money laundering**.
- Existence of digital money **could undermine the health of commercial banks** as it removes deposits on which they primarily rely for income.

India's Stand on Digital Currency:

- Reserve Bank India (RBI) had considered cryptocurrencies as a poor unit of account and also demonstrated by their frequent and high fluctuation in value.
- According to RBI, it pose several risks, including anti-money laundering and terrorism financing concerns (AML/CFT) for the state and liquidity, credit, and operational risks for users.
- However, it is **considering developing a sovereign digital currency** when the time is appropriate.

Startup India Seed Fund Scheme

Recently, the Government has launched the Startup India Seed Fund Scheme (SISFS).

- The Scheme was announced during the **'Prarambh: StartupIndia International Summit'** which marked the **five-year anniversary of the Startup India initiative**.

Key Points

About the Startup India Seed Fund Scheme (SISFS):

- **Aim:** To provide financial assistance to startups for proof of concept, prototype development, product trials, market entry, and commercialization.
- **Launched by:** Department for Promotion of Industry and Internal Trade (DPIIT) with an outlay of Rs. 945 Crore.
- **Some Eligibility Conditions:**
 - A startup, recognized by DPIIT, **incorporated not more than 2 years ago** at the time of application.
 - Startups **should not have received more than Rs. 10 lakh of monetary support** under any other Central or State Government scheme.
- **Features:**
 - It will **support an estimated 3,600 entrepreneurs through 300 incubators** in the **next 4 years**.
 - An **Experts Advisory Committee (EAC)**, constituted by DPIIT, will be **responsible for the overall execution and monitoring of the Scheme**.
 - **Grants of upto Rs. 5 crore will be provided to the eligible**

incubators selected by the committee.

- The selected incubators will provide grants of up to Rs. 20 lakh for validation of proof of concept, or prototype development, or product trials to startups.
- Investments of up to Rs. 50 lakh will be provided to the startups for market entry, commercialization, or scaling up through convertible debentures or debt-linked instruments.
- Expected Benefit:
- It will help in creating a robust startup ecosystem in Tier 2 and 3 regions, as the smaller towns in India are often not provided with appropriate funding.

About Startup India Initiative:

- It envisages building a robust Startup ecosystem in the country for nurturing innovation and providing opportunities to budding entrepreneurs. It was launched in 2016.
- The action plan of this initiative focuses on following three areas:
- Simplification and Handholding.
- Funding Support and Incentives.
- Industry-Academia Partnership and Incubation.

Related Government Initiatives:

- **Startup Innovation Challenges:** It is a fantastic opportunity for any startup to leverage their networking and fund-raising efforts.
- **National Startup Awards:** It seeks to recognize and reward outstanding startups and ecosystem enablers that are contributing to economic

dynamism by spurring innovation and injecting competition.

- **Ranking of States on Support to Startup Ecosystems:** It is an evolved evaluation tool aimed to strengthen the support of States and UTs to holistically build their startup ecosystems.
- **SCO Startup Forum:** The first-ever Shanghai Cooperation Organisation (SCO) Startup Forum was launched in October 2020 to develop and improve startup ecosystems collectively.
- **Prarambh:** The 'Prarambh' Summit aims to provide a platform to the startups and young minds from around the world to come with new ideas, innovation and invention.

Global Minimum Corporate Tax Rate

Context: US has proposed for a global corporate minimum tax rate and is working with G20 countries to agree on a global minimum, which it said could help end a "30-year race to the bottom on corporate tax rates.

WHY A GLOBAL MINIMUM TAX?

- Major economies are aiming to discourage multinational companies from shifting profits – and tax revenues – to low-tax countries regardless of where their sales are made.
- Increasingly, income from intangible sources such as drug patents, software and royalties on intellectual property has migrated to these jurisdictions, allowing companies to avoid paying higher taxes in their traditional home countries.
- With a broadly agreed global minimum tax, the US administration hopes to reduce such

tax base erosion without putting American firms at a financial disadvantage, allowing them to compete on innovation, infrastructure and other attributes.

- The Trump administration took a first stab at capturing revenues lost to tax havens with a U.S. corporate offshore minimum tax in 2017. The "Global Intangible Low-Taxed Income," or GILTI, tax rate was only 10.5% – half the domestic corporate tax rate.

WHERE ARE INTERNATIONAL TAX TALKS?

- The Paris-based OECD has been coordinating tax negotiations among 140 countries for years on two major efforts: setting rules for taxing cross-border digital services and curbing tax base erosion, with a global corporate minimum tax part of the latter.
- The OECD and G20 countries aim to reach consensus on both fronts by mid-year, but the talks on a global corporate minimum are technically simpler and politically less contentious.
- Since the talks are consensus based, countries are expected to go along with agreement no matter how unpalatable it may be for some low tax countries.
- The minimum tax is expected to make up the bulk of the \$50 billion-\$80 billion in extra corporate tax that the OECD estimates companies will end up paying globally if deals on both efforts are enacted.

HOW WOULD A GLOBAL MINIMUM TAX WORK?

- The global minimum tax rate would apply to companies' overseas profits. Therefore, if

countries agree on a global minimum, governments could still set whatever local corporate tax rate they want.

- But if companies pay lower rates in a particular country, their home governments could “top-up” their taxes to the agreed minimum rate, eliminating the advantage of shifting profits to a tax haven.
- US has said it wants to deny exemptions for taxes paid to countries that don’t agree to a minimum rate
- The OECD said last month that governments broadly agreed already on the basic design of the minimum tax although the rate remains to be agreed. International tax experts say that is the thorniest issue.
- Other items still to be negotiated include whether industries like investment funds and real estate investment trusts should be covered, when to apply the new rate and ensuring it is compatible with the 2017 U.S. tax reforms aimed at deterring tax-base erosion.

WHAT ABOUT THAT MINIMUM RATE?

- The Biden administration wants to raise the U.S. corporate tax rate to 28%, so it has proposed a global minimum of 21% – double the rate on the current GILTI tax. It also wants the minimum to apply to U.S. companies no matter where the taxable income is earned.
- That proposal is far above the 12.5% minimum tax that had previously been discussed in OECD talks – a level that happens to match Ireland’s corporate tax rate.

- The US is eyeing to get \$2.5 trillion in 15 years by raising corporate tax rates from 21% currently to 28%. However, doing so in isolation will put the US at a disadvantage vis-à-vis tax havens. Therefore, it wants everyone to follow its lead.

Not Good for Low Income/Middle Income Countries

- Multinationals are a source of foreign direct investment. These corporations help to generate demand with efficient utilisation of resources and create employment in low-income countries.
- Nations have used their freedom to set corporation tax rates as a way to attract such businesses. Smaller countries such as Ireland, the Netherlands and Singapore have attracted footloose businesses by offering low corporate tax rates.
- The global minimum tax rate will finish off every opportunity for such countries whose only weapon to attract these companies is lower taxes.
- In a world where there are income inequalities across geographies, a minimum global corporation tax rate could crowd out investment opportunities.
- A lower tax rate is a tool for India to alternatively push economic activity. If the proposal comes into effect, India may experience a longer economic hangover than other developed nations with less ability to offer mega stimulus packages.
- The policy itself puts a question on globalisation as it will be beneficial only for the US to become a monopoly.

National Pension System

Given the dominance of informal employment in India, the Employees’ Provident Fund Organisation, which is contingent on a formal employer-employee relationship, only covers a fraction of the workforce.

About New Pension Scheme

- Started as the New Pension Scheme for government employees in 2004 under a new regulator called the Pension Fund Regulatory and Development Authority (PFRDA), the National Pension System (NPS) has been open for individuals from all walks of life to participate and build a retirement nest-egg
- The NPS has been gradually growing in size and now manages ₹ 5.78 lakh crore of savings and 4.24 crore accounts in multiple savings schemes.
- Of these, over 3.02 crore accounts are part of the Atal Pension Yojana (APY), a government-backed scheme for workers in the unorganised sector that assures a fixed pension payout after retirement.
- The rest constitute voluntary savings from private sector employees and self-employed individuals, for whom some significant changes are on the anvil.

What overhaul is the PFRDA planning?

- Annuitisation of Savings: The law regulating the NPS allows members to withdraw just 60% of their accumulated savings at the time of retirement. With the remaining 40%, it is mandatory to buy an annuity product that

provides a fixed monthly income to retirees till their demise.

- **Exemption to annuitisation:** Members who accumulate up to ₹ 2 lakh in their NPS account at the time of retirement are exempted from the mandatory annuitisation, and can withdraw the full amount.
- **Proposal for New Exemption Limit:** Recently, PFRDA chairman said this limit will soon be revised to Rs 5 lakh.
- **Suppose somebody reached Rs 2.1 lakh at retirement, he will get an annuity component of Rs 84,000 (40% of corpus), which, today, will give an income of Rs 400 or Rs 450 a month. So, now, PFRDA will allow those with savings up to Rs 5 lakh to take the entire corpus out if they choose**
- **More Flexibility:** PFRDA has now proposed to give members a choice to retain 40% of their corpus with the NPS fund managers even after retirement. This, the PFRDA chief believes, will allow them to get better returns, and these savings can be paid out to members over 15 years through something like the systematic withdrawal plan offered by mutual funds.
- **Relaxation in age norms:** Age restrictions to join the NPS are also being eased to allow people to join the scheme up to the age of 70 years, from 65 years earlier.
- **Additional Fund Managers:** At least three more fund managers are expected to be appointed soon, which will take the total managers to ten.
- **While this change shall need Parliament's nod, the expansion of the annuity-free with-**

drawal limit from Rs 2 lakh to Rs 5 lakh is being done immediately

What prompted this rethink?

- **Complaints from NPS Subscribers:** Falling interest rates and poor returns offered by annuity products had triggered complaints from some members and experts about the compulsory annuitisation clause.
- **Poor returns:** Since annuities are taxable, deducting the tax and factoring in the inflation means annuities are yielding negative returns. With retail inflation running at about 5%-6% over the past year, the returns on annuities are, in fact, negative, even if one does not factor in the tax.

What is the impact of changes being made?

- To avoid forcing people into such an unattractive investment, the regulator has tweaked its rules so as to allow better returns to its pension subscribers.
- The flexibility of the pension system will enable more people to invest in NPS as it will be considered as safe & risk free return on their savings.
- Appointment of additional fund managers shows that government is serious about expanding the user base of NPS and make it more attractive to them through efficient utilization of funds.

PowerGrid Infrastructure Investment Trust

The Power Grid Corporation of India (PGCIL) launched its Infrastructure Investment Trust

(InvIT) - PowerGrid Infrastructure Investment Trust (PGInvIT).

Key Points

About PGInvIT:

- This is the **first time a state-owned entity (PGCIL) is monetizing its infrastructure assets through the InvIT route.**
- This will be **only the third InvIT to be listed in the Indian markets**, after IRB InvIT and India Grid Trust, both of which went public in 2017.
- The InvIT route was **proposed by the Centre as an alternative fundraising route** for state-run companies to manage funding requirements without having to depend on government support.

Power Grid

- It is a **public limited company** under the administrative control of the **Ministry of Power.**
- It is the **largest power transmission company in India.**
- It started its commercial operation in the year 1992-93 and is today, a **Maharatna company.**

About Infrastructure

Investment Trust (InvIT):

- It is a **collective investment scheme similar to a mutual fund**, which enables **direct investment** of money from **individual and institutional investors in infrastructure projects** to earn a small portion of the income as return.
- InvITs can be treated as the **modified version of REITs (real estate investment trusts)** designed to suit the specific circumstances of the infrastructure sector.

- It is **created to hold income-generating and operational infrastructure assets** such as roads, power transmission lines, gas pipelines, etc.
- These assets have long-term contracts with strong counterparties that provide a steady cash flow over the long term – typically 15-20 years.
- The InvITs are **regulated by the SEBI (Infrastructure Investment Trusts) Regulations, 2014**.
- An InvIT consists of four elements:
- **Trustee** has the responsibility of inspecting the performance of an InvIT.
- **Sponsor(s)** are promoters of the company that set up the InvIT.
- **Investment Manager** is entrusted with the task of supervising the assets and investments of the InvIT.
- **Project Manager** is responsible for the execution of the project.
- Units of InvITs **can be listed and traded on a stock exchange**, providing them liquidity.
- Or they **can be private and unlisted**, in which case they are not publicly traded and largely invested in by institutional investors.

Advantages of Setting up InvITs:

- For **sponsors** (infrastructure developers), InvITs **provide a convenient route to monetize revenue-generating assets, unlock equity gains, and deleverage their balance sheets** (i.e. to reduce debts).
- InvITs also **present a more tax-friendly structure**. Being a

trust, all income received by the InvIT from underlying assets receives a pass-through treatment and is not taxable at the InvIT level.

- **For investors** such as banks, financial institutions, pension funds, insurance companies, and even retail investors, InvITs **provide a good low-risk investment opportunity**.

Disadvantages of InvITs:

- InvITs are **sensitive to changes in regulatory and tax law**.
- Infrastructure assets are **not inflation-linked in India**.
- A high rate of inflation has a significant impact on the performance of InvITs.

RBI Report on Asset Reconstruction Companies

The Reserve Bank of India (RBI) in its report on Asset Reconstruction Companies (ARCs) said that the growth of the ARC industry has not been consistent over time and not always been synchronous with the trends in Non-Performing Assets (NPAs) of banks and Non-Banking Financial Companies (NBFCs).

- However, the RBI has **supported the government's proposal for a new ARC**, saying that "such an entity will strengthen the asset resolution mechanism further."

Key Points

About the Asset Reconstruction Company (ARC):

- It is a **specialized financial institution that buys the Non Performing Assets (NPAs) from banks and financial insti-**

tutions so that they can clean up their balance sheets.

- A **NPA** is a loan or advance for which the principal or interest payment remained overdue for a period of 90 days.
- This **helps banks to concentrate in normal banking activities**. Banks rather than going after the defaulters by wasting their time and effort, can sell the bad assets to the ARCs at a mutually agreed value.
- The **Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002** provides the **legal basis for the setting up of ARCs in India**.
- The Act helps reconstruction of bad assets without the intervention of courts. Since then, a large number of ARCs were formed and were registered with the RBI.
- **RBI has got the power to regulate the ARCs**.

Growth of the ARC Industry:

- **Number of ARCs:** The **ARC industry began with the establishment of the Asset Reconstruction Company India Ltd (ARCIL) in 2003**. After remaining **subdued in the initial years** of their inception, a **jump** was seen in the number of ARCs in 2008, and then in 2016.
- **Concentration of Business among Few ARCs:** There has been a concentration in the industry **in terms of Assets Under Management (AUM) and the Security Receipts (SRs) issued**.
- **Security Receipts (SR)** are **issued by the ARCs when NPAs of commercial banks**

and/or financial institutions are acquired by the ARCs for the purpose of recovery.

- **AUMs can be measured** with the help of SRs outstanding.
- **Decline in 'Assets Under Management':** The growth in ARCs' AUM has been largely **trendless** except for a major spurt in FY14.
- The AUM of ARCs has been on a declining trend **when compared with the volume of NPAs of banks and NBFCs**, except during the period of high growth in the AUM around 2013-14.
- During 2019-20, asset sales by banks to ARCs declined, which could probably be due to banks **opting for other resolution channels** such as **Insolvency and Bankruptcy Code (IBC)** and **SARFAESI**.

Issues with Indian ARCs:

- Indian ARCs have been **private sector entities** registered with the Reserve Bank. **Public sector AMCs in other countries** have often enjoyed easy access to

government funding or government-backed.

- The **capital constraints** have often been highlighted as an area of concern for ARCs in India.
- Despite the regulatory push to broaden, and thereby enhance, the capital base of these companies, they **have remained reliant primarily on domestic sources of capital, particularly banks**.
- Banks supply NPAs to the ARCs, hold shareholding in these entities and also lend to them, which makes it necessary to monitor if there is a **"circuitous movement of funds between banks and these institutions"**.

About the New ARC:



- The **movement in asset quality of banks and NBFCs** following the Covid-19 pandemic **could bring ARCs into greater focus and action**.
- The ARC proposed in the Budget **will be set up by state-owned and private sector**

banks, and there will be **no equity contribution from the Centre**.

- The ARC, which will have an Asset Management Company (AMC) to manage and sell bad assets, **will look to resolve stressed assets of Rs. 2-2.5 lakh crore** that remain unresolved in around 70 large accounts.
- The introduction of a new ARC for addressing the NPAs of public sector banks **may also shape the operations of the existing ARCs**.
- There is a **definite scope** for the entry of a well-capitalised and well-designed entity in the Indian ARC industry. Such an entity will strengthen the asset resolution mechanism further.

Committee on ARCs:

- The RBI has announced the setting up of a committee, under the **chairmanship of Sudarshan Sen**, to undertake a comprehensive review of the working of ARCs in the financial sector ecosystem.

<div>  <div> <h2>Abhyasa Program Structure</h2>  </div> </div>			
	Multiple Choice Questions (PRELIMS)	Descriptive Questions (MAINS)	Total Marks
Daily Test	10 (10*1 = 10 marks)	1 (1*10= 10 Marks)	20
Weekly Test	20 (20*1 = 20 marks)	2 (2*10= 20 Marks)	40
Fortnightly Test	30 (30*1 = 30 marks)	3 (3*10= 30 Marks)	60
Monthly Test	50 (50*1 = 50 marks)	5 (5*10= 50 Marks)	100
3 Months Test	100 (100*1 = 100 marks)	10 (10*10= 100 Marks)	200
Total Questions	4250+	500+	



GEOGRAPHY AND ENVIRONMENT

World Cities Culture Forum

The Chief Minister of Delhi will represent Delhi and India at the World Cities Culture Forum (WCCF).

