

OCTOBER 2022  
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PM IAS initiative

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PM IAS ACADEMY

CREATIVE THOUGHT AND ACTION



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## GEOGRAPHY

### Clouds serve as an atmospheric blanket that controls the Earth's surface temperature

#### Context:

According to a new study, Climate change is shrinking the gap between the daily high and low temperatures in many parts of the world.

#### Relevance:

GS-I: Geography (Physical Geography, Climatology, Important Geophysical phenomena), GS-III: Environment and Ecology (Climate Change and its effects)

#### Dimensions of the Article:

1. Key points
2. Clouds

#### Key points:

- Researchers attribute the asymmetry between the daily high and low temperatures to an increase in clouds during the daytime.
- Increased cloud cover reduces the amount of incoming solar shortwave radiation. It pulls down the rate at which the daily maximum temperatures rise.
- The difference between the two, or the diurnal temperature range (DTR), impacts — seasons, crop yields, residential energy use and heat-stress-induced ailments.
- The formation of clouds affects weather and climate on all levels of the atmosphere. Precipitation is influenced by the kind and volume of clouds that frequently form over a location. Temperatures on the planet's surface may also be impacted by cloud cover.
- Additionally, clouds serve as an atmospheric blanket that controls the Earth's surface temperature. A part of the solar energy that strikes Earth during the day is reflected back into space by clouds. This regulates the Earth's surface temperature and prevents it from becoming too warm.
- Also, clouds can behave as a blanket, trapping heat on Earth by absorbing heat emitted by the planet's surface. They return this heat to Earth, warming the lower atmosphere.

#### Factors impacting local temperature:

- land-use modifications (such as deforestation),
- soil moisture,
- precipitation,
- cloud cover and so on.
- Clouds play a vital role in the diurnal temperature variation by modulating solar radiative processes, which consequently affect the heat exchange at the land surface.
- The daily maximum and minimum temperatures are anticipated to continue to rise due to climate change. Hence, it is very important to know how DTR will change in the future because it modulates human, animal and plant metabolisms. It also modulates the local atmospheric circulation such as the land-sea breeze.

#### Clouds

- Cloud is a mass of minute water droplets or tiny crystals of ice formed by the condensation of the water vapour in free air at considerable elevations.
- As the clouds are formed at some height over the surface of the earth, they take various shapes.
- According to their height, expanse, density and transparency or opaqueness clouds are grouped under four types

### Cirrus

- Cirrus clouds are formed at high altitudes (8,000 – 12,000m).
- They are thin and detached clouds having a feathery appearance.
- They are always white in colour.

### Cumulus

- Cumulus clouds look like cotton wool.
- They are generally formed at a height of 4,000 – 7,000 m.
- They exist in patches and can be seen scattered here and there.
- They have a flat base.

### Stratus

- As their name implies, these are layered clouds covering large portions of the sky.
- These clouds are generally formed either due to loss of heat or the mixing of air masses with different temperatures.

### Nimbus

- Nimbus clouds are black or dark grey.
- They form at middle levels or very near to the surface of the earth.
- These are extremely dense and opaque to the rays of the sun.
- Sometimes, the clouds are so low that they seem to touch the ground.
- Nimbus clouds are shapeless masses of thick vapour

## **Cyclone Sitrang**

### Context:

Recently, IMD officials said the cyclonic storm set to develop in east-central Bay of Bengal will reach close to the coasts of West Bengal – Bangladesh by October 25. The name Sitrang (read Si-trang) has been given by Thailand.

### Relevance:

GS-I: Geography (Physical geography – Climatology, Important Geophysical phenomena), GS-III: Disaster Management

### Dimensions of the Article:

1. What are Tropical Cyclones?
2. Conditions for cyclone formation:
3. How are Tropical Cyclones Formed?

4. Why tropical cyclones don't form in the eastern tropical oceans?
5. Names of Tropical Cyclones
6. Structure of the tropical cyclone
7. Landfall, what happens when a Cyclone reaches land from the ocean?
8. Cyclone Management in India

### **Tropical Cyclones in India**

- Tropical cyclones striking India generally originate in the eastern side of India.
- Bay of Bengal is more prone to cyclone than Arabian Sea because it gets high sea surface temperature, low vertical shear winds and has enough moisture in middle layers of its atmosphere.
- The frequency of cyclones in this region is bi-modal, i.e., Cyclones occur in the months of May–June and October–November.