- The date for this year's annual summit is yet to be announced on the forum's website.

Key Points

- **Establishment:** WCCF was established in London in 2012 with eight cities.
- **Member Cities:** It has 43 participating member cities.
- Participating member cities include London, Hong Kong, Amsterdam, Edinburgh, Lisbon, San Francisco, Shanghai, etc.
- **Delhi** is invited this year but it is not a part of member cities.
- **Role:** It enables the policy makers of member cities to share research and intelligence, and explores the vital role of culture in their future prosperity.
- **Managed By:** The activities of the World Cities Culture Forum



are organised and delivered by BOP Consulting, a specialist consulting firm, on behalf of the Greater London Authority, London's Municipal Government.

- **BOP** conducts comparative research to measure the impact and importance of culture and creativity, and shares it with the Forum so members can make evidence-based policy decisions.
- **World Cities Culture Summit:** Forum members collaborate via a programme of events including themed symposia, regional summits and workshops. These events feed into the annual World Cities Culture Summit.

- Hosted on a rotating basis by member cities, **this unique gathering** allows city leaders to share ideas and knowledge about the role of culture as an organising principle for the sustainable city of the future.
- It is **attended by Deputy Mayors for Culture and Heads of Culture** from the member cities.
- **2021 Theme:** The Future of Culture.
- **World Cities Culture Report:** Delhi will also be part of the World Cities Culture Report - the most comprehensive global dataset on culture in cities.
- It is **published by the forum every three years**, with data and details on innovative projects from cities across the world. The last report was published in 2018.

Red Sea

An Iranian freighter was hit by Israel in the Red Sea in retaliation for past Iranian strikes on its vessels. The blast struck the Iranian

commercial vessel MV Saviz off the coast of Djibouti.

- The attack came as Iranian officials gathered in Vienna to **negotiate the restoration of a 2015 deal Joint Comprehensive Plan of Action (JCPOA) that was designed to curb Iran's nuclear activities.**

Key Points

Red Sea:

Location:

- The Red Sea is a **semi-enclosed tropical basin**, bounded by northeastern Africa, to the west, and the **Arabian peninsula**, to the east.
- The **elongated and narrow-shaped basin** extends between the **Mediterranean Sea**, to the north-west, and the Indian Ocean, to the south-east.
- At the northern end, it separates into the **Gulf of Aqaba and the Gulf of Suez**, which is connected to the Mediterranean Sea via the **Suez Canal**.
- At the southern end, it is connected to the **Gulf of Aden**, and the outer Indian Ocean, via the Strait of **Bab-el-Mandeb**.
- It is surrounded by **desert or semi-desert areas**, with no major freshwater inflow.

Formation:

- The Red sea acquired its present shape over the **past 4 to 5 million years**, by slow **seafloor spreading**, a fact that makes it a geologically recent opening and one of the **youngest oceanic zones on Earth**.
- Today, the basin continues to widen at a rate of 1-2 cm per year

Biodiversity:

- The unique habitats of the Red sea support a wide range of marine life, including **sea turtles, dugongs, dolphins** and many endemic fish species.
- **Coral reefs** mainly extend along the northern and central coasts, and decrease in abundance towards the southern region, as coastal waters become more turbid.

The Reason why it is called Red Sea:

- There are various theories as to how the name came about, with the most popular being a reference to the **seasonal blooms of Trichodesmium erythraeum (a red-colored algae)** near the water's surface.
- Other scholars believe it is linked to the way Asiatic languages often use colors to refer to cardinal directions, with "**red**" referring to "**south**" just as the **Black Sea** may be referring to the north.

Joint Comprehensive Plan of Action

- In 2015, **Iran with the P5+1 group of world powers - the US, UK, France, China, Russia, and Germany** agreed on a long-term deal on its nuclear programme.
- The deal was named as **Joint Comprehensive Plan of Action (JCPOA)** and in common parlance as Iran Nuclear Deal.
- The deal came after years of tension over Iran's alleged efforts to develop nuclear weapons.
- Iran insisted that its nuclear programme was entirely peaceful, but the international community did not believe that.

- Under the JCPOA, **Iran agreed to limit its nuclear activities** by stopping uranium enrichment and allowing the international agencies to inspect its nuclear facilities in return for the lifting of economic sanctions.
- However, in May 2018, the USA pulled out of the JCPOA and threatened to impose sanctions on Iran and on nations doing a significant amount of trade with Iran.

Population Stabilisation in India

Only Ten Indian States have achieved the replacement levels of fertility (total fertility rate of 2.1). The National Population Policy, 2000 affirmed a commitment to achieve replacement levels of fertility by 2010

About Replacement level of Fertility

- Replacement level fertility is the level of fertility at which a population exactly replaces itself from one generation to the next. In developed countries, replacement level fertility can be taken as requiring an average of 2.1 children per woman.
- In countries with high infant and child mortality rates, however, the average number of births may need to be much higher. Replacement level fertility is not associated with an unique set of age-specific birth rates.

Present Scenario

- Ten states — Karnataka, Punjab, Gujarat, Assam, Telangana, Andhra Pradesh,

West Bengal, Maharashtra, Tamil Nadu and Kerala — and Jammu and Kashmir, have achieved the levels of fertility.

- Fertility has been declining in India for some time now. A comparison of 2011 and 2018 SRS statistical reports showed that Total Fertility Rate (TFR) declined from 2.4 to 2.2 during this period.
- India's population is expected to grow by 25%, with reference to 2011, to 1.52 billion by 2036, according to the final report of the technical group on population projections dated July 2020.
- The report projects that as much as 70% of this increase will be in urban areas. Consequently, the proportion of the rural population will decline from 69% to 61% as the urban population is projected to increase more than twice the projected increase in the rural population.

Replacement Fertility Goals and Regional Division

- Five Southern states had accomplished this goal much earlier, irrespective of literacy and education levels and could permeate all sections, while states like Uttar Pradesh and Bihar are continue to drift.
- However, other states like Gujarat, Assam, West Bengal and Telangana are also showing the sign of declining. This fertility decline over half of India has cut across all sections of society — the privileged and the poor, those educated or not, and the high and low caste.
- The National Family Health Survey-4 has also shown how TFR has reduced even among

illiterate women from all religions in the southern states — even in Kerala and Telangana which have a high proportion of Muslims.

- Fertility decline was achieved because southern governments proactively urged families to have only two children, followed by female sterilisation immediately thereafter.
- UP and Bihar are 23 per cent of India's population and are projected to grow by over 12 per cent and 20 per cent in the next 15 years. Their high TFR pervades all religious groups despite the allegation that high fertility prevails disproportionately only among Muslims.
- **Projected Growth**
- Uttar Pradesh, which would already be the eighth-most populous in the world if it were a country, will see its population increase from 199 million in 2011 to 258 million in 2036 – an increase of almost 30%.
- On the other hand, the five southern states of Kerala, Karna-taka, Andhra Pradesh, Telangana and Tamil Nadu will account for only 9% of the growth.
- In some districts of Northern States, the contraceptive prevalence rate is less than 10 per cent. While neither Hindus nor Muslims use modern family planning methods
- Bihar has the highest fertility rate in the country and also the highest outmigration. Almost half the women in some districts have a migrant husband and empirical evidence shows women's unwillingness to seek contraception in the absence of the husband, resulting in

unprotected sex when he returns.

- Population control programmes in Uttar Pradesh as SIFPSA (State Innovations in Family Planning Services Agency) has not been implemented well. Women in rural UP are still giving birth to four or more children.

Barriers

- Son preference, falling sex ratios, and abhorrence towards begetting a second or third female child are negative developments that have penetrated even into rural areas.
- Weak educational and economic status of women, poor implementation of population stabilisation programmes, role of political/religious leaders to promote child births for larger community viz a particular caste, religion, or sect; as a method of staying relevant in country.
- Prevalent backwardness in society, gender and religion issues regarding child births, tapered reach and knowledge of women to the contraception and personal health.

Concerns

- Along with population stabilisation, skewed sex ratio could be a problem for India. A balanced sex ratio is essential to secure social cohesion. China is already facing a demographic catastrophe because its nearly four decade-long one child policy resulted in a strong son preference and a large bride shortage. India will need more than girl friendly schemes to change track.
- The next concern is ageing. Southern states will face prob-

lem of ageing in future. Having largely redeemed their demographic dividend, the cohort of the elderly will start outstripping the working age population.

- Further, the freeze on the statewise allocation of seats in Parliament until 2026 was extended through the Constitutional (84th Amendment) Act, 2002, to serve “as a motivational measure to pursue population stabilisation” — a goal which has not been achieved. In the absence of further extension, it will be politically destabilising.

Needed Steps

- Promoting Male Sterilisation: National and state policies emphasis male vasectomy. But no other country in the world uses female sterilisation as excessively as India. After the 2014 Bilaspur outrage, when more than four score sterilisations were conducted in less than six hours and several women died, one expected that states would go slow on compulsory female sterilisation. But surprisingly, even Kerala with all its progress still relies on female sterilisation (above 88 per cent) as the predominant modern method of contraception.
- Proper Implementation of Injectable Rights: Indonesia and Bangladesh introduced injectables (using contraceptive injections) right from the late 1980s but India only did so in 2016. Executed properly, one jab renders protection from pregnancy for three months. This method needs greater impetus given the helplessness

of women who carry the burden of unwanted pregnancies.

- Incentivise Later Marriages and child births : Studies reflects that women who have been married later in the age are more equipped with knowledge of conceiving child than early marriages even as early as 18 years old. Moreover, it also makes it safer for both infant and maternal health, which significantly reduces mortality rates.
- Make Contraception Easy for Women: In a society like India, women are often shy about talking about such topics and their reach to contraception is almost negligible. With religion as Muslims situation even becomes worse. Its prevalence is more in the rural areas. In such cases it is needed that health workers, rural and health services, awareness programmes are more relevant in this area.
- Promote Women's Labour Force Participation: Women with more economical freedom are tend to take better personal decisions. It will be effective in rural aspects more, which can easily enhance reach and awareness.

Conclusion

In nutshell, three things are needed for population stabilisation - incentivise later marriages and child births; make contraception easy for women and promote women's labour force participation. The population momentum, if managed properly in the Hindi belt, will remain India's biggest asset until 2055. By 2040, India will be the undisputed king of human capital.

Antarctica's Doomsday Glacier

Researchers from Sweden's University of Gothenburg have been able to obtain data from underneath Thwaites Glacier, also known as the 'Doomsday Glacier'.

- They find that the **supply of warm water to the glacier is larger than previously thought**, triggering concerns of faster melting and accelerating ice flow.

Key Points

Doomsday Glacier:

- Called the **Thwaites Glacier**, it is **120 km wide at its broadest**, fast-moving, and melting fast over the years.
- Because of its **size (1.9 lakh square km)**, it contains **enough water to raise the world sea level** by more than half a metre.
- Studies have found the **amount of ice flowing** out of it has **nearly doubled over the past 30 years**.
- Today, Thwaites's melting **already contributes 4% to global sea level rise** each year.
- It is estimated that it would collapse into the sea in **200-900 years**.
- Thwaites is **important for Antarctica as it slows the ice behind it** from freely flowing **into the ocean**.
- Because of the risk it faces, and poses, Thwaites is often called the **Doomsday Glacier** (Doomsday meaning warning or threat, something that can cause destruction).

Previous Studies:

- **Hole in the Glacier:** A 2019 study had discovered a fast-

growing cavity in the glacier, sized roughly two-thirds the area of Manhattan.

- The size of a cavity under a glacier plays an important role in melting. As more heat and water get under the glacier, it melts faster.
- **Detection of Warm Water at Grounding Line:**
- **About:** In 2020, researchers from New York University (NYU) detected warm water at a vital point below the glacier. In the NYU study, scientists dug a 600-m-deep and 35-cm-wide access hole, and deployed an ocean-sensing device called Icefin to measure the waters moving below the glacier's surface.
- **Findings:**
- The NYU study reported water at just two degrees above freezing point at Thwaites's "grounding zone" or "grounding line".
- The grounding line is the place below a glacier at which the ice transitions between resting fully on bedrock and floating on the ocean as an ice shelf. The location of the line is a pointer to the rate of retreat of a glacier.
- When glaciers melt and lose weight, they float off the land where they used to be situated. When this happens, the grounding line retreats. That exposes more of a glacier's underside to seawater, increasing the likelihood it will melt faster.
- This results in the glacier speeding up, stretching out, and thinning, causing the grounding line to retreat ever further.

Findings from Sweden's Gothenburg Study (New Study):

- **About:** Sweden's Gothenburg study used an uncrewed submarine to go under the Thwaites glacier front to make observations.
- The submersible called "Ran" measured among other things the strength, temperature, salinity and oxygen content of the ocean currents that go under the glacier.
- Using the results, the researchers have been able to map the ocean currents that flow below Thwaites's floating part.
- **Findings:** The researchers have been able to identify three inflows of warm water, among whom the damaging effects of one had been underestimated in the past.
- The researchers discovered that there is a deep connection to the east through which deep water flows from Pine Island Bay, a connection that was previously thought to be blocked by an underwater ridge.
- Pine Island Bay is a drainage system of West Antarctica.
- The study also looked at heat transport in one of the three channels which brings warm water towards the glacier from the north.
- They found that there were distinct paths that water takes in and out of the ice shelf cavity, influenced by the geometry of the ocean floor.

Way Forward

- The study shows that warm water is approaching the pin-

ning points of the glacier from all sides, impacting these locations where the ice is connected to the seabed and where the ice sheet finds stability. This has the potential to make things worse for Thwaites, whose ice shelf is already retreating.

- For the first time, data is being collected that is necessary to model the dynamics of Thwaites glacier. This data will help better calculate ice melting in the future.
- With the help of new technology, models can be improved and the great uncertainty that now prevails around global sea level variations can be reduced.

Space Hurricane

For the first time, astronomers have detected a powerful, 600-milewide (1,000 kilometers) hurricane of plasma in Earth's upper atmosphere — a phenomenon they are calling a "space hurricane."

What is Space Hurricane?

- A space hurricane is a huge, funnel-like, spiral geomagnetic storm that occurs above the polar Ionosphere of Earth, during extremely quiet conditions.
- They are related to the aurora borealis phenomenon, as the electron precipitation from the storm's funnel produces gigantic, cyclone-shaped auroras.
- Scientists believe that they occur in the polar regions of planets with magnetic fields.
- Space hurricanes are formed by plasma interacting with magnetic fields and draw energy down from the flow of the Solar wind.

What is Plasma?

- The universe is made up of space plasma. Plasma is the word given to the fourth state of matter (solid, liquid, gas, plasma).
- Plasma is a gas that is so hot that some or all its constituent atoms are split up into electrons and ions, which can move independently of each other.

What's Unique about It?

- Large, swirling storms called hurricanes hit frequently in the Earth's low atmosphere, but they were not known to occur in the upper atmosphere.
- Scientists have for the first time observed a space hurricane in Earth's upper atmosphere.
- The spiral-armed space hurricane swirled roughly 125 miles over the North Pole, churning in place for almost eight hours.

Detection

- Researchers have analysed the observations made by satellites in 2014 to reveal a long-lasting hurricane, resembling those in the lower atmosphere, in the polar ionosphere and magnetosphere with surprisingly large energy and momentum deposition despite otherwise extremely quiet geomagnetic conditions.
- The analysis allowed a 3D image to be created of the 1,000km-wide swirling mass of plasma several hundred kilometres above the North Pole, raining electrons instead of water

Formation

- Space hurricanes, like other space weather events, are

caused by streams of plasma unleashed from the sun in what's known as the solar wind.

- As these clouds of charged particles hurl through space, they can fuel magnetic storms and trigger stunning displays of the northern or southern lights.

Significance

- These features indicate that the space hurricane leads to large and rapid deposition of energy and flux into the polar ionosphere during an otherwise extremely quiet geomagnetic condition, suggesting that current geomagnetic activity indicators do not properly represent the dramatic activity within space hurricanes, which are located further poleward than geomagnetic index observatories.
- Scientists routinely monitor space weather because radiation from particles from the sun can wreak havoc on satellites in orbit and can occasionally disrupt infrastructure on the ground, such as surges in power lines.
- Since the observed space hurricane occurred over the North Pole, it's not thought that it would pose many dangers to people at lower latitudes, but there are implications for communications and navigation systems.
- The space hurricane will lead to have better understanding of important space weather effects like increased satellite drag, disturbances in High Frequency (HF) radio communications, and increased errors in over-the-horizon radar loca-

tion, satellite navigation and communication systems.

Danube Sturgeon

According to a report released by the World Wildlife Fund (WWF), illegal sale of Danube Sturgeon, one of the most endangered species in the world, is rampant in the lower Danube (River) region, especially in Bulgaria, Romania, Serbia and Ukraine.

- Danube is the **second longest river in Europe after the Volga**. It **rises in the Black Forest mountains of western Germany** and flows for some 2,850 km to its mouth on the **Black Sea**.

Key Points

About:

- Sturgeons have **existed since the time of dinosaurs**, for about **200 million years**. Some of the species can grow up to **eight metre in length and live more than a century**.
- They are called '**living fossils**' because their appearance has altered very little over the years.
- **Living Fossil** is an organism that has **remained unchanged from earlier geologic times** and whose close relatives are usually extinct.
- Other than Sturgeons, **Horseshoe crab** and ginkgo trees are examples of living fossils.
- Because the sturgeons live for so many years, mature late and spawn with long intervals, they take a long time to recover from environmental and human pressures, according to WWF. This makes them **great**

indicators for the health of the river and other ecological parameters.

Habitat:

- There are **27 species of sturgeons** and paddlefishes distributed across the Northern hemisphere. While **some species inhabit only freshwater**, most species are anadromous, spawning in freshwater but spending much of their life history in marine or brackish environments.
- Danube sturgeons live mostly in the **Black Sea**, migrating up the Danube and other major rivers to spawn.

Threats:

- **Over-exploitation and poaching** (exacerbated by poor fishery management and insufficient legal enforcement of fishing bans).
- **Blocked migration routes** through dams.
- **Loss or degradation of habitats.**
- **Pollution.**

Protection Status:

- **IUCN Red list:** There are **6 species of sturgeon in the Danube River**. Five of them are now listed as **critically endangered**.
- **CITES: Appendix-II.**

Net-Zero Target by 2050

The Intergovernmental Panel on Climate Change (IPCC) 1.5 °C report called for global carbon emissions to reach net-zero by 2050.

- Presently, the target to achieve the net-zero target by 2050 is strongly put forward as the

solution to achieve Paris climate targets.

- The US will organize the 'Leaders' Climate Summit this week, consequently, India is under pressure to adopt a net-zero target by 2050.

Should India adopt net-zero target by 2050?

- India is a climate-vulnerable country and therefore India must also contribute to limit global temperature rise.
- However, India should factor in the history of global climate negotiations and its own developmental needs before announcing its contributions. For example,
- India is still a very poor country with a significant development deficit. Further, India's per-capita carbon emissions are less than half the world average.
- Further, India should compel developed countries to reach net-zero before 2050. Since developed countries made use of a larger portion of the carbon space.

How India Could Contribute?

- India needs to focus on Short term targeted approach of low-carbon development pathways that combine competitiveness, job-creation, distributional justice, and low pollution. This approach will be consistent with India moving towards net-zero emissions.
- A pragmatic approach towards low carbon development in the Power sector is illustrated as an example below. A similar approach to other sectors can be adopted.

What changes the power sector requires?

- De-carbonizing power sector will help India achieve its net-zero emissions. Since it is the single largest source (about 40%) of India's greenhouse gas emissions.
- Till now, India has focused only on expanding renewable electricity capacity. For instance, 175GW of renewable capacity by 2022 and 450GW of renewable capacity by 2030.
- But India should also aim at limiting the expansion of coal-based electricity capacity. Coal accounts for roughly 75% of the electricity today.

How to bring about those changes?

- First, India needs to pledge that it will reach peak coal electricity capacity by 2030. It would be beneficial for India, since coal is increasingly uneconomic, and phasing it out will bring local gains, such as reduced air pollution, climate mitigation, etc.,
- Second, the creation of a multi-stakeholder Just Transition Commission representing all levels of government and the affected communities. This is necessary because the transition costs of a low-carbon future should not affect India's poor.
- Third, address existing problems of the Power sector such as the poor finances and management of distribution companies.
- Fourth, India should aim to become a leader in technologies of the future such as electricity storage, smart grids

through a partnership with the private sector.

- Fifth, India's electricity transition should couple with job creation and global competitiveness.
- Sixth, Enhancing the efficiency of electricity use is important to decarbonize the electricity supply. For instance, Air conditioners, fans, and refrigerators together consume about 60% of the electricity in households. Increasing the efficiency of electric appliances will not only reduce greenhouse gas emissions will also lower consumer electricity bills.

Way forward

1. Such a sector-by-sector approach can be developed for other sectors to set India on the path toward net-zero emissions target.
 2. Going further, India may even consider committing to submit plausible pathways and timelines to achieving net-zero emissions target as part of its future pledges. It will give India adequate time to
- One, undertake detailed assessments of its development needs and low-carbon opportunities.
 - Two, to assess the seriousness of the net-zero actions by developed countries,
 - Three, to assess the potential geopolitical and geo-economic risks of over-dependence on certain countries for technologies or materials.
 - Four, to develop a strategic road map to enhance its own technology and manufacturing competence as part of the global clean energy supply chain.

Environmental Impact of Ken-Betwa Link Project

On World Water Day (March 22nd), MP and UP signed a tripartite agreement with the Centre to introduce the Ken-Betwa link Project (KBLP).

- But the project will have a significant environmental impact, and its benefits are uncertain.
- The project would be wasting significant sums of public funds. Whereas the project will do little to address Bundelkhand's water shortages.

What is KEN-Betwa Project?

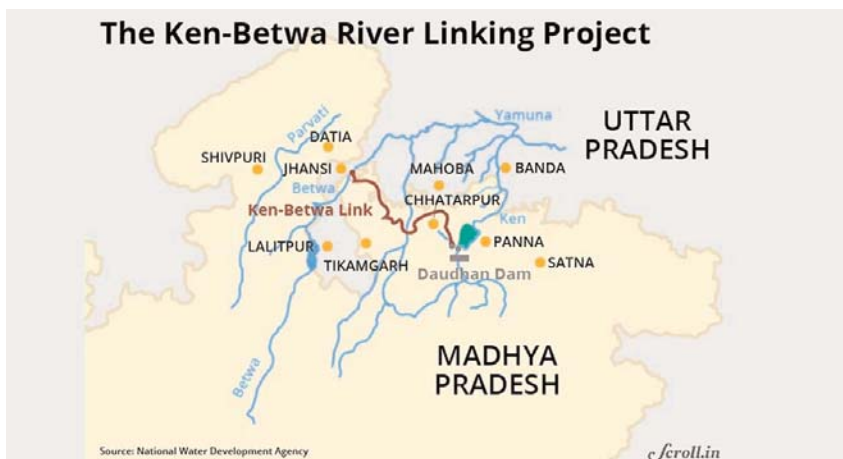
- The Ken-Betwa Link Project (KBLP) aims to transfer surplus water from the Ken river in MP to Betwa in UP. It will provide water to irrigate the drought-prone Bundelkhand area, which is spread across two states' districts.
- Ken-Betwa Link Project is the first project under the National Perspective Plan for the interlinking of rivers.
- The central government has proposed a 90:10 funding pattern for the Ken Betwa Interlinking Project. The centre bearing 90 percent of the total estimated cost.

Advantage of Interlining of Ken-Betwa Rivers-

- First, Irrigation - The project will provide sustainable means of irrigation water to the Bundelkhand region in U.P. and M.P. It will reduce excessive dependence on groundwater.
 1. The to-be-built Daudhan dam will irrigate nearly 6,00,000 hectares in four districts in M.P. and 2,51,000 hectares in four districts in U.P.
- Second, Disaster mitigation- The river linking project will be a solution to recurring droughts in the Bundelkhand region.
- Third, Electricity Production- The project will generate 103 MW of hydropower and provide drinking water to 62 lakh people.

Concern related to the project

- **First, Environmental concern-**
- The 12,500 hectares of land will submerge by the project.
- The project would harm Panna tiger reserve. It will cause irreversible damage to around 40% of the tiger reserve's area.
- Disrupting ecosystems - Approximately 7.2 lakh trees will cut down. This will have an



impact on the rainfall of the region.

- **Second, The project is not economically viable-**
- In the past few years, the river did not always flow in a steady stream.
- There is a significant financial expense associated with project implementation and maintenance. It is increasing as a result of project delays.
- Another challenge would be that the Ken River flows 60-70 feet lower than the Betwa River. It requires at least 30% of the 103 MW produced power to pump the water up.
- **Third, Clearance issue-** The Supreme Court's Central Empowered Committee, which had raised questions about the Ken-Betwa project, did not issue a clearance.

Way forward-

The sustainable and cost-effective alternatives to the Ken-Betwa project have not been considered.

- Government should consider multiple water-harvesting and water-conservation methods. It could adequately store and efficiently make use of rainfall the region receives annually, without the need for building a reservoir and dam.

New Forecast Dynamical Model

The India Meteorological Department (IMD) has forecast a normal monsoon for this year.

- The southwest monsoon in 2021, which will begin in June, is forecast to be regular, with 98 percent of the Long Period Average rainfall (LPA).

- During the monsoon season, weak El Nino conditions are likely to prevail, with severity decreasing as the season progresses.
- Rainfall between 96 and 104 percent of the Long Period Average [LPA] is considered normal.

What is the importance of the new Dynamical monsoon Model?

New Dynamical Monsoon Model uses the evolving weather patterns to predict monsoon. It is unlike the traditional method, in which the forecast was based on a fixed set of meteorological variables.

- Also, dynamic models are useful for predicting rainfall over smaller spatial and temporal scales. It is not possible with IMD's previous statistical forecasting method.
- IMD will forecast rainfall for June and September, using this model. It was previously difficult to predict due to the monsoon's arrival and departure.
- There will also be forecasts for the monsoon core zone [MCZ]. It represents most of the rain-fed agriculture regions in the country.

Why is it important to correctly forecast rainfall?

1. For disaster preparedness
 - Accurate forecasts will aid in the implementation of preventative measures, the reduction of vulnerabilities. It can also prevent extreme events from turning into disasters.
- For example- Preparation of a heat plan/forest fires plan in case of hot summer.

- For agriculture purposes
 - Farmers can decide on sowing time based on local conditions. Also, they can decide the type of crop that is best suited to the conditions, using accurate forecasting.
- For Government planning- the Centre and states can prepare better joint plans with respect to agriculture; such as drought action plan, MSP and buffer creation. It can better use and optimize government schemes
- For several business and service sector industries which need weather products.

Way forward

IMD's move from a statistical to Dynamical model will improve the accuracy of its forecast. So that farmers, policymakers, local administration, scientists & aid organizations can make most of it.

GANGA - "River of life"

Recently, India witnessed the world's largest religious congregation as millions of pilgrims gathered for a holy dip in the Ganga during the Kumbh Mela. Since time immemorial, the Kumbh Mela has been a melting pot for varied beliefs, practices, philosophies, and ideologies.

Unfortunately, over time, the increase in population, coupled with unregulated industrialization and unsustainable agricultural practices, have led to a significant increase in pollutants in the Ganga river and its tributaries.

However, after the launch of the flagship program called Namami Gange, the pollution in River Ganga has significantly reduced. It has adopted a holistic approach to public policy, tech-

nology intervention, and community participation.

Reasons for Polluted River Ganga

- **Urbanization:** Rapid urbanization in India during the recent decades has given rise to a number of environmental problems such as water supply, wastewater generation and its collection, treatment, and disposal.
- **Many towns and cities** which came upon the banks of river Ganga have not given proper thought to the problem of wastewater, sewerage, etc.
- **Industries:** Unrestricted flow of sewage and industrial effluents into the Ganga has adversely affected its purity. All these industrial wastes are toxic to life forms that consume this water.
- **The other significant contributors** to wastewater are paper mills, steel plants, textile, and sugar industries.
- **Agricultural Runoff and Improper Agricultural Practices:** Traces of fertilizers and pesticides are washed into the nearest water bodies at the onset of the monsoons or whenever there are heavy rains.
- **Withdrawal of Water:** According to a report of the Ministry of Water Resources on the study of minimum flows in the Ganga, impact on river water quality resulting from discharges of treated or untreated wastewater into the river will depend on the dilution offered by the quantum of flows in the river.
- **However, River Ganga gets starved of water** when they

enter the plain area. For instance, the Upper Ganga Canal and the Lower Ganga Canal have left the Ganga downstream almost dry.

- **Religious and Social Practices:** Religious faith and social practices also add to the pollution of the river Ganga.
- **Dead bodies** are cremated on the river banks. Partially burnt bodies are also flung into the river.
- **Mass bathing** in a river during religious festivals is another environmentally harmful practice.
- **All this is done** as a matter of religious faith and in keeping with ancient rituals. These practices pollute the river water and adversely affect the water quality.

Steps Taken to Reduce Pollution in River Ganga

- **Public Policy:** In 2016, the government issued a notification to authorize the National Mission for Clean Ganga (NMCG) to exercise powers under the Environment (Protection) Act, 1986.
- **NMCG also issued directives** regulating mining activities on river banks, prohibiting encroachment, and regulating activities like the immersion of idols.
- **Technology Intervention:** NMCG adopted cutting-edge technologies like satellite imagery, remote sensing, and geospatial solutions which facilitated real-time monitoring of pollutants in Ganga and its tributaries.
- **Scientific forecast models** were deployed for designing new

sewage treatment infrastructure.

- **Community Participation:** To encourage community participation in cleaning the river, an awareness campaign is regularly carried out in cities, towns, and villages alongside Ganga through a newly-established community force called “Ganga Praharis”.
- **Through them,** the government seeks to transform “jal chetna” into “jan chetna” and turn it into a “jal andolan”.

Conclusion

The Constitution of India mandates the central and state governments to provide both a clean and decent environment and clean drinking water for the people (Article 48A, Art. 51 (A) (g), Article 21). Also, the Supreme Court has declared that the right to a decent and clean environment is a fundamental right.

In this context, the Namami Gange project is a step in the right direction to clean the river Ganga and should be emulated to deal with pollution in other rivers of India.

State of the Global Climate 2020

Recently, the World Meteorological Organization (WMO) released its annual State of the Global Climate for 2020.

- The report was released ahead of the **Leaders Summit on Climate**, hosted by the US.
- **Extreme weather** combined with **Covid-19** was a double blow for millions of people in 2020. However, the **pandemic-related economic slowdown failed to put a brake on cli-**



mate change drivers and accelerating impacts.

Key Points

Global Temperature:

- 2020 was one of the three warmest years on record, despite a cooling La Niña event.
- The global average temperature was about 1.2° Celsius above the pre-industrial (1850-1900) level.
- The other two warmest years are 2016 and 2019.
- The six years since 2015 have been the warmest on record.
- 2011-2020 was the warmest decade on record.

Greenhouse Gases:

- Emission of major greenhouse gases increased in 2019 and 2020.
- It will be higher in 2021.
- Concentrations of the major greenhouse gases in the air continued to increase in 2019 and 2020.

- Globally, averaged mole fractions of carbon dioxide (CO₂) have already exceeded 410 parts per million (ppm), and if the CO₂ concentration follows the same pattern as in previous years, it could reach or exceed 414 ppm in 2021.

- Mole fraction represents the number of molecules of a particular component in a mixture divided by the total number of moles in the given mixture. It's a way of expressing the concentration of a solution.

Oceans:

- In 2019, the oceans had the highest heat content on record. In 2020, it has broken this record further. Over 80% of the ocean area experienced at least one marine heat-wave in 2020.
- A marine heatwave is defined when seawater temperatures exceed a seasonally-varying

threshold for at least 5 consecutive days.

- The percentage of the ocean that experienced "strong" marine heat waves (45%) was greater than that which experienced "moderate" marine heat waves (28%).

Sea-level Rise:

- Since record-taking started in 1993 using the satellite altimeter, sea-level has been rising. It is due to the La Niña induced cooling.
- Sea level has recently been rising at a higher rate partly due to the increased melting of the ice sheets in Greenland and Antarctica.

The Arctic and the Antarctica:

- In 2020, the Arctic sea-ice extent came down to second lowest on record.
- The 2020 minimum extent was 3.74 million square kilometre, marking only the second time (after 2012) on record that it shrank to less than 4 million sq km.
- In a large region of the Siberian Arctic, temperatures in 2020 were more than 3°C above average.
- A record temperature of 38°C was noted in the town of Verkhoyansk, Russia.
- The Antarctic sea-ice extent remained close to the long-term average.
- However, the Antarctic ice sheet has exhibited a strong mass loss trend since the late 1990s.
- This trend accelerated around 2005, and currently, Antarctica loses approximate-

ly 175 to 225 Gigaton per year, due to the increasing flow rates of major glaciers in West Antarctica and the Antarctic Peninsula.

Extreme Weather Events in India:

- India experienced one of its wettest monsoons since 1994, with a seasonal surplus of 9% that led to severe floods and landslides.
- Cyclone Amphan, which hit Kolkata in May 2020, has been named as the costliest tropical cyclone for the North Indian Ocean region that brought about an estimated loss of USD 14 billion.

Climatic Impact:

- **Extreme Weather Situations:**
- Along with the pandemic, people across the world struggled to survive as they faced extreme weather in the form of storms, cyclones, heavy rainfall and record heat.
- **Response and recovery** to people hit by cyclones, storms and similar extreme weather was constrained throughout the pandemic in 2020.
- **Human Mobility Issues:**
- Mobility restrictions and economic downturns owing to Covid-19 slowed down delivery of humanitarian assistance to vulnerable and displaced populations, who live in dense settlements.
- The pandemic added further dimension to human mobility concerns, highlighting the need for an integrated approach to understanding and addressing climate risk and impact on vulnerable populations.

Study on Groundwater Depletion

In a recent study, it has been found that groundwater depletion in India could reduce winter cropped acreage significantly in years ahead.

- The researchers studied India's three main irrigation types on winter cropped areas: dug wells, tube wells and canals.
- The researchers also analysed the groundwater data from the Central Ground Water Board.
- Wheat, barley, peas, gram and mustard are grown in winter.

Key Points

Present Scenario:

- India has achieved impressive food-production gains since the 1960s, due to an increased reliance on irrigation wells, which allowed Indian farmers to expand production into the mostly dry winter and summer seasons.
- India is the world's second-largest producer of wheat and rice and is home to more than 600 million farmers.
- India produces 10% of the world's crops and is now the world's largest consumer of groundwater, and aquifers are rapidly becoming depleted across much of India.
- In the green revolution era, policy-supported environment led to a large increase in rice cultivation in northwestern India mainly in Punjab and Haryana which are ecologically less suitable for rice cultivation due to predominantly light soils.