### **Conditions for cyclone formation:**

- A warm sea surface (temperature in excess of 26o –27o C) and associated warming extending up to a depth of 60m with abundant water vapour.
- High relative humidity in the atmosphere up to a height of about 5,000 metres.
- Atmospheric instability that encourages the formation of cumulus clouds.
- Low vertical wind between the lower and higher levels of the atmosphere that do not allow the heat generated and released by the clouds to get transported from the area.
- The presence of cyclonic vorticity (rate of rotation of air) that initiates and favours rotation of the air cyclonically.
- Location over the ocean, at least 4–5 o latitude away from the equator.

### **How are Tropical Cyclones Formed?**

- Tropical cyclones typically form over large bodies of relatively warm water.
- Warm water > Evaporation > Rising up of air > Low Pressure area.
- They derive their energy through the evaporation of water from the ocean surface, which ultimately re-condenses into clouds and rain when moist air rises and cools to saturation.
- Water takes up heat from the atmosphere to change into vapour.
- When water vapour changes back to liquid form as raindrops, this heat is released to the atmosphere.
- The heat released to the atmosphere warms the air around.
- The air tends to rise and causes a drop in the pressure.
- More air rushes to the centre of the storm.
- This cycle is repeated

### **Why tropical cyclones don't form in the eastern tropical oceans?**

- The depth of warm water (26-27°C) should extend for 60-70 m from surface of the ocean/sea, so that deep convection currents within the water do not churn and mix the cooler water below with the warmer water near the surface.
- The above condition occurs only in western tropical oceans because of warm ocean currents (easterly trade winds pushes ocean waters towards west) that flow from east towards west

forming a thick layer of water with temperatures greater than 27°C. This supplies enough moisture to the storm.

- The cold currents lower the surface temperatures of the eastern parts of the tropical oceans making them unfit for the breeding of cyclonic storms.
- ONE EXCEPTION: During strong El Nino years, strong hurricanes occur in the eastern Pacific. This is due to the accumulation of warm waters in the eastern Pacific due to weak Walker Cell.

### Names of Tropical Cyclones

- Depending on its location and strength, a tropical cyclone is referred to by different names:

1. Cyclones in the Indian Ocean
2. Hurricanes in the Atlantic
3. Typhoons in the Western Pacific and the South China Sea
4. Willy-willies in Western Australia

### Structure of the tropical cyclone

- Tropical cyclones are compact, circular storms, generally some 320 km (200 miles) in diameter, whose winds swirl around a central region of low atmospheric pressure.
- The winds are driven by this low-pressure core and by the rotation of Earth, which deflects the path of the wind through a phenomenon known as the Coriolis force.  
As a result, tropical cyclones rotate in a counter clockwise (or cyclonic) direction in the Northern Hemisphere and in a clockwise (or anticyclonic) direction in the Southern Hemisphere.
- 1. The Eye: A characteristic feature of tropical cyclones is the eye, a central region of clear skies, warm temperatures, and low atmospheric pressure. Typically, atmospheric pressure at the surface of Earth is about 1,000 millibars.
- 2. The Eyewall: The most dangerous and destructive part of a tropical cyclone is the eyewall. Here winds are strongest, rainfall is heaviest, and deep convective clouds rise from close to Earth's surface to a height of 15,000 metres.
- 3. Rainbands: These bands, commonly called rainbands, spiral into the centre of the storm. In some cases the rainbands are stationary relative to the centre of the moving storm, and in other cases they seem to rotate around the centre.

### Landfall, what happens when a Cyclone reaches land from the ocean?

- Tropical cyclones dissipate when they can no longer extract sufficient energy from warm ocean water.
- A storm that moves over land will abruptly lose its fuel source and quickly lose intensity.
- A tropical cyclone can contribute to its own demise by stirring up deeper, cooler ocean waters. tropical cyclone can contribute to its own demise by stirring up deeper, cooler ocean waters.