- This policy-supported intensive agriculture led to unsustainable groundwater use for irrigation and in turn groundwater scarcity.

Findings of the Study:

- **Related to Groundwater:**
- Groundwater is a critical resource for food security, accounting for 60% of irrigation supplies in India, but unsustainable consumption of groundwater for irrigation and home use is leading to its depletion.
- Groundwater depletion in India could result in a reduction in food crops by up to 20% across the country and up to 68% in regions projected to have low future groundwater availability in 2025.
- It is found that 13% of the villages in which farmers plant a winter crop are located in critically water-depleted regions.
- The results suggest that these losses will largely occur in northwest and central India.
- **Related to Switching to Canal Irrigation:**
- Indian government has suggested that switching from groundwater-depletion wells to irrigation canals is one way to overcome projected shortfalls.
- The irrigation canals divert surface water from lakes and rivers.
- However, switching to canal irrigation has limited adaptation potential at the national scale.
- The study suggests that switch to canal irrigation will not fully compensate for the expected loss of groundwater in Indian agriculture.

- Further, in comparison to tube well irrigation, **canal irrigation was associated with less winter cropped area** and cropped area that was more sensitive to rainfall variability.

- **Related to Impact on Crop Production:**

- **Reduction in Cropping Intensity:** Even if all regions that are currently using depleted groundwater for irrigation will switch to using canal irrigation, cropping intensity **may decline by 7% nationally** and by 24% in the most severely affected locations.

- It is found that irrigation canals would favour farms close to canals, leading to unequal access.

- ✦ **Reductions in Wheat Production:** The reductions in crop area will occur largely in the states that grow wheat, potentially leading to substantial reductions in wheat production in the future.

- ✦ **Food Security:** The low wheat production could have ramifications for food security given that India is the second largest producer of wheat globally and wheat provides approximately 20% of household calories in India.

Cropping Intensity

- It refers to **raising of a number of crops from the same field during one agricultural year**; it can be expressed through a formula.
- **Cropping Intensity = Gross Cropped Area/Net Sown Area x 100.**
- **Gross Cropped Area:** This represents the total area sown once and/or more than once in

a particular year, i.e. the area is counted as many times as there are sowings in a year. This total area is also known as total cropped area or total area sown.

- **Net Sown Area:** This represents the total area sown with crops and orchards. Area sown more than once in the same year is counted only once.
- Around 51% of India's geographical area is already under cultivation as compared to 11% of the world average.
- The present cropping intensity of 136% has registered an increase of only 25% since independence. Further, rainfed drylands constitute 65% of the total net sown area.

Central Ground Water Board

- It is a subordinate office of the **Ministry of Jal Shakti** and is the National Apex Agency entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of groundwater resources of the country.
- It was **established in 1970** by renaming the Exploratory Tubewells Organization under the Ministry of Agriculture and later on merged with the **Groundwater Wing of the Geological Survey of India** during 1972.

Way Forward

- **Irrigation Infrastructure in Eastern India:** There are enough groundwater resources supported with higher monsoon rainfall in eastern Indian states like Bihar. But due to lack of enough irrigation infrastruc-

ture, farmers are not able to make use of natural resources there.

- There is a need for better policies in eastern India to expand irrigation and thus increase agricultural productivity.
- This will also release some pressure from northwestern Indian states.
- **Water-saving Technologies:** Adoption of water-saving technologies like a sprinkler, drip irrigation.
- **Less water-Intensive Crops:** Switching to less water-intensive crops in some areas may help use the limited groundwater resources more effectively.

Green Initiatives of Saudi Arabia



Recently, Saudi Arabia launched Saudi Green Initiative and the Middle East Green Initiative to combat the threat of climate change.

Key Points

Background and G20 Summit:

- One of the main pillars of the Saudi G20 presidency was to **safeguard the planet.**
- In 2020, G20 introduced initiatives like establishing a **Global Coral Reef Research and Development Accelerator Platform** and the **Circular**

Carbon Economy (CCE) Platform.

- Saudi Arabia reiterated that it is committed to lead regional efforts to address climate change and has been making steady progress in this direction.
- Saudi Arabia established the **Environmental Special Forces** in 2019.

Saudi Green Initiative:

Aim:

- To **raise the vegetation cover, reduce carbon emissions, combat pollution and land degradation, and preserve marine life.**

Features:

- **10 billion trees** will be planted in the Kingdom.
- To **reduce carbon emissions by more than 4% of global contributions**, through a **renewable energy programme** that will generate 50% of Saudi's energy from renewables by 2030.
- Saudi Arabia is working towards **raising the percentage of its protected areas to more than 30% of its total land area**, exceeding the global target of 17%.

Middle East Green Initiative :

Aim:

- To preserve marine and coastal environments, increase the proportion of natural reserves and protected land, **improve the regulation of oil production, accelerate the transition to clean energy and boost the amount of energy generated by renewables.**

Features:

- Saudi Arabia will work with the **Gulf Cooperation Council** countries and regional partners to plant an additional 40 billion trees in the West Asian region.
- It represents 5% of the global target of planting one trillion trees and reducing 2.5% of global carbon levels.
- Saudi Arabia will **convene an annual summit called the Middle East Green Initiative** which will host leaders from the government, scientists and environmentalists to discuss the details of implementation.
- In partnership with participating countries, **innovative methods will be researched** to irrigate from treated water, cloud seeding and other purpose-driven solutions such as planting native trees which requires support for three years to grow and will then be able to survive on their own with natural irrigation.

Current Support:

- Saudi Arabia has been sharing its expertise and know-how with its neighbouring countries to **reduce carbon emissions resulting from hydrocarbon production in the region by 60% and globally by 10%.**
- Saudi Arabia currently operates the **largest carbon capture and utilisation plant in the world**, it also operates one of the **region's most advanced CO2-enhanced oil recovery plants** that captures and stores 8,00,000 tonnes of CO2 annually.

Appreciating Indian Efforts:

- Saudi Arabia also appreciated India's remarkable commit-

ments to tackle climate change as India is on track to achieve its **Paris Agreement** targets.

- India's **renewable energy capacity is the fourth largest in the world.** India has an ambitious target of achieving **450 gigawatts of renewable energy capacity by 2030.**

Related Indian Initiatives:

- **National Clean Air Programme (NCAP)**
- **Bharat Stage-VI (BS-VI) emission norms**
- **UJALA scheme**
- **National Action Plan on Climate Change (NAPCC)**
- **International Solar Alliance**
- **Coalition for Disaster Resilience Infrastructure**

Way Forward

- Saudi Arabia hopes that the launch of the two Initiatives marks the **beginning of a green era** and that these **initiatives provide momentum to other countries to unify their efforts to save our planet.**
- Economic prosperity cannot be achieved at the cost of the environment. It is critical for us, as an industry, to shift from 'pollute-first, clean-up later' attitude and **commit to preserving our diminishing natural resources.**
- The intent and aspiration to align economic efforts with the environment should not be restricted to the government. **Collaboration between the industry, government and regulatory bodies will help in evaluating decisions on economic viability and environmental benefits.**



SCIENCE AND TECHNOLOGY

AI Portal SUPACE

Recently, the Chief Justice of India (CJI) launched an Artificial Intelligence (AI) based portal 'SUPACE' in the judicial system aimed at assisting judges with legal research.

- SUPACE is short for **Supreme Court Portal for Assistance in Court's Efficiency**.
- Earlier, the **E-Courts Project** was conceptualised on the basis of "National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary - 2005" submitted by the e-Committee of the Supreme Court.

Key Points

About SUPACE:

- It is a tool that collects relevant facts and laws and makes them available to a judge.
- It is not designed to take decisions, but only to process facts and to make them available to judges looking for an input for a decision.

- Initially, it will be used on an **experimental basis by the judges of Bombay and Delhi High Courts** who deal with criminal matters.

Significance:

- It will produce results customized to the need of the case and the way the judge thinks.
- This will be time saving. It will help the judiciary and the court in reducing delays and pendency of cases.
- AI will present a more streamlined, cost effective and time bound means to the fundamental right of access to justice.
- It will make the service delivery mechanism transparent and cost-efficient.

Challenge:

- **Redundancy of certain posts** after introduction of SUPACE.
- Since it is intended to do what the human mind can do, but much more efficiently and methodically, there is apprehension in the generation of unemployment.

hension in the generation of unemployment.

E-Courts Project

About:

- It was conceptualized with a vision to transform the **Indian Judiciary by ICT (Information and Communication Technology) enablement of Courts**.
- It is a **pan-India Project**, monitored and funded by the **Department of Justice**, Ministry of Law and Justice, for the **District Courts** across the country.

Objectives of the Project:

- To provide efficient & time-bound citizen-centric services delivery.
- To develop, install & implement decision support systems in courts.
- To automate the processes to provide transparency and accessibility of information to its stakeholders.
- To enhance judicial productivity, both qualitatively & quantitatively, to make the justice

delivery system affordable, accessible, cost-effective, predictable, reliable and transparent.

Covid-19 Reinfection

A team of scientists from the Indian Council of Medical Research (ICMR) examined the cases of 1,300 individuals who had tested positive for the corona virus twice.

- It was found that 58 cases of the 1,300 individuals or **4.5% could be classified as possible reinfections.**

Key Points

Worldwide Cases of Reinfection:

- The first confirmed case was reported from **Hong Kong.**
- A couple of cases from the **United States and Belgium** also emerged.
- However, there have been several cases of **people testing positive for the virus multiple times**, even in India, but not all such cases are considered reinfections.
- Such cases are the result of what is called "**persistent viral shedding**".

Persistent Viral Shedding

- When an individual gets infected by a respiratory virus like SARS-CoV-2, the virus particles bind to the various types of viral receptor.
- Thus, Recovered patients can sometimes continue to carry low levels of virus within their system for up to three months.
- These levels are no longer enough to make the person sick or transmit the disease to

others, but it can get detected in diagnostic tests.

- The disease developed from such persistent virus is what is called Persistent viral shedding.

Significance of the Study of Reinfection:

- It is crucial to make it clear whether a person who has been infected once develops permanent immunity against the disease, or can get reinfected after some time.
- This understanding of the possibility of reinfection is **crucial to the fight** against the Covid-19 pandemic.
- It will help **decide the intervention strategies** required to control the spread of the disease.
- It will also help assess **how long people would have to depend on masks and physical distancing.**
- It will have implications on the **vaccination drive** as well.

Determination of Reinfection:

- **Genome sequence analysis** of the virus sample is done by scientists for conclusive proof of reinfection.
- Because the virus mutates continuously, the genome sequences of the two samples would have some differences.
- However, virus samples from every infected person are not being collected for genome analysis.
- Therefore, in most of the cases there is usually no **genome sequence** from the previous infection to compare with.
- Thus the scientists of ICMR looked at cases in which patients had reported **positive**

results at least at the gap of 102 days. That would not include the disease from persistent viral shedding.

- According to the **Centers for Disease Control (CDC)** in the USA, **viral shedding continues until only about 90 days.**

Symptoms in Reinfection:

- The majority of the disinfectant patients **remained asymptomatic** during the intervening period, while few reported **mild symptoms.**
- Some had symptoms such as **intermittent fever, cough, or shortness of breath.**

Implications of the Reinfection:

- The scientists point out that **permanent immunity cannot be assumed.**
- Reinfection might very well be happening and could be confirmed if it was possible to do genome analysis of every infected person.
- If reinfection is the case the use of masks and social distancing would be a new normal.

Chinese Cyber Attacks

Accepting that there is a capability differential between India and China, India's Chief of Defense Staff (CDS) made a statement that China is capable of launching cyber attacks on India that can disrupt a large number of systems.

- A new study found out that the power outage last year in Mumbai, which was said to be the worst power failure in decades, may have its links to the India and China border tensions in Ladakh.
- The study adds that the mega Mumbai power outage may be

the result of a cyber attack from China in an attempt to give a sign to India not to press too hard on the borders.

- According to the CDS, India may not be fully able to catch up with China and hence trying to develop relationships with the Western nations in this regard, which will help us overcome this deficiency.
- According to the Union Ministry of Power, state sponsored Chinese hacker groups targeted various Indian power centers including Mumbai.
- The Ministry also said that these groups have been thwarted after government cyber agencies wondered about their activities.
- NCIIPC Report stated that a Chinese state-sponsored threat Actor group known as Red Echo is targeting Indian Power sector's Regional Load Dispatch Centres (RLDCs) along with State Load Dispatch Centres (SLDCs).

Chinese Cyber Attacks on India

- The maximum number of cyber attacks on official Indian websites are by China followed by the US and Russia. The cyber attacks from China make up 35% of the total number of cyber attacks on official Indian websites, followed by the US (17%), Russia (15%), Pakistan (9%), Canada (7%) and Germany (5%).
- Such incidents where a State is involved in cyber attacks are not new for India. These are often referred to as state sponsored cyber attacks which are a part of cyber warfare.

- In 2009, a suspected cyber espionage network dubbed as GhostNet was found to be targeting the Tibetan government in exile in India, and many Indian embassies.
- By pursuing the leads from that discovery, researchers found what they dubbed the Shadow Network- a vast cyberespionage operation which extensively targeted Indian entities, including military establishments, news publications, and even the National Security Council Secretariat itself, with clear evidence that confidential documents had been accessed by the attackers.

Cyber Warfare

- It involves units which are organised along nation state boundaries, in offensive and defensive operations and uses computers to attack other computers or networks through electronic means.
- Hackers and other individuals who are trained in software programming and exploiting the intricacies of computer networks are primarily executed for such attacks.
- These individuals operate under the auspices and possibly the support of nation state actors.
- In a nutshell, cyber warfare simply involves those actions by a nation state or an international organisation that attack and attempt to damage and other nations' computers or information networks through means such as computer viruses or denial of service attacks.

Methods of Cyber Warfare

- Sabotage- Military and financial computer systems are at risk

for the disruption of normal operations and equipment like communications, power, fuel and transportation infrastructures.

- Espionage- These are the illegal exploitation methods which are used to disable networks, software, computers or the Internet to steal or acquire critical or classified information from rival institutions/ nations/ individuals either for military, political or financial gains.

India's Measures to strengthen Cybersecurity

- National Security Council- It is usually chaired by the National Security Adviser (NSA), and plays a key role in shaping India's cyber policy ecosystem. It is the executive agency that is responsible for advising the Prime Minister's Office on issues of national security and strategic interest.
- National Information Board- It is the apex body that is responsible for coordination among the different ministries on cybersecurity policymaking.
- National Critical Information Infrastructure Protection Centre (NCIIPC)- It was established under the National Technical Research Organisation in January 2014 and mandated to facilitate the protection of critical information infrastructure in India.
- National Cyber Security Coordinator- It advises the National Security Council Secretariat in overseeing and compliance of all the cyber security aspects including implementation of action plans in cyber security by the nodal agencies, evaluation and analy-

sis of incidents, then forming incident response monitoring teams.

- India's Computer Emergency Response Team (CERT-IN)- It is the nodal entity responding to various cyber security threats like hacking and phishing to non-critical infrastructure. It provides Incident Prevention and Response Services as well as Security Quality Management Services. It collects, analyses and disseminates information on cyber incidents, and also issues alerts on cybersecurity incidents.
- The Ministry of Defence has recently upgraded the Defence Information Assurance and Research Agency to establish the Defence Cyber Agency, a tri-service command of the Indian armed forces to coordinate and control joint cyber operations, and craft India's cyber doctrine.
- Ministry of Home Affairs oversees multiple "coordination centres" that focus on law enforcement efforts to address cybercrime, espionage and terrorism.
- Indian Cyber Crime Coordination Centre (I4C)- It is established to deal with all types of cybercrimes in a comprehensive and coordinated manner.
- National Cyber Crime Reporting Portal- It is a citizen centric initiative that enables citizens to report cybercrimes online and the complaints are assessed by the concerned law enforcement agencies and actions are taken as per law.
- National cyber security policy, 2013- It is aimed at building a secure and resilient cyberspace

for citizens, businesses and the government and has a mission to protect cyberspace information and infrastructure, build capabilities to prevent and respond to cyber attacks and minimise damages through coordinated efforts of institutional structures, people, processes and technology.

- Cyber Swachhta Kendra (Botnet Cleaning and malware Analysis Centre)- It is a new desktop and mobile security solution for cyber security in India and was launched in 2017 by CERT-IN.
- The Ministry of External Affairs coordinates India's cyber diplomacy push — both bilaterally with other countries, and at international fora like the United Nations and persuades initiatives of cyber security of the countries.

Remaining Concerns

- Presence of multiple agencies with overlapping functions has resulted in lack of cooperation and effective coordination.
- This also is a major cause of lack of institutional boundaries and accountability.
- Reports indicate that India too engages in targeted cyber-attacks, the rules of engagement for that too are unclear. This is unlike India's approach to other global security regimes. For e.g. the 'No First Use' nuclear doctrine.
- The absence of a credible cyber deterrence strategy means that states and non-state actors alike remain incentivised to undertake low scale cyber operations for a variety of purposes — espionage, cybercrime, and even the disruption of critical

information infrastructure.

Conclusion

Clearer strategy and greater transparency is the need of the hour to improve India's cybersecurity posture. To better detect and counter threats from both state actors and their proxies as well as online criminals, improved coordination is needed at different levels like between the government and the private sector, within the government itself —at the national and State levels. A clear public posture on cyber defence and warfare boosts citizen confidence, helps build trust among allies, and clearly signals intent to potential adversaries, thus enabling a more stable and secure cyber ecosystem.

National Supercomputing Mission

The second phase of the National Supercomputing Mission (NSM) will be completed by September 2021, taking India's total computational capacity to 16 Petaflops.

Key Points

About the National Supercomputing Mission (NSM):

- **Launch:** NSM was announced in 2015, with an aim to connect national academic and R&D institutions with a grid of more than 70 high-performance computing facilities at an estimated cost of Rs. 4,500 crores over the period of seven years by 2022.
- It supports the government's vision of 'Digital India' and 'Make in India'.
- **Implementation:** NSM is jointly steered by the Ministry of Electronics and IT (MeitY) and

Department of Science and Technology (DST - Ministry of Science and Technology) and implemented by the **Centre for Development of Advanced Computing (C-DAC)**, Pune and the Indian Institute of Science (IISc), Bengaluru.

- **Features:**
- It is also an effort **to improve the number of supercomputers** owned by India.
- These supercomputers will also be networked on the National Supercomputing grid over the **National Knowledge Network (NKN)**. The NKN connects academic institutions and R&D labs over a high-speed network.
- Under NSM, the long-term plan is to build a strong base of 20,000 skilled persons over the next five years who will be equipped to handle the complexities of supercomputers.

Progress of NSM:

- In the first phase, **PARAM Shivay, PARAM Shakti, PARAM Brahma, PARAM Yukti and PARAM Sanganak** were deployed at IIT (BHU), IIT Kharagpur, Indian Institute of Science Education and Research, Pune, and Jawaharlal Nehru Centre for Advanced Research.
- Recently, **PARAM-Siddhi AI**, has been ranked 63rd in the **Top 500 list of most powerful supercomputers** in the world. It was developed under the NSM.

Recent Development:

- In October 2020, **C-DAC had inked MoUs with IITs** along with IISc, National Agri-Food Biotechnology Institute and

NIT, Tiruchirapalli — where a High Power Computing (HPC) system in each institute is currently being installed.

- So far, **over 4,500 people have been trained in HPC** and further training in **Artificial Intelligence** will be held at special NSM nodal centres established at four IITs — **Kharagpur, Madras, Goa and Palakkad.**

Challenges:

- The NSM envisages setting up a network of 70 high-performance computing facilities in the country but **skewed funding for the mission** during the initial years slowed down the overall pace of building supercomputers.
- **Only 16.67% of the total budget of Rs. 4,500 crore**, was utilised during the first four-and-a-half years for execution of the mission.

Global Scenario:

- Globally, **China** has the maximum number of supercomputers and maintains the **top position** in the world, followed by the **US, Japan, France, Germany, Netherlands, Ireland and the United Kingdom.**

100% Sustainable Fuel for Formula 1

Recently, the **Fédération Internationale de l'Automobile (FIA)** has announced the first barrels of 100% sustainable fuel, made from bio waste and developed to stringent F1(Formula One) specifications, have been delivered to Power Unit manufacturers.

- FIA announced its intent to make F1 carbon neutral by

2030 and to have sustainable races by 2025.

Formula One

- Formula One, also called F1 in short, is an **international auto racing sport**. F1 cars are the **fastest regulated road-course racing cars in the world.**
- F1 is the highest level of single-seat, open-wheel and open-cockpit professional motor racing contest.
- Formula One racing is **governed and sanctioned by a world body called the Fédération Internationale de l'Automobile (FIA)** or the International Automobile Federation. The name 'Formula' comes from the set of rules that the participating cars and drivers must follow.

Key Points

F1 Current Carbon Footprint:

- **Direct Effect:**
- F1's driving activities produce approximately **2,56,000 tonnes of carbon dioxide per year**, which is the equivalent to powering roughly 30,000 houses in the UK over the same time period.

Indirect Effect:

- The main issue is not the **cars themselves**, which **accounted for only 0.7%** of the sport's emissions in 2019, but the **logistics of transporting teams and equipment across the globe.**
- In 2019, road, sea and air **logistics for equipment transportation accounted for 45% of F1's emissions** with business travel for teams contributing an additional 27.7%.

- Rounding up the list, **factories and facilities servicing the sport** represent 19.3% of emissions, and event operations, another 7.3%.

Uncounted Emission:

- The 2,56,000 number doesn't even factor in the impact of fans, millions of whom require transportation and accommodation on and around the race weekend.
- If one were to include the emissions generated by fans, the total carbon footprint of F1 catapults to approximately **1.9 million tonnes** of carbon dioxide generated by the sport annually.

100% Sustainable Fuels:

Background:

- One of the most high-profile ways in which F1 plans to reduce its environmental impact is through the **continued evolution of energy-efficient engines**.
- Starting from 1989 when the FIA Alternative Fuel Commission was formed, F1 has committed to a number of initiatives designed to improve engine efficiency, with the most notable being its **global fuel economy initiative in 2007** which aims to reduce fuel consumption by 50% across the competition.
- In 2020, the FIA announced that it had developed a **100% sustainable fuel** and that engine manufacturers were already in the process of testing it, intending to start using it by 2026.

About:

- A 100% sustainable fuel essentially represents the **third gen-**

eration and most advanced iteration of Biofuels, which typically are made from by-products of industrial or agricultural waste.

- F1 cars already use biofuels but current regulations only mandate that the fuel include 5.75% of bio-components.
- In 2022 that number will increase to 10% and by 2025, when new power units are proposed to enter the competition, the **FIA hopes to transition completely to 100% advanced sustainable fuels**.

Biofuels

About:

- Any hydrocarbon fuel that is produced from an organic matter (living or once living material) in a short period of time (days, weeks, or even months) is considered a biofuel.
- Biofuels may be solid, liquid or gaseous in nature.
- **Solid:** Wood, dried plant material, and manure
- **Liquid:** Bioethanol and Biodiesel
- **Gaseous:** Biogas
- These can be used to replace or can be used in addition to diesel, petrol or other fossil fuels for transport, stationary, portable and other applications. Also, they can be used to generate heat and electricity.

Categories of Biofuels:

- **First generation biofuels:**
- These are **made from food sources such as sugar, starch, vegetable oil, or animal fats** using conventional technology.

- Common first-generation biofuels include **Bioalcohols, Biodiesel, Vegetable oil, Bioethers, Biogas**.

• Second generation biofuels:

- These are **produced from non-food crops** or portions of food crops that are not edible and considered as wastes, e.g. stems, husks, wood chips, and fruit skins and peeling.

- **Thermochemical** reactions or **biochemical** conversion processes are used for producing such fuels.

- **Examples:** Cellulose ethanol and biodiesel.

• Third generation biofuels:

- These are **produced from micro-organisms** like algae.

- **Example:** Butanol

- Micro-organisms like algae can be grown using land and water unsuitable for food production, therefore reducing the strain on already depleted water sources.

• Fourth Generation Biofuels:

- In the production of these fuels, **crops that are genetically engineered to take in high amounts of carbon are grown and harvested as biomass**.

- The crops are then converted into fuel using second generation techniques.

- The fuel is pre-combusted and the carbon is captured. Then the carbon is geo-sequestered, meaning that the carbon is stored in depleted oil or gas fields or in unmineable coal seams.

- Some of these fuels are considered as **carbon negative** as their production pulls out carbon from the environment.

India's Related Initiatives:

- **E20 Fuel:** The Indian government has invited public comments for introducing adoption of E20 fuel (a blend of 20% ethanol with gasoline).
- **Pradhan Mantri JI-VAN Yojana, 2019:** The objective of the scheme is to create an ecosystem for setting up commercial projects and to boost research and development in the 2G Ethanol sector.
- **Reduction in GST:** The Government has also reduced GST on ethanol for blending in fuel from 18% to 5%.
- **National Biofuel Policy 2018:** The Policy categorises biofuels as "Basic Biofuels" viz. First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels" - Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.

B.1.617: Indian Double Mutant Strain

The 'double mutant' virus that is having a bearing on the spread of the pandemic in India, has been formally classified as B.1.617.

- **Mutation** is an alteration in the genetic material (the genome) of a cell of a living organism or of a virus that is more or less permanent and that can be transmitted to the cell's or the virus's descendants.

Key Points

Double Mutant (B.1.617):

- Earlier Genome sequencing of a section of virus samples by

the Indian SARS-CoV-2 Consortium on Genomics (INSACOG), revealed the presence of two mutations, E484Q and L452R.

- Though these mutations have individually been found in several countries, the **presence of both these mutations together** have been first found in coronavirus genomes from India.
- This double mutant from India has been scientifically named as **B.1.167**. However, it is yet to be classified as '**Variant of Concern**'.
- Till now only three global 'Variants of Concern' have been identified: the **U.K. variant (B.1.1.7), the South African (B.1.351) and the Brazilian (P.1) lineage**.
- **Spread of B.1.617:** According to the INSACOG, sequencing a sample of genomes from coronavirus patients in India, **B.1.617 was first detected in India** in December, 2020.
- Today, nearly **70% of the genome sequences** with the mutations characterising **B.1.617** are from India.
- This is followed by the **United Kingdom (23%), Singapore (2%) and Australia (1%)**.

Variant of Concern

- These are variants for which there is evidence of an increase in transmissibility, more severe disease (increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.

Issues Associated with Mutants:

- Mutant virus is **associated with large spikes** of Covid-19 cases in some countries.
- It enables **viruses to become more infectious** as well as **evade antibodies**.
- It has also been associated with a **reduction in vaccine efficacy**. International studies have shown reduced efficacy of vaccines particularly those by Pfizer, Moderna and Novavax to certain variants.
- However, the vaccines continue to be significantly protective in spite of this.

Another Mutation:

- According to INSACOG, there is also a **third significant mutation, P614R** other than the two mutations (E484Q and L452R).
- All three concerning **mutations are on the spike protein**. The spike protein is the part of the virus that it uses to penetrate human cells.
- Virus' spike protein may increase the risks and allow the virus to escape the immune system.

Resistant to T cells:

- **L452R** could even make the coronavirus resistant to T cells, that is the class of cells necessary to target and destroy virus-infected cells.
- T cells are different from antibodies that are useful in blocking coronavirus particles and preventing it from proliferating.

Ocean Acoustic During Covid-19

There was reduced noise pollution on the surface of earth during

the Covid-19 pandemic owing to lockdowns and stop of economic activities (like international trade).

- In the underwater world, too, **anthrophony (human-made sounds)** reduced substantially for long months.

Key Points

Noise in the Ocean:

- The three broad components of oceanic acoustics are:
- **Geophony:** Sounds created by **non-biological natural events** like earthquakes, waves and bubbling.
- **Biophony:** Sounds created by the ocean's living creatures.
- **Anthrophony:** Sounds created by human beings (a large portion of which is **shipping noise**).
- According to 'the Soundscape of the Anthropocene Ocean report' published in Science Journal in 2021, **geophony and biophony dominated the soundscape** of oceans before the industrial era.
- However, now, **anthrophony interferes with and alters** these natural components.

Noise Level in Modern Times:

- The oceans of the **current geological era (Anthropocene era)** - when human-made disruptions largely influence the environment) are noisier than the pre-industrial times.
- During the first few days of the pandemic, ocean sound monitors at several places recorded a decibel (dB) drop.
- The hydrophones at the **Endeavour node of Canada's Neptune Ocean Observatory** showed an aver-

age decrease of 1.5 dB in year-over-year mean weekly noise power spectral density at 100 hertz.

Impact of Anthrophony:

- In the short term anthrophony masks the **auditory signal processing** by marine animals, **weakening their ability** to forage for food, **escape a predator or attract a mate**.
- In the long run, it can thin out the population of some underwater species.

The International Quiet Ocean Experiment (IQOE):

- It is an international scientific program to promote research, observations, and modelling to improve **understanding of ocean soundscapes and effects of sound on marine organisms**.
- It started in 2015 and will go on till the end of 2025. The IQOE team has gathered large quantities of data during the Covid-19 pandemic.
- IQOE is developing methods to make **ocean acoustic data more comparable**. These data **will be compiled into a global dataset to establish trends in ocean sound** and look for effects of the Covid-19 pandemic on ocean sound.
- The IQOE has identified a **network of over 200 non-military hydrophones (underwater microphones)** in oceans across the world.
- Most of the hydrophones in the network of this project are along the **shores of the USA and Canada**. Now the presence is increasing in several other parts of the world, especially Europe.

- These hydrophones (**that pick up even faraway low-frequency signals**) have recorded sounds from whales and other marine animals, as well as those emanated by human activities.

Hydrophone

- Just as a **microphone collects sound in the air**, a **hydrophone detects acoustic signals under the water**.
- Most hydrophones are based on a special property of certain ceramics that produces a small electrical current when subjected to changes in underwater pressure.
- When submerged in the ocean, a ceramic hydrophone produces small-voltage signals over a wide range of frequencies as it is exposed to underwater sounds emanating from any direction.
- By amplifying and recording these electrical signals, hydrophones measure ocean sounds with great precision.

HGCO19: mRNA Vaccine Candidate

India's mRNA-based Covid-19 vaccine candidate-HGCO19 has received additional government funding for its clinical studies.

- This funding has been awarded under the '**Mission Covid Suraksha**'.

Key Points

HGCO19:

- The novel **mRNA vaccine candidate**, **HGCO19** has been developed by **Pune-based biotechnology company Gennova Biopharmaceuticals**

Ltd. in collaboration with **HDT Biotech Corporation, USA.**

- HGC019 has already demonstrated safety, immunogenicity, neutralization antibody activity in the rodent and non-human primate models.
- Gennova has initiated the enrolment of volunteers for **Phase 1/2 clinical trials** for its vaccine candidate HGC019.

mRNA Vaccine vs Traditional Vaccines:

- Vaccines work by training the body to recognise and respond to the proteins produced by disease-causing organisms, such as a virus or bacteria.
- **Traditional vaccines** are made up of small or inactivated doses of the whole disease-causing organism, or the proteins that it produces, which are introduced into the body to provoke the immune system into mounting a response.
- **mRNA vaccines** tricks the body into producing some of the viral proteins itself.
- They work by using mRNA, or messenger RNA, which is the molecule that essentially puts DNA instructions into action. Inside a cell, mRNA is used as a template to build a protein.

Functioning of mRNA Vaccines:

- To produce a mRNA vaccine, scientists produce a synthetic version of the mRNA that a virus uses to build its infectious proteins.
- This mRNA is delivered into the human body, whose cells read it as instructions to build that viral protein, and therefore create some of the virus's molecules themselves.

- These proteins are solitary, so they do not assemble to form a virus.
- The immune system then detects these viral proteins and starts to produce a defensive response to them.

Advantages of Using mRNA based Vaccines:

- mRNA vaccines are considered **safe** as mRNA is non-infectious, non-integrating in nature, and degraded by standard cellular mechanisms.
- They are **highly efficacious** because of their inherent capability of being translatable into the protein structure inside the cell cytoplasm.
- Additionally, **mRNA vaccines are fully synthetic** and do not require a host for growth, e.g., eggs or bacteria. Therefore, they can be quickly manufactured inexpensively to ensure their "availability" and "accessibility" for mass vaccination on a sustainable basis.

NASA's Ingenuity Mars Helicopter

Recently, NASA's miniature robot helicopter Ingenuity performed a successful takeoff and landing on Mars. It was the first powered, controlled flight on another planet.

- The **first powered flight on Earth** was achieved by the **Wright brothers in 1903** in Kitty Hawk, North Carolina.

Key Points

About Ingenuity:

- Ingenuity is the **first helicopter to fly on Mars.**

- It was carried by NASA's **rover called Perseverance** that was launched in July 2020.
- Ingenuity is able to fly using counter-rotating blades that spin at about 2,400 rpm (Rotations Per Minute).
- It has a **wireless communication system**, and is equipped with computers, navigation sensors, and two cameras.
- It is **solar-powered**, able to charge on its own.

Mission of the Helicopter:

- The helicopter's mission is experimental in nature and completely independent of the rover's science mission.
- It will help collect samples from the surface from locations where the rover cannot reach.

Importance of this Flight:

- Its performance during these experimental test flights will **help inform decisions about small helicopters for future Mars missions** — where they can perform a support role as **robotic scouts, surveying terrain from above**, or as full standalone science craft carrying instrument payloads.

NASA's Perseverance Rover:

- Perseverance landed at the **Jezero Crater (an ancient river delta that has rocks and minerals that could only form in water)** of Mars in February 2021.
- It will remain on the Red Planet for about two years and look for **finding past signs of life.**
- The rover is designed to study signs of **ancient life, collect samples that might be sent back to Earth during future**

missions and test new technology that might benefit future robotic and human missions to the planet.

Baikal-GVD Telescope

Russian scientists have launched one of the world's biggest underwater neutrino telescopes called the Baikal-GVD (Gigaton Volume Detector) in the waters of Lake Baikal, the world's deepest lake situated in Siberia.

- The construction of this telescope, which started in 2016, is motivated by the mission to **study in detail the elusive fundamental particles called neutrinos** and to possibly determine their sources.

Key Points

About Baikal-GVD Telescope:

- It is **one of the three largest neutrino detectors in the world** along with the IceCube at the South Pole and ANTARES in the Mediterranean Sea.
- GVD is **designed to detect high-energy neutrinos** that may have come from the Earth's core, or could have been produced during nuclear reactions in the Sun.
- It will **aid scientists' understanding of the origins of the universe** since some neutrinos were formed during the Big Bang, others continue to be formed as a result of **supernova explosions** or because of **nuclear reactions in the Sun**.

About Fundamental Particles:

- The **universe is made of some fundamental particles** that are indivisible. These **particles can**



be classified into quarks and leptons.