### Cyclone Management in India

- India is highly vulnerable to natural disasters especially cyclones, earthquakes, floods, landslides, and drought. Natural disasters cause a loss of 2% of GDP every year in India.
- According to the Home ministry, 8% of total area in India is prone to cyclones. India has a coastline of 7,516 km, of which 5,700 km are prone to cyclones of various degrees.

- **Loss due to cyclones:** Loss of lives, livelihood opportunities, damage to public and private property and severe damage to infrastructure are the resultant consequences, which can disrupt the process of development
- **Indian Meteorological Department (IMD)** is the nodal agency for early warning of cyclones and floods.
- **Natural Disaster Management Authority** is mandated to deal with the disaster management in India. It has prepared National Guidelines on Management of Cyclone.
- **National Cyclone Risk Mitigation Project (NCRMP)** was launched by Home ministry to upgrade the forecasting, tracking and warning about cyclones in states.
- **National Disaster Response Force (NDRF)** has done a commendable performance in rescuing and managing relief work.
- **National Disaster Response Reserve (NDRR)** – a fund of 250 crores operated by NDRF for maintaining inventory for an emergency situation.
- In 2016, a blueprint of National Disaster Management Plan was unveiled to tackle disaster. It provides a framework to deal with prevention, mitigation, response and recovery during a disaster.
- According to the plan, Ministry of earth science will be responsible for disaster management of cyclone.
- By this plan, India joined the list of countries which follow the Sendai Framework for Disaster Risk Reduction 2015-2030.
- Due to increased awareness and tracking of Cyclone, the death toll has been reduced substantially.
- For example, Very severe cyclone Hudhud and Phailin claimed lives of around 138 and 45 people respectively, which might have been more.
- It was reduced due to the early warning and relocation of the population from the cyclone-hit areas. Very severe cyclone Ockhi claimed many lives of people in Tamil Nadu and Kerala. This was due to the unprecedented change in the direction of the cyclone.
- But the destruction of infrastructure due to cyclonic hit is not been reduced which leads to increase in poverty due to the economic weakening of the affected population.

## Detection of barium in the exoplanet atmosphere

### Context:

Recently, in a new study, scientists have detected barium in the upper atmosphere of two giant exoplanets for the first time.

### Relevance:

GS I: Geography

### Dimensions of the Article:

1. What are Exoplanets?
2. Findings of the Study

### Findings of the Study

- The exoplanets, WASP-76b and WASP-121b, are two incredibly hot Jupiters that revolve around their respective host stars, WASP 76 and WASP 121.



- The distance between the former and the latter from Earth is approximately 640 and 900 light-years, respectively. In two days, WASP-76b and WASP-121b both complete one orbit.
- These creatures' surfaces can get as hot as 1,000 degrees Celsius. Due of their extreme temperatures, these bodies have distinctive characteristics. Iron rain, for instance, is observed on WASP-76b
- In addition to barium, other elements like as hydrogen, lithium, sodium, magnesium, calcium, vanadium, chromium, manganese, and iron have also been identified in the atmosphere of the WASP-76 b.
- They verified the existence of vanadium, chromium, manganese, iron, nickel, lithium, sodium, magnesium, calcium, magnesium, and chromium in WASP 121b.
- Additionally, the team found elements such as cobalt and strontium. They also found indications of titanium in the exoplanet.

## Heat-linked deaths among 65+ increasing: Lancet

### Context

According to the latest Lancet Countdown report 2022, continued reliance on fossil fuels is exacerbating the health effects of the world's multiple crises, including the Covid-19 pandemic, the Ukraine war, and climate change. This report comes ahead of the United Nations Climate Change Conference (COP27) this year, which will be held in Sharm El Sheikh, Egypt.