- But this **only applies to “normal matter”** or the matter that scientists know that 5% of the universe is made up of.
- There has been the **discovery of over 12 such quarks and leptons, but three of these (protons, neutrons and electrons) make what is referred to as the building block of life- the atom.**
- **Protons (carry a positive charge) and neutrons (no charge) are types of quarks, whereas electrons (carry a negative charge) are types of leptons.**
- In different combinations, these particles **can make different kinds of atoms, which in turn make up molecules** that form everything- from a human being, to a mobile phone, a planet, and so on.
- Studying what humans and everything around them is made up of **gives scientists a window into understanding**

the universe a better way.

About Neutrinos:

- **Neutrinos (not the same as neutrons) are also a type of fundamental particle.**
- Neutrinos **belong to the family of particles called leptons, and there are three types of neutrino, i.e. electron-neutrino, muon-neutrino, and tau-neutrino.**
- They are the **second most abundant particles, after photons, which are particles of light.**
- However, they are not easy to catch, this is because they **do not carry a charge**, as a result of which they **do not interact with matter.**
- **Natural sources of neutrinos** include the radioactive decay of primordial elements within the earth, radioactivity in the sun, cosmic interactions in the atmosphere and others.
- One way of **detecting neutrinos is in water or ice**, where neutrinos leave a flash of light

or a line of bubbles when they interact. To capture these signs, scientists have to build large detectors.

Whitest Ever Paint Reflects 99% of Sunlight

The team of researchers from Purdue University have created an ultra-white paint.

- The newer paint is whiter and **keeps the surface areas it is painted on cooler** and thus can act as a breakthrough in **combating the woes of global warming**.

Key Points

About:

- The new ultrawhite white paint **reflects 99% of all light** that hits it, remaining significantly cooler than the ambient temperature, even when sitting in full sunlight.
- **Typical commercial white paint gets warmer instead of cooler** and paints currently available in the market reflect only 80-90% of the sunlight and therefore, they can't make surfaces cooler than their surroundings.
- **Older formulations of white paints were made of calcium carbonate**, while the **new one is made up of barium sulphate** making it more white.
- Barium Sulphate is used to make photo paper and cosmetics white. Different sized particles of this chemical compound, helps in scattering different amounts of light. This allows for light to scatter in a broad range, resulting in the highest reflectance.

- The paint could be the **closest equivalent to the blackest black paint Vantablack**, which is able to absorb 99.9% of visible light.
- Vantablack has a diverse range of applications including high performance infrared cameras, sensors, satellite borne calibration sources etc.
- Its ability to absorb light energy and convert it to heat is also of relevance in solar power development.

Reflection or Absorption of a Light by a Color:

- Every object is seen by the eye because of absorption or reflection of light.
- The **light is made up of seven different colours** (Violet, Indigo, Blue, Green, Yellow, Orange and Red or VIBGYOR). Specifically, light is made up of wavelengths of different colours.
- The **colour of any object or thing is determined by the wavelength the molecules are not able to absorb**.
- This is **dependent on how electrons are arranged in an atom** (the building block of life, an atom is made up of electrons, protons and neutrons).
- For example, if an individual is looking at a sofa that is green, this is because the fabric or material it is made up of is able to absorb all the colours except green (reflect the green coloured wavelengths).
- If **an object is black**, it is because **it has absorbed all the wavelengths and therefore no light is reflected from them**.
- This is the reason that darker objects, as a result absorbing

all wavelengths **tend to heat up faster** (as during absorption the light energy is converted into heat energy).

Significance:

- The new paint technology will help buildings covered by this paint to be cooler for longer, eliminating the effects of **Urban Heat Island**.
- The paint could help in the **fight against global warming** by reducing our reliance on electrically powered air conditioning.
- As **Air conditioning** injects heat into Earth's atmosphere in multiple ways, including pushing hot air out of buildings, the heat of running the machines, and the usually fossil fuel-generated electricity that runs them that contributes to carbon dioxide emissions.
- It can not only prevent heat-related deaths and illnesses but also limit water quality depletion that is caused by heated ground.

India's Related Initiative:

- India is one of the first countries in the world to develop a comprehensive **Cooling Action plan** which has a long term vision to address the cooling requirement across sectors and lists out actions which can help reduce the cooling demand.

Way Forward

- With climate change leading to a rise in temperatures and rapid concretisation exacerbating global warming, it has become important to develop adaptation strategies to reduce and combat heat stress.
- Key actions include cooling

buildings naturally through better design, improving efficiency of cooling appliances, promoting renewable energy-based energy efficient cold chains and investing in research and development (R&D) of refrigerant gases that do not harm or warm the planet.

- Plant trees and other vegetation, space in urban areas might be limited, but one can easily integrate small green infrastructure practices into grassy or barren areas, vacant lots, and street rights-of-way.
- Greener rooftops, light-coloured concrete, making the road surface greyish or even pinkish can also be used as they absorb less heat and reflect more sunlight.

Support Centre for Aditya-L1

ARIES facility (Aryabhata Research Institute for Observational Sciences) will host the support centre for Aditya-L1 mission, which is due to be launched next year (2022).

- ARIES is an autonomous institute under the Department of Science & Technology and is located in Nainital (Uttarakhand).

Key Points

About Aditya-L1 Mission:

- It is India's first scientific expedition to study the Sun. It will be ISRO's (Indian Space Research Organisation) second space-based astronomy mission after AstroSat, which was launched in 2015.

- ISRO categorises Aditya L1 as a **400 kg-class satellite** that will be launched using the **Polar Satellite Launch Vehicle (PSLV)** in XL configuration.
- It will be inserted in a **halo orbit around the L1 (Lagrangian point 1)**, which is **1.5 million km from the Earth**.
- The space-based observatory will have **seven payloads** (instruments) on board to **study the Sun's corona, solar emissions, solar winds and flares, and Coronal Mass Ejections (CMEs)**, and will carry out **round-the-clock imaging of the Sun**.

Aditya-L1 Support Centre (ASC):

- The main aim of this centre is to let every researcher in India perform analysis over scientific **data obtained from Aditya-L1**. It will **expand the visibility of Aditya-L1 beyond India** at the international level.
- It will **host a compendium of the location** and duration of different features on the solar surface such as **coronal holes, prominences, flares, CMEs and sunspots**.
- Continuous monitoring of the **location** and duration of these features will **help in monitoring the Earth** directed CMEs and thereby, the **space weather**.

Challenges in Launching the Mission:

- The distance of the **Sun from Earth (approximately 15 crore kms)** on average, compared to the **only 3.84 lakh kms to the Moon**). This huge distance poses a **scientific challenge**.

- **Aditya L1 will have some moving components** which increases the **risks of collision**.
- Due to the risks involved, **payloads in earlier ISRO missions** have largely remained stationary in space.
- Other issues are the super hot temperatures and radiation in the solar atmosphere.
- However, **Aditya L1 will stay much farther away**, and the heat is not expected to be a major concern for the instruments on board.

Importance of Studying the Sun:

- Every planet, including Earth and the **exoplanets** beyond the Solar System, evolves and this evolution is governed by its parent star.
- **Sun affects the weather** of the entire system.
- Variations in this weather can change the orbits of satellites or shorten their lives, interfere with or damage onboard electronics, and cause power black-outs and other disturbances on Earth.
- To learn about and track **Earth-directed storms**, and to predict their impact, continuous solar observations are needed.

Other Missions to Sun:

- **Japan's Solar-C EUVST:** The EUVST (Extreme Ultraviolet High-Throughput Spectroscopic Telescope Epsilon) would be studying the **solar wind** released by the **solar atmosphere**, as well as studying how this atmosphere **drives solar material eruption**.
- **NASA's EZEI Mission:** The EZEI (Electrojet Zeeman Imaging Explorer) Mission would study

the atmosphere of the earth and electric currents in it, which link the **aurora to the magnetosphere**.

- NASA's **Parker Solar Probe's** aim is to trace how energy and heat move through the **Sun's corona** and to study the source of the solar wind's acceleration.
- It is part of NASA's '**Living With a Star**' programme that explores different aspects of the **Sun-Earth system**.
- The earlier **Helios 2 solar probe**, a joint venture between NASA and space agency of erstwhile **West Germany**, went within **43 million km** of the **Sun's surface** in 1976.

Russia's withdrawal from International Space Station

After more than two decades of international cooperation in space research, Russia announced that it would be withdrawing from the International Space Station in 2025.

What does the International Space Station do?

- A space station is essentially a large spacecraft that remains in low-earth orbit for extended periods of time.
- It is like a large laboratory in space, and allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.
- The ISS has been in space since 1998, and has been known for the exemplary cooperation between the five participating space agencies that have been running it: NASA (United States), Roscosmos (Russia),

JAXA (Japan), ESA (Europe), and CSA (Canada).

- As per NASA, 243 people from 19 countries have so far visited the ISS, and the floating laboratory has hosted more than 3,000 research and educational investigations in various disciplines, including biology, human physiology, and physical, material and space science.

The recent US-Russia space rivalry

- Russia has been a crucial player in making the ISS a success, with other space agencies relying on advanced Russian modular space station construction technology to build the space station in the initial years.
- Russia was also indispensable because of its Soyuz passenger vehicle, which served as the only way for transporting astronauts to the ISS ever since the US retired its Space Shuttle Program in 2011
- This reliance on Russia ended last year, however, when the US started to use the SpaceX system developed by Elon Musk.
- This was a major blow for Roscosmos, as this meant an end to the funding it received from NASA for carrying astronauts to the space station. Between 2011 and 2019, NASA had spent \$3.9 billion on the Soyuz flights.
- Next year, the US is also expected to have another domestic option apart from SpaceX, as Boeing's delayed Starliner capsule is expected to become operational.
- Last year, Russia rejected a US offer to be a part of the Artemis program (NASA's program to

return astronauts to the lunar surface), but in March 2021 signed an agreement with China to jointly develop a lunar base.

Growing US-Russia Tensions

- The development also comes at a time when relations between the West and Russia have been going from bad to worse.
- The US has blamed the Kremlin for carrying out the "SolarWinds" hack and interfering in the 2020 election.
- Recently, Russia received flak from the NATO alliance after it was accused by the Czech Republic of being involved in a 2014 explosion at an arms depot.
- Last year, the US accused Russia of carrying out a weapons test after a projectile was said to have been fired from a Russian satellite. Russia, in return, blamed the US for treating space as a "military theatre".

So, what does Russia plan to do now?

- Russia now plans to build and manage its own space station, which it aims to launch into orbit by 2030. Its space module is being assembled by the Energia corporation, and is set to cost at least \$5 billion.
- The station will reportedly orbit the Earth at a higher latitude, enabling it to better observe the polar regions, especially since Russia plans to develop the Arctic sea route as the ice melts.
- Building a new station would also help Russia tide over challenges that its cosmonauts cur-

rently face on the ageing ISS, such as conducting experiments and adapting the latest technology to a hardware architecture that is over two decades old.

- However, leaving the ISS would also mean that Russian researchers would lose access to a laboratory that has seen over 15 years of engineering and assembly work to build it, and whose research potential is only now truly expected to take off.
- NASA has ruled out retiring the ISS until at least 2028, and may continue to use it after that by upgrading key systems.
- Russia would manage the space station itself, but has left the door open for other countries to join.

Advanced Chaff Technology

The Defence Research and Development Organisation (DRDO) has developed an Advanced Chaff Technology to safeguard the naval ships against enemy missile attack.

It is another step towards Atmanirbhar Bharat.

Key Points

About the Technology:

- Chaff is an **electronic counter-measure technology** used by militaries worldwide **to protect naval ships** or other sensitive targets **from radar and radio frequency (RF)** guiding mechanisms **of the enemy missile**.
- The chaff rockets deployed in the air **reflect as multiple targets for the missile guidance systems** and deflecting adver-

sary missiles, thus protecting their own assets.

- **DRDO has indigenously developed** three variants of the critical technology namely **Short Range Chaff Rocket (SRCR), Medium Range Chaff Rocket (MRCR) and Long Range Chaff Rocket (LRCR)**.

Difference between Chaff and Flares:

- Both **chaff and flares are defensive countermeasures** deployed by military aircraft. The purpose is **to confuse radar-guided or infrared-guided anti aircraft missiles** fired so that they could be diverted.
- **Chaff is composed of many small aluminium or zinc coated fibres** stored on-board the aircraft in tubes. In case the aircraft feels threatened by any radar tracking missiles, chaff is ejected into the turbulent wake of air behind the plane.
- **Flares on being fired provide an alternate strong IR (Infrared) source** to heat-seeking anti-air missiles so that they are lured away from the aircraft.

Oxygen extracted from the carbon dioxide in Martian atmosphere

- NASA has extracted oxygen from the carbon dioxide in the thin Martian atmosphere.

Key Points

- The unprecedented extraction of oxygen on Mars was achieved by a device called Mars Oxygen In-Situ Resource Utilization Experiment (MOXIE)
- It is aboard Perseverance, a six-wheeled science rover.

- It produced about 5 grams of oxygen, equivalent to roughly 10 minutes' worth of breathing for an astronaut.
- NASA is planning that future human missions would take scaled-up versions of Moxie with them to the Red Planet rather than try to carry all the oxygen needed to sustain them.
- Mars' atmosphere is dominated by carbon dioxide (CO₂) at a concentration of 96%.
- The expectation is that it can produce up to 10 grams of O₂ per hour.
- This is the first extraction of a natural resource from the environment of another planet.

China Model to Contain Pandemic

The Centre should step in to coordinate policy measures across states to contain the Pandemic, rather than putting the onus on the states. China's model to contain pandemic should be studied and replicated in India

- The central government recently adopted decentralised decision-making approach, to contain the spread of Covid second wave. The government has given free hand to the states to decide on lockdowns and other measures.
- Further, Prime Minister in his recent speech appealed to the youth to form small committees to ensure adherence to COVID-19 restrictions.
- However, the China model centralised planning along with local mobilization shows a different story. It was immensely successful in containing the spread of COVID-19.

How the China Model functioned?

- China Model included the Residential Committees (RC) at the grass-root level and the Central leadership to assist the RCs with resources.
- Residential Committees RCs were officially not part of the state and defined as institutions of selfgovernance. It had a large number of voluntary Youths and college students.
- They had to perform administrative tasks, implement policy, mediate local disputes. Also, they had a task to assist government agencies with maintaining public surveillance, health, and sanitation, etc.,
- After the outbreak of the Pandemic, the RCs were the main authorities that enforced rules and assisted people with their necessities. For example, They strictly enforced rules of entry and exit.
- No residents were allowed to leave, and no non-residents were allowed to access the community area other than for essential medical needs. Also, they assisted people by providing home delivery of daily food necessities, tracing contacts, registering and visiting each individual, etc.,

Role of Central Leadership

- Further, the central leadership quickly acknowledged the efforts of the “first line of defence” the Residential Committees.
- The government also supported the RC workers with subsidies, provision of health equipment, insurance, publicity, and other institutional support.

- The China Model though had certain challenges the epidemic has been successfully contained.

How the China Model can be replicated in India?

- In urban India, many have residential associations and local governments that can undertake similar mobilization like RCs in China.
- Through the support from Central leadership and a centralised plan of action, it can support them through resources and authority from central to local organisations.
- This will help in the effective mobilization of volunteers for better information dissemination, service delivery, and promoting social distancing. Allowing states to their own means will only increase policy inconsistency and unequal access between states with different fiscal capacities and healthcare infrastructure.
- The need of the hour is for the central leadership to step up and coordinate policy measures across the country

Covid-19 Second Wave: Reasons for Rising Infections

The ongoing second wave of Covid-19 infections has shaken the country and is more devastating than the first wave.

- The rise in case numbers has been exponential in the second wave.

Key Points

Protocol Fatigue:

- When cases started declining, people just broke out of the

protocol of wearing a face mask, washing hands regularly and maintaining social-physical distance.

- Gatherings began becoming large particularly January 2021 onwards.
- Rules were relaxed. Penalties were not enforced. The pattern was seen across the country allowing the novel coronavirus to create a second and possibly stronger wave.

Mixed Signal from Government:

- The queues outside polling booths and gatherings at the election rallies of all the parties defied Covid-19 protocol. This sent a confusing message to the public and also the grassroots-level functionaries of the government. It weakened the vigil against the pandemic.

Urban Mobility:

- India has recorded over 1.2 crore cases of Covid-19 yet the pandemic is still mostly concentrated around cities, especially the bigger cities. These cities have greater mobility giving more opportunities for the virus to spread from one person to another when the guard is lowered.

Containment Zones:

- In the current wave, the marking of the containment zone has been less strict. In cities, the government has asked civil authorities to adopt micro-containment, with perhaps just a floor or a house defined as a containment zone.
- Earlier, an entire apartment or area would be made a contain-

ment zone, reducing the chances of transmission of the virus.

Mutations:

- Besides the human factors, the **evolution of coronavirus is among the major reasons for the second wave**. Scientists have detected numerous mutations in the SARS-CoV-2, the coronavirus that causes Covid-19. Some of these mutations have produced what they call is **Variants of Concern (VOCs)**.
- India has reported such VOCs from several states including the worst-impacted ones by the second wave of Covid-19 pandemic.
- The L452R mutation found in the **variant B.1.617.1**, first detected in India, too has been associated with increased infectivity.

Increased Testing:

- Increased testing is another reason why **India is detecting more cases in the second wave of the Covid-19 pandemic**.
- The **sero-surveys** have shown that India had greater Covid-19 exposure than revealed through confirmed cases of coronavirus infection on the basis of laboratory tests.
- Earlier people were reluctant to go for Covid-19 tests but now easier availability of Covid-19 testing, improved disease-management in hospitals and roll-out of Covid-19 vaccination programme has made people more confident about opting for the test.