### Relevance

GS Paper 1: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes. GS paper 3: Climate Change

**Mains Question:** What exactly is a heat wave? Explain its occurrence in India and how long it can last. (250 words)

### The Lancet Countdown to Climate Change and Health:

- Climate change is the world's most serious global health threat in the twenty-first century, but it is also the greatest opportunity to rethink the social and environmental determinants of health.
- In 2015, countries committed to limiting global warming to "well below 2°C" as part of the historic Paris Agreement to limit the harm caused by climate change.
- The Paris Agreement is a global treaty in which over 200 countries agreed to collaborate to reduce greenhouse gas emissions and slow climate change.
- The agreement aims to limit global warming to less than 2°C, preferably 1.5°C, when compared to pre-industry levels.

### Concerning the report:

- The Lancet Countdown report, which is published annually, was established following the 2015 Lancet Commission on Health and Climate Change.
- The Lancet publishes the report after independent peer review.
- The Lancet is the world's highest-impact general medical journal, published weekly by peer review, and one of the oldest (founded in England in 1823).

- It is an international, multidisciplinary collaboration (including UN agencies such as WHO, WMO, and the World Bank) dedicated to monitoring the changing health profile of climate change.
- It provides an independent assessment of how governments around the world are carrying out their commitments under the Paris Agreement.
- It monitors 43 indicators in five key domains: climate change impacts, exposures, and vulnerability; health adaptation, planning, and resilience; mitigation actions and health co-benefits; economics and finance; and public and political engagement.

#### **Highlights of the Lancet Countdown Report 2022 (8th edition):**

- The report demonstrates that the negative impact of climate change is multifaceted.
- Globally, heat-related deaths increased 68% between 2017 and 21, reaching 3,10,000 deaths per year. The Covid-19 pandemic's confluence significantly increased the death toll.
- In India, the number of heat-related deaths among those over 65 increased by 55% between 2000-04 and 2017-21, from an annual average of about 20,000 to around 31,000 deaths.
- The report also emphasised how fossil fuel subsidies in many countries are causing global problems, such as deterioration of air quality, decline in food output, and increased risk of infectious disease linked to higher carbon emissions.
- By 2021, 80% of the countries examined provided some form of fossil fuel subsidy, amounting to \$400 billion.
- India spent \$34 billion on fossil fuel subsidies in 2019, accounting for 5% of total national health spending.
- According to the report, over 3,30,000 people died in India in 2020 as a result of exposure to pollutants emitted by fossil fuels.
- The report also looked at how rising temperatures and extreme heat affect infants (under 1 year old).
- Compared to 1985 to 2005, such vulnerable groups in India experienced 72 million more person-days of heatwaves per year from 2012 to 21.
- In India, adults over the age of 65 had 301 million more person-days during the same time period.
- As countries prepare for the COP27, the report urges them to develop climate solutions that are proportionate to the magnitude of the problem.
- The climate crisis is endangering not only the health of the planet, but also the health of people all over the world, due to toxic air pollution, decreased food security, increased risks of infectious disease outbreaks, extreme heat, drought, and flooding, among other things.
- As a result, the report reaffirms why governments should prioritise and invest in environmental protection.

## **INDIAN SOCIETY**

### **Rural area Swaccha survey**

#### **Context**

According to the Swachh Survekshan Gramin (SSG) 2022, Telangana, Haryana, and Tamil Nadu were the cleanest of all large states on rural sanitation parameters. Assam, Bihar, and Jammu and Kashmir, on the other hand, were the three worst performers.

#### **Relevance**

GS Paper 1: Population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.

### Mains Question

Discuss the reasons for the Swachh Bharat mission's success. How can the success of this anti-open-defecation campaign serve as a model for other schemes and policies? (250 Words)

### About

- The SBM-G was implemented as a jan andolan that aimed to eliminate open defecation in rural areas from 2014 to 2019 (Phase I) through o Mass scale behaviour change, o Constructing over 100 million household-owned and community-owned toilets in rural India, and o Establishing mechanisms for monitoring toilet construction and usage.
- The Mission is progressing to Phase II of SBM-G, namely ODF-Plus, to ensure that open defecation-free behaviours are maintained, that no one is left behind, and that solid and liquid waste management facilities are accessible.
- Under Phase II of SBM-G, ODF Plus activities will reinforce ODF behaviours and focus on providing interventions for safe solid and liquid waste management in villages.
- Phase II will take place between 2020-21 and 2024-25.