Asymptomatic Persons:

- Asymptomatic (showing no symptoms) person, who carries

the virus, would have spread the infection. In India, **80-85% of the population are asymptomatic**.

Inadequate Health Infrastructure:

- India also failed to seize the opportunity to augment its healthcare infrastructure and vaccinate aggressively.
- **For Example:** Oxygen shortage and lack of beds in Hospitals.

Way Forward

- There are only two ways of getting immunity from the virus, one is getting infected, and the other is via a vaccine therefore it is important to **fast track the vaccine programme** across the country, but testing is equally important.
- The number of tests must go up again and **contact tracing**, ideally 20 persons for every case, should be taken up intently.
- There is a need for a **renewed emphasis on following safety protocols**. Draconian total lockdowns are no longer necessary. However, there is also **need to formulate District Action Plans with a focus on mapping of cases**, reviewing of ward/block wise indicators, 24x7 emergency operations centre, incident command system area specific rapid response team and timely sharing of information.

Ct Value of Covid-19 Test

The ICMR (Indian Council of medical Research) has decided a single Ct value cut-off for determining whether a patient is positive for Covid-19.

- Ct is a value that emerges during **RT-PCR tests**. All patients with a **Ct value less than 35** may be considered as **positive** while those with a **Ct value above 35** may be considered as **negative**.

Key Points

RT-PCR Tests:

- In an **RT-PCR (Reverse Transcription Polymerase Chain Reaction)** test, **RNA (Ribonucleic acid)** is extracted from the swab collected from the patient. It is **then converted into DNA (Deoxyribonucleic acid)**, which is **then amplified**.
- **Amplification** refers to the **process of creating multiple copies of the genetic material** - in this case, DNA.
- This **improves the ability of the test to detect the presence of the virus**.
- Amplification **takes place through a series of cycles**—one copy becomes two, two becomes four, and so on—and it is **after multiple cycles that a detectable amount of virus is produced**.

Ct Value:

- Ct is short for '**Cycle Threshold**'.
- The Ct value **refers to the number of cycles after which the virus can be detected**.
- If a **higher number** of cycles is required, it implies that the **virus went undetected** when the number of cycles was lower.
- The **lower the Ct value**, the **higher the viral load** because the virus has been spotted after fewer cycles.

- It has been found that the **time since the onset of symptoms has a stronger relationship with Ct values as compared to the severity of the disease.**

Viral Load:

- It refers to the amount of genetic material, commonly RNA, of a virus present in an infected person's blood.
- This is expressed as the total number of viral particles present in each millilitre of blood.
- A **higher viral load** in the blood means that **the virus is replicating and the infection is progressing.**
- An infected person with a high viral load is more likely to shed more virus particles, in the process known as "viral shedding".

Harlequin Ichthyosis

Recently, Odisha reported its first-ever case of a baby born with Harlequin Ichthyosis, a rare genetic skin condition.

- India's first recorded case of a baby born with harlequin ichthyosis was in 2016, at a private hospital in Nagpur, Maharashtra.

Key Points

About:

- Harlequin Ichthyosis is a rare genetic skin disorder to a newborn infant.
- It's a type of ichthyosis, which refers to a group

of disorders that cause persistently dry, scaly skin all over the body.

- It is inherited in an autosomal recessive pattern.

Causes:

- It can be caused by changes (mutations) in the ABCA12 gene.
- ABCA12 Gene gives instructions for making a protein that is necessary for skin cells to develop normally.
- It plays a key role in the transport of fats (lipids) to the most superficial layer of the skin (epidermis), creating an effective skin barrier.
- When this gene is mutated, the skin barrier is disrupted.

Impact:

- Newborn infants are covered with plates of thick skin that crack and split apart and can restrict breathing and eating.

- Premature birth is typical, leaving the infants at risk for complications from early delivery.

Affected Population:

- It affects males and females in equal numbers.
- It affects **approximately one in 5,00,000 persons.**
- There are around 250 such cases across the world.

Treatment:

- A newborn with Harlequin ichthyosis **requires neonatal intensive care**, which may include spending time in a heated incubator with high humidity.

Related Disorder:

- **Lamellar ichthyosis** is an inherited skin disorder characterized by broad, dark, plate-like scales separated by deep cracks.
- Its symptoms are similar to Harlequin Ichthyosis.


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MISCELLANEOUS

National Maritime Day 2021

Recently, the Ministry of Ports, Shipping & Waterways celebrated the 58th National Maritime Day (5th April).

- **Maritime India Vision-2030**, was also discussed at the occasion.

Key Points

About:

- National Maritime Day is celebrated every year on **5th April** to commemorate the maiden voyage of the **first Indian flag merchant vessel 'S.S LOYALTY'** from Mumbai to London, on **April 5th, 1919**.

2021 Theme:

- **'Sustainable Shipping beyond Covid-19'**.

Significance:

- It is celebrated to **encourage the merchant shipping industry of India**. Shipping contributes a lot to the country's economy.
- At present, **90% of India's international trade in terms of volume and 77% in terms of value is moved by sea**.

Other Initiatives:

- **Sagarmala Initiative:**
- The **Sagarmala Programme** was approved by the Union Cabinet in 2015 which aims at **holistic port infrastructure development along the 7,516-km long coastline through modernisation,**

mechanisation and computerisation.

- **Project Unnati:**
- The shipping ministry launched Project Unnati in 2014 under which efficiency of equipment was studied and every activity was scrutinised to identify excesses/mistakes.
- **Blue Economy Policy:**
- The policy document highlights the **blue economy** as one of the ten core dimensions for national growth and It **emphasizes policies across several key sectors to achieve holistic growth of India's economy.**
- **Joined International Maritime Organization:**
- India is also a member of the **International Maritime Organization (IMO)**.
- IMO is a specialized agency of the **United Nations (UN)**. It is a global standard-setting authority with responsibility to improve the safety and security of international shipping and prevention of marine and atmospheric pollution by ships.
- **National Waterways:**
- As per the **National Waterways Act 2016**, 111 waterways have been declared as National Waterways (NWs).
- **The Sagar-Manthan:**
- **Mercantile Marine Domain Awareness Centre** has been launched.
- It is an information system for **enhancing maritime safety, search and rescue capabilities, security and marine environ-**

ment protection.

- **Ship Repair Clusters:**
- They will be developed along both coasts by **2022**.
- **Ship Recycling:**
- Domestic ship recycling industry will also be promoted to create **'Wealth from Waste'**.
- India has enacted **Recycling of Ships Act, 2019** and agreed to the **Hong Kong Convention for Ship Recycling**.

Maritime India Vision 2030

About:

- It is a **ten-year blueprint for the maritime sector** which was released by the Prime Minister of India at the **Maritime India Summit 2021**.
- It will supersede the **Sagarmala initiative** and aims to boost **waterways**, give a fillip to the shipbuilding industry and encourage cruise tourism in India.

Policy Initiatives and Development Projects:

- **Maritime Development Fund:**
- A **Rs. 25,000-crore fund**, which will provide low cost, long-tenure financing to the sector with the Centre contributing Rs. 2,500 crore over seven years.
- **Port Regulatory Authority:**
- A **pan-India port authority** will be set up under the new Indian Ports Act (to replace the old Indian Ports Act 1908) for enabling oversight across major and non-major ports, enhance institutional coverage

for ports and provide for structured growth of the ports sector to boost investor confidence.

- **Eastern Waterways Connectivity Transport Grid Project:**
- It aims to **develop regional connectivity** with Bangladesh, Nepal, Bhutan and Myanmar.
- **Riverine Development Fund:**
- Calls for extending low cost, long-term financing for inland vessels with the support of a **Riverine Development Fund (RDF)** and for extending the coverage of the **tonnage tax scheme** (applicable to ocean-going ships and dredgers) to inland vessels to enhance the availability of such vessels.
- **Rationalisation of Port Charges:**
- It will make them more **competitive**, besides doing away with all hidden charges levied by ship liners to bring in more transparency.
- **Promotion of Water Transport:**
- For decongestion of urban areas, and **developing waterways as an alternative means of urban transport.**

Babu Jagjivan Ram

Recently, the Prime Minister paid tributes to freedom fighter and former Deputy Prime Minister Babu Jagjivan Ram on his 113th birth anniversary.

- Jagjivan Ram, **popularly known as Babuji**, was a national leader, a freedom fighter, a crusader of social justice, a champion of depressed classes and an outstanding Parliamentarian.



Key Points

Birth:

- Jagjivan Ram was born on **5th April 1908** in **Chandwa in Bihar** to a Dalit family.

Early Life and Education:

- He pursued his schooling at the **nearby town of Arrah** where he faced discrimination for the first time.
- He was considered '**untouchable**' and had to drink water from a different pot. Jagjivan Ram protested against this by breaking the pot. The principal then had to remove the separate pot from the school.
- In 1925, Jagjivan Ram met scholar **Pandit Madan Mohan Malaviya** and was greatly inspired by him. On Malaviya's invitation, he **joined the Banaras Hindu University**.
- Even at the university, **Jagjivan Ram faced discrimination**. This inspired him to protest against such social boycotts of a section of society.
- He also **organised the scheduled castes to protest against injustice**.
- After his stint at BHU, he joined

the **University of Calcutta** from where he secured a **B.Sc. degree in 1931**.

- Jagjivan Ram had organized a number of Ravidas Sammelans and had **celebrated Guru Ravidas Jayanti** in different areas of Calcutta (Kolkata).

Pre Independence

Contributions:

- In 1931, he became a member of the **Indian National Congress** (Congress Party).
- He was instrumental in the foundation of the **All India Depressed Classes League**, an organisation dedicated to attaining equality for **untouchables**, in 1934-35.
- He was a champion of **social equality and equal rights for the Depressed Classes**.
- In 1935, he proposed at a session of the **Hindu Mahasabha** that drinking water wells and temples be open to untouchables.
- In 1935, Babuji also **appeared before the Hammond Commission** at Ranchi and demanded, for the first time, **voting rights for the Dalits**.
- He was **jailed twice** in the early 1940s for his political activities associated with the **Quit India movement** against British rule.

Post Independence

Contributions:

- When Jawaharlal Nehru formed the provisional government, **Jagjivan Ram became its youngest minister**.
- After independence he held the **labour portfolio until 1952**. Thereafter he served in Nehru's cabinet in the posts

of **minister for communications (1952–56), transport and railways (1956–62), and transport and communications (1962–63).**

- He served as **minister for food and agriculture (1967–70), and in 1970 he was made minister of defence.**

✦ The **Indo-Pakistan War of 1971** was fought when he was the **defence minister.**

- He left Congress in 1977 and joined the Janata Party alliance, along with his Congress for Democracy (new party). He later served as the **Deputy Prime Minister of India (1977–79).**
- Jagjivan Ram was a **member of the Parliament uninterrupted from 1936 to 1986 (40 years) and this is a world record.**
- He also holds another record **for being the longest-serving cabinet minister in India (30 years).**

Death:

- He died on **6th July 1986** at New Delhi.
- His memorial at his cremation place is named **Samta Sthal (Place of Equality).**

Poet Sarala Das

The Vice President addressed Odia Adikabi Sarala Das's 600th birth anniversary function in Cuttack.

- Sarala Das was one of the great scholars of **Odia literature.**

Key Points

- He was the **first scholar who wrote his works in Odia in 15th century A.D.**
- Best known for three Odia



books, **Mahabharata, Vilanka Ramayana and Chandi Purana.**

- He also wrote the book **Laxmi Narayana Vachanika.**
- He started writing his Mahabharata in the reign of **Kapileswar, otherwise known as Kapilendra, the famous Gajapati king of Odisha (AD 1435–67).**

Odia Language

- Oldest of the eastern group of the **Indo-Aryan family**, Odia is derived from **Ardhamagadhi Prakrit.**
- Odia is one of the six languages that got **Classical Status in India.**
- A language officially **"scheduled,"** in the **Indian constitution.**
- It is also the **main official language of the Indian state of Odisha.**

Jyotirao Phule

The 'Tika Utsav (vaccination festival)', started on the birth anniversary of Mahatma Jyotirao Phule (11th April) will continue till the birth anniversary of Babasaheb Ambedkar on 14th April 2021.

- The aim of the four day festival is to vaccinate as many people as possible for the priority

groups and zero wastage of **Covid-19 vaccine.**

- **Jyotirao Phule** was an **Indian social activist, thinker, anti-caste social reformer and writer from Maharashtra.** He is also known as **Jyotiba Phule.**

Key Points

Brief Profile:

- **Birth:/** Phule was born on **11th April, 1827** in present-day Maharashtra and **belonged to the Mali caste of gardeners and vegetable farmers.**
- **Education:** In 1841, Phule was enrolled at the **Scottish Missionary High School (Pune),** where he completed education.
- **Ideology:** His Ideology was based on: **Liberty; Egalitarianism; Socialism.**
- ✦ Phule was **influenced by Thomas Paine's book titled The Rights of Man** and believed that the only solution to combat the social evils was the **enlightenment of women and members of the lower castes.**
- **Major Publications:** Tiritiya Ratna (1855); Powada: Chatrapati Shivajiraje Bhosle Yancha (1869); Gulamgiri (1873), Shetkarayacha Aasud (1881).



- **Related Association:** Phule along with his followers formed **Satyashodhak Samaj in 1873** which meant 'Seekers of Truth' in order to attain equal social and economic benefits for the lower castes in Maharashtra.
- **Municipal Council Member:** He was appointed commissioner to the Poona municipality and served in the position until 1883.
- **Title of Mahatma:** He was bestowed with the title of Mahatma on 11th May, 1888 by a Maharashtrian social activist **Vithalrao Krishnaji Vandeekar**.

Social Reformer:

- In 1848, he taught his wife (**Savitribai**) how to read and write, after which the couple **opened the first indigenously run school for girls** in Pune where they both taught.
- He was a **believer in gender equality** and he exemplified his beliefs by involving his wife in all his social reform activities.
- By 1852, the **Phules had established three schools** but all of them had shut by 1858 due to the shortage of funds after the Revolt of 1857.
- Jyotiba realised the pathetic conditions of widows and established an ashram for young widows and eventually became an advocate of the idea of **Widow Remarriage**.
- Jyotirao attacked the **orthodox Brahmins and other upper castes** and termed them as "hypocrites".
- In 1868, Jyotirao constructed a **common bathing tank** outside his house to exhibit his embracing attitude towards all human

beings and wished to dine with everyone, regardless of their caste.

- ✦ He started awareness campaigns that ultimately inspired the likes of Dr. B.R. Ambedkar and **Mahatma Gandhi**, stalwarts who undertook major initiatives against caste discrimination later.
- It is believed by many that it was **Phule who first used the term 'Dalit' for the depiction of oppressed masses** often placed outside the 'varna system'.
- He worked for **abolishment of untouchability and caste system** in Maharashtra.
- **Death:** 28th November, 1890. His memorial is built in Phule Wada, Pune, Maharashtra.

Exercise Shantir Ogroshena

Multinational military exercise **Shantir Ogroshena**, which went for 10 days in Bangladesh, concluded on 12th April 2021.

- The year 2021 marks the **50th anniversary of diplomatic relations between India and Bangladesh**.

Key Points

About the Exercise:

- The exercise was organised to **commemorate the birth centenary of Bangabandhu Sheikh Mujibur Rahman**, Bangladesh's Father of the Nation and celebrate the **golden jubilee of the liberation of Bangladesh**.
- It was held at **Bangabandhu Senanibas (BBS), Bangladesh**.
- '**Shantir Ogroshena**' 2021 means "**Front Runner of the Peace**".

Theme:

- The theme of this exercise was to **strengthen defence ties and enhance interoperability amongst neighbourhood countries** to ensure effective **peacekeeping operations**.
- It was a **UN (United Nations)-mandated counterterrorism exercise**.

Countries that Participated:

- Troops from **India, Bangladesh, Bhutan and Sri Lanka** participated in the exercise with **observers from the USA, UK, Russia, Turkey, Saudi Arabia, Kuwait and Singapore**.

Other Exercises Involving Bangladesh:

- **SAMPRITI (Army)**.
- **TABLE TOP (Air)**.
- **IN-BN CORPAT (Navy)**.
- **SAMVEDNA (Multinational Air Exercise with Bangladesh, Nepal, Sri Lanka and UAE)**.

B R Ambedkar: 130th Birth Anniversary

The nation celebrated the 130th birth anniversary of **B R Ambedkar** on 14th April 2021.

- Dr. Ambedkar was a **social reformer, jurist, economist, author, polyglot** (knowing or using several languages) orator, a scholar and **thinker of comparative religions**.

Key Points

- **Birth:** Babasaheb Dr. Bhimrao Ambedkar was born in 1891 in **Mhow, Central Province** (now **Madhya Pradesh**).

Brief Profile:

- He is known as the Father of the Indian Constitution and was **India's first Law Minister**.
- He was the **Chairman of the Drafting Committee** for the new Constitution.
- He was a **well-known statesman who fought for the rights of the Dalits** and other socially backward classes.

Contributions:

- He led the **Mahad Satyagraha in March 1927** against **Hindus** who were opposing the decision of the Municipal Board.
- ✦ **In 1926, Municipal Board of Mahad (Maharashtra)** passed an order to throw open the tank to all communities. Earlier, the untouchables were not allowed to use water from the Mahad tank.
- He participated in **all three Round Table Conferences**.
- **In 1932, Dr. Ambedkar signed the Poona pact with Mahatma Gandhi**, which abandoned the idea of separate electorates **for the depressed classes** (Communal Award).
- ✦ However, the seats reserved for the depressed classes were increased from **71 to 147 in provincial legislatures** and to **18% of the total in the Central Legislature**.
- His ideas before the **Hilton Young Commission** served as the foundation of the **Reserve Bank of India (RBI)**.