### Mission Swachh Bharat

- On October 2, 2014, the Prime Minister of India launched the Swachh Bharat Mission to accelerate efforts to achieve universal sanitation coverage.
- As part of the mission, all villages, Gram Panchayats, Districts, States, and Union Territories in India pledged to be "Open-Defecation-Free" (ODF) by October 2, 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India.
- SBM is being implemented in urban and rural areas by the Ministry of Housing and Urban Affairs (M/o HUA) and the Ministry of Jal Shakti, respectively.
- In the Union Budget 2021-22, it was announced that the Swachh Bharat Mission (Urban) 2.0 would be implemented over a five-year period, from 2021 to 2026, with a budget of Rs. 1.41 lakh crore.
- In 2020, the Swachh Bharat Mission (Grameen) Phase-II was launched.
- It also prompted the formation of the Jal Jeevan Mission (JJM) to address water security.

### Schemes included in SBM:

- GOBAR-DHAN (Galvanizing Organic Bio-Agro Resources) Scheme: Launched in 2018 by the Ministry of Jal Shakti, the scheme aims to increase farmer income by converting biodegradable waste into compressed biogas (CBG).
- Individual Household Latrines (IHHL): Individuals receive approximately \$15,000 for the construction of toilets.
- Swachh Vidyalaya Abhiyan: The Ministry of Education launched the Swachh Vidyalaya Program with the goal of installing separate toilets for boys and girls in all government schools within a year

### Performance of SBM-G

- According to the Sub-Group of Chief Ministers (2015), more than half of India's 25 crore households did not have access to toilets near their homes.

- Notably, the Department of Drinking Water and Sanitation spent a significant amount of money on SBM-G during the 2015-19 fiscal year.
- According to the Department of Drinking Water and Sanitation, 43.8% of rural households had access to toilets in 2014-15, and this figure is expected to rise to 100% in 2019-20.
- However, despite access to toilets, the 15th Finance Commission (2020) noted that open defecation is still prevalent and that there is a need to sustain people's behavioural change toward using toilets.

#### **Swachh Survekshan Gramin (SSG) Information:**

- SSG was commissioned by the Department of Drinking Water and Sanitation in 2018 and 2019.
- It is important to note that SSG is more than just a ranking exercise; it has also served as a vehicle for the formation of a jan andolan (people's movement).
- A detailed protocol has been developed to guide the ranking of states and districts based on their performance on qualitative and quantitative parameters, as well as the rural community's engagement in improving their sanitation status.

#### **The SSG 2022**

- The President of India recently released the SSG 2022 survey on the occasion of Gandhi Jayanti, which is now also known as Swachh Bharat Diwas.
- Assam's Golaghat district was ranked last out of 709 districts in this survey. Bihar's two other worst performers were Banka and Katihar.
- Because Delhi and Chandigarh are fully urbanised UTs, they were not ranked.
- On the occasion, the President also released the status report on the Jal Jeevan Mission's "Functionality Assessment of Tap Connections" (JJM).
- Burhanpur (Madhya Pradesh) receives a special award for being the first district to be certified as a "Har Ghar Jal."

### **Technology makes life easier for exhausted nomads in J&K**

#### **Context**

The nomadic Gujjar and Bakarwal communities of Jammu and Kashmir have been given smart cards and free transportation to help with their biannual migration.

#### **Relevance**

GS Paper 1: Social empowerment, communalism, regionalism & secularism.

#### **Mains Question**

Has religion improved social cohesion in Indian society? Argue (250 Words)

#### **Biannual Migration**

- They migrate with their flock biannually between the pastures of Kashmir and Ladakh in the summer and the plains of Jammu in the winter.
- Across their migratory routes, their daily activities benefit the environment by – conserving local soil and water, seasonally maintaining grasslands, regulating the frequency of forest fires by imitating