Election and Designation:

- **In 1936, he was elected to the Bombay Legislative Assembly** as a legislator (MLA).

- He was appointed to the **Executive Council of Viceroy** as a Labour member in 1942.
- **In 1947, Dr. Ambedkar accepted PM Nehru's invitation to become Minister of Law** in the first Cabinet of independent India.

Shift to Buddhism:

- He **resigned** from the cabinet in 1951, over differences on the **Hindu Code Bill**.
- He **converted to Buddhism**. He **passed away on 6th December 1956 (Mahaparinirvan Diwas)**.
- ✦ **Chaitya Bhoomi** is a memorial to B R Ambedkar, located in Mumbai.
- He was awarded India's highest civilian honour the **Bharat Ratna** in 1990.

Important Works:

- **Journals:**
 - ✦ Mooknayak (1920)
 - ✦ Bahishkrit Bharat (1927)
 - ✦ Samatha (1929)
 - ✦ Janata (1930)
- **Books:**
 - ✦ Annihilation of Caste
 - ✦ Buddha or Karl Marx
 - ✦ The Untouchable: Who are They and Why They Have Become Untouchables
 - ✦ Buddha and His Dhamma
 - ✦ The Rise and Fall of Hindu Women
- **Organisations:**
 - ✦ Bahishkrit Hitkarini Sabha (1923)
 - ✦ Independent Labor Party (1936)
 - ✦ Scheduled Castes Federation (1942)

Relevance of Ambedkar in Present Times:

- Caste-based inequality in India still persists. While Dalits have acquired a political identity through **reservation** and forming their own political parties, they lack behind in social dimensions (health and education) and economic dimension.
- There has been a rise of communal polarization and communalization of politics. It is necessary that Ambedkar's vision of constitutional morality must supersede religious morality to avoid permanent damage to the Indian Constitution.

Traditional New Year Festivals

The Vice President of India greeted the people on festivals 'Chaitra Sukladi, Gudi Padwa, Ugadi, Cheti Chand, Vaisakhi, Vishu, Puthandu, and Bohag Bihu'.

- These festivals of the spring season mark the beginning of the **traditional new year in India**.

Key Points

Chaitra Sukladi:

- It marks the **beginning of the new year of the Vikram Samvat** also known as the Vedic [Hindu] calendar.
- **Vikram Samvat is based on the day when the emperor Vikramaditya defeated Sakas**, invaded Ujjain and called for a new era.
- Under his supervision, astronomers formed a **new cal-**

endar based on the luni-solar system that is still followed in the northern regions of India.

- It is the **first day during the waxing phase** (in which the visible side of moon is getting bigger every night) **of the moon in the Chaitra** (first month of Hindu calendar).

Gudi Padwa and Ugadi:

- These festivals are **celebrated by the people in the Deccan region** including Karnataka, Andhra Pradesh and Maharashtra.
- The common practice in the celebrations of both the festivals is the festive food that is prepared with a mix of sweet and bitter.
- A famous concoction served is jaggery (sweet) and neem (bitter), called **bevu-bella** in the South, signifying that life brings both happiness and sorrows.
- **Gudi** is a doll prepared in **Maharashtrian** homes.
- ✦ A bamboo stick is adorned with green or red brocade to make the gudi. This gudi is placed prominently in the house or outside a window/ door for all to see.
- For **Ugadi**, doors in homes are adorned with **mango leaf decorations called toranalu or Torana** in Kannada.

Cheti Chand:

- **Sindhis** celebrate the new year as **Cheti Chand**. Chaitra month is called 'Chet' in Sindhi.
- The day **commemorates the birth anniversary of Uderolal/ Jhulelal**, the patron saint of Sindhis.

Navreh:

- It is the **lunar new year that is celebrated in Kashmir**.
- ✦ It is the Sanskrit word 'Nav-Varsha' from where the word 'Navreh' has been derived.
- It **falls on the first day of the Chaitra Navratri**.
- On this day, Kashmiri pandits look at a **bowl of rice** which is considered as a symbol of riches and fertility.

Vaishakhi:

- It is also pronounced as **Baisakhi**, observed by **Hindus and Sikhs**.
- It marks the **beginning of Hindu Solar New year**.
- It commemorates the formation of **Khalsa panth** of warriors under **Guru Gobind Singh in 1699**.
- Baisakhi was also the day when colonial British empire officials committed the **Jallianwala Bagh massacre** at a gathering, an event influential to the Indian movement against colonial rule.

Vishu:

- It is a **Hindu festival celebrated in the Indian state of Kerala, Tulu Nadu region in Karnataka, Mahé district of Union Territory of Pondicherry**, neighbouring areas of Tamil Nadu and their diaspora communities.
- The festival marks the first day of **Medam, the ninth month in the solar calendar** followed in Kerala.
- It therefore always falls in the middle of April in the Gregorian calendar on **14th or 15th April** every year.

Puthandu:

- Also known as **Puthuvarudam or Tamil New Year**, is the first day of the year on the Tamil calendar and traditionally celebrated as a festival.
- The festival date is set with the solar cycle of the lunisolar Hindu calendar, as the first day of the Tamil month Chithirai.
- It therefore falls on or about **14th April** every year on the Gregorian calendar.

Bohag Bihu:

- **Bohag Bihu** or **Rongali Bihu** also called **Xaat Bihu** (seven Bihus) is a traditional aboriginal ethnic festival celebrated in the state of **Assam** and other parts of northeastern India by the indigenous ethnic groups of Assam.
- It marks the beginning of the **Assamese New Year**.
- It usually falls in the **2nd week of April**, historically signifying the time of harvest.

Mahavir Jayanti

The Prime Minister of India greeted the people on occasion of 'Mahavir Jayanti' (25th April 2021).

- Mahavir Jayanti is **one of the most auspicious festivals in the Jain community**.

Key Points

About Mahavir Jayanti:

- This day marks the birth of **Vardhamana Mahavira**, who was the 24th and the **last Tirthankara** and who succeeded the **23rd Tirthankara, Parshvanatha**.

- According to Jain texts, Lord Mahavira was **born on the 13th day of the bright half of the moon in the month of Chaitra.**

✦ As per the **Gregorian calendar**, it is usually celebrated in the month of **March or April.**

- **Celebration:** Usually, a procession is called with the idol of Lord Mahavira called the **Rath Yatra. Reciting stavans** or Jain prayers, statues of the lord are given a ceremonial bath called **abhisheka.**

About Lord Mahavira:

- Mahavira was born to **King Siddhartha** of **Kundagrama** and **Queen Trishala**, a Lichchhavi princess in the year **540 BC** in the **Vajji kingdom**, identical with modern day **Vaishali in Bihar.**
- Mahavira belonged to the **Ikshvaku dynasty.**
- Lord Mahavir was named **Vardhamana**, which means **"one who grows".**
- He **abandoned worldly life** at the age of **30** and attained **'kaivalya'** or **omniscience** at the age of **42.**
- Mahavira taught **ahimsa** (non-violence), **Satya** (truth), **asteya** (non-stealing), **brahmacharya** (chastity) and **aparigraha** (non-attachment) to his disciples and his teachings were called **Jain Agamas.**
- Ordinary people were able to understand the teachings of Mahavira and his followers because **they used Prakrit.**
- It is believed that the Mahavira passed away and attained **moksha** (liberation from the cycle of birth and death) at the age of **72 in 468 BC** at a place

called **Pavapuri** near modern **Rajgir in Bihar.**

Exercise VARUNA 2021

The 19th edition of the Indian and French Navy bilateral exercise 'VARUNA-2021' is being conducted in the Arabian Sea.

- Earlier this year, the Indian Navy took part for the first time in the France-led naval exercise **"La Pérouse"** with the navies of the US, Australia and Japan.

Key Points

About the Exercise:

Background:

- The Indian and French Navies have been conducting bilateral maritime exercises since 1993. Since 2001, these exercises have been called 'VARUNA'.
- These interactions further underscore the shared values as partner navies, in ensuring freedom of seas and commitment to an open, inclusive Indo-Pacific and a rules-based international order.

2021 Exercise:

- This is the first time that the **United Arab Emirates (UAE)** is participating in the Varuna maritime exercise.
- The 'Varuna' joint exercise is **part of the French carrier strike group's 'CLEMENCEAU 21' deployment**, which the French Navy is conducting in the **eastern Mediterranean, the Gulf and the Indian Ocean (Arabian Sea).**
- Its goal is **to contribute to the stabilization of these strategic zones** and strengthening cooperation with the navies of partner countries, in particular India for the Indian Ocean component.
- As part of this deployment, the **Carrier Strike Group** is also taking part in **anti-ISIS** (the Islamic State of Iraq and Syria) operations.
- The exercise will see **high tempo-naval operations at sea**, including **advanced air defence and anti-submarine exercises**, tactical manoeuvres, underway replenishment and other maritime security operations.


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Students Corner

RELIGIOUS LIBERTY vs INDIVIDUAL RIGHT

A nine-judge Bench led by Chief Justice of India (CJI) Sharad A. Bobde said its objective was not to review the Sabarimala women entry case but examine "larger issues" of law arising from religious practices.

A religion is certainly a matter of faith and is not necessarily theistic. Religion has its basis in "a system of beliefs or doctrines which are regarded by those who profess that religion as conducive to their spiritual well being", but it would not be correct to say that religion is nothing else but a doctrine or belief. A religion may not only lay down a code of ethical rules for its followers to accept, it might prescribe rituals and observances, ceremonies and modes of worship which are regarded as integral part of religion and these forms and observances might extend even to matters of food and dress. Subject to certain limitations, Article 25 confers a fundamental right on every person not merely to entertain such religious beliefs as may be approved by his judgment or conscience but also exhibit his beliefs and ideas by such overt acts and practices which are sanctioned by his religion. Now what practices

are protected under the Article is to be decided by the courts with reference to the doctrine of a particular religion and include practices regarded by the community as part of its religion. The courts have gone into religious scriptures to ascertain the status of a practice in question.

Supreme Court: Religion, Faith and Superstition

On November 14, the five-judge Bench led by then Chief Justice Ranjan Gogoi, instead of deciding the Sabarimala review entrusted to it, sought an "authoritative pronouncement" on the Court's power to decide the essentiality of religious practices. Framing seven questions, the Bench referred them to a seven-judge Bench. These referral questions included whether "essential religious practices" be afforded constitutional protection under Article 26 (freedom to manage religious affairs). Seven issues were framed by the five-judge Review Bench for the larger Bench. They form the crux but may be re-framed for future hearing before the nine-judge Bench. The 'broad' issues are:

1. What should be the interplay between freedom of religion



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under Articles 25 and 26 and the right to equality under Article 14?

2. Right to practice religion is subject to 'public order, morality and health' under Article 25(1). What do these terms actually mean?
3. Is constitutional morality the overarching morality in reference to the Preamble or limited to religious beliefs or faith?
4. Should and, If so, how after can a court enquire into whether a religious practice is essential to a particular faith?
5. What is the meaning of the expression "sections of Hindus"

appearing in Article 25(2)(b) of the Constitution?

6. Whether 'essential religious practices' deserve constitution-al protection under Article 26?
7. What is the extent to which courts should entertain PILs questioning religious practices filed by a third person who is not a member of that faith?

Chief Justice explained that the basis of the Bench's judicial enquiry would be seven questions referred to a larger Bench by a five-judge Bench on November 14, 2019. He said the nine-judge Bench was only examining propositions of law raised about religious practices believed to be essential to various religions such as questions of law on women's entry to mosques/temples, genital mutilation by Dawoodi Bohras, entry of Parsi women who marry outside their community into

fire temple. In many religious communities, norms and practices are shaped and imposed from above, by community leaders, and then enforced with the force of social sanction. Dissenters are then faced with an impossible choice: either comply with discriminatory practices, or make a painful (and often unsustainable) exit from the community. It is here that the Constitution can help by ensuring that the oppressed and excluded among communities can call upon the Court for aid, and by ensuring that powerful communities are not exempt from guaranteeing the basic norms of fairness, equality, and freedom to all their members. The Bench, however, clarified that it would not go into the legality of issues such as the practice of polygamy and 'nikah-halala' in Islam

Right to Equality and Religious freedom:

The Constitutional Aspects Articles 14, 15 and 16 of the Constitution of India deal with the right to equality. Article 17 is the special provision that abolishes 'untouchability' and forbids its practice in any form. Right to equality before the law and equal protection of the law to all citizens irrespective of religion, race, sex and place of birth is one of the basic values of a secular democratic State. Article 14 of the Constitution provides both aspects of equality to all persons, including aliens who reside within the territory of India. There are at the same time some provisions of the Constitution that recognise exception to the general rule of equality on various reasonable grounds.

Article 25 mandates that sub-



Abhyasa Program Structure



	Multiple Choice Questions (PRELIMS)	Descriptive Questions (MAINS)	Total Marks
Daily Test	10 (10*1 = 10 marks)	1 (1*10= 10 Marks)	20
Weekly Test	20 (20*1 = 20 marks)	2 (2*10= 20 Marks)	40
Fortnightly Test	30 (30*1 = 30 marks)	3 (3*10= 30 Marks)	60
Monthly Test	50 (50*1 = 50 marks)	5 (5*10= 50 Marks)	100
3 Months Test	100 (100*1 = 100 marks)	10 (10*10= 100 Marks)	200
Total Questions	4250+	500+	

ject to public order, morality and health, all persons enjoy the freedom of conscience and have the right to entertain any religious belief and propagate it.

Article 26: gives every religious group a right to establish and maintain institutions for religious and charitable purposes, manage its affairs, properties as per the law. This guarantee is available to only Citizens of India and not to aliens.

Article 27: This Article mandates that no citizen would be compelled by the state to pay any taxes for promotion or maintenance of particular religion or religious institutions.

Article 28: This Article mandates that No religious instruction would be imparted in the state funded educational institutions.

Overall implied principle is that a society is egalitarian when all are treated with respect in their dignity as human persons. This egalitarian principle of the Indian Constitution, when seen in the context of the welfare State, demands the protection of human dignity by promoting the development of all sections of the people. Religion must cooperate in the functioning of the Constitution to achieve its humane objectives.

Religious Community Right vs Individual Right

How then do we strike a balance between respecting the autonomy of cultural and religious communities and also ensuring that individual rights are not entirely sacrificed at the altar of the community? Over the years, the Supreme Court has

attempted to do so by carving out a jurisprudence that virtually allows it to sit in theological judgment over different practices. It has done this by recognising that it is only those practices that are "essential" to religion that enjoy constitutional protection. Any other ritual is seen as secular and amenable to the state's interference. In the Constitution of India, there are two impulses that may, at times, come into conflict with one another.

- I. The first impulse recognises that India is a pluralist and diverse nation, where groups and communities - whether religious or cultural - have always played an important role in society. Following up on this impulse, the Constitution recognises both the freedom of religion as an individual right (Article 25), as well as the right of religious denominations to manage their own affairs in matters of religion (Article 26).
- II. The second impulse, on the other hand, recognises that while community can be a source of solidarity at the best of times, it can also be a terrain of oppression and exclusion. The Constitution, therefore, expressly provides for the possibility that there may be times when members of religious and cultural communities may need to be protected from authoritarian and oppressive social practices.

Thus, both Articles 25 and 26 are subject to public order, morality, and health; and further, Article 25 is also subject to other fundamental

rights guaranteed by the Constitution, and to the state's power to bring in social reform laws. These two impulses, and their expression in various provisions of the Constitution, speak to an observation made by Alladi Krishnaswami Iyer, one of the foremost drafters of the Constitution: that in our country, religion and social life are inextricably linked. As the *Madesana* example shows us, religious proscriptions often spill over into broader society, and religious and social status often reinforce each other.

Conclusion

In the context of a religiously plural society like India, where conflicting value systems often compete with each other, the principled approach of the Supreme Court on religious matters is to promote religious freedom that secures human dignity. Therefore, the Court may apply a liberal or a conservative approach towards religion depending on which of the two better promotes religious liberty consistent with a set of values that protect the sanctity of human life and provide a life-affirming space for all to live in dignity. Hence, the Indian judiciary tells in unambiguous language that the Constitution recognizes the importance of religion in people's life, and that it holds religious liberty as a fundamental value of the Indian political community but not at the cost of certain substantive principles which are necessary in the society for all to lead a life worthy of human dignity. Religion thrives in India and it remains an integral aspect of Indian ethos.



Daily Intensive Test Practice Program (Along with Classroom Program)



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	Multiple Choice Questions (PRILMS)	Descriptive Questions (MAINS)	Total Marks
Daily Test	10 (10*1 = 10 marks)	1 (10*1 = 10 marks)	20
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Total Questions	4250+	500+	

SCIENTIFIC APPROACH FOR LONG TERM MEMORY

Efficiency curve of forgetting

20 minutes - 42% lost
1 hour - 56% lost
1 day - 67% lost
1 week - 79% lost
10 days - 80% lost

The Forgetting Curve

Long-term Memory Enhancement - Retention Strategies

10-15 minutes
20-30 minutes
1 hour
1 day
1 week
1 month

Approach of ABHYASA

Reinforcement technique

10 minutes
20-30 minutes
1 day
1 week
1 month

Important Memory Techniques

10 minutes
20-30 minutes
1 day
1 week
1 month



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- **Dedicated Mentors**
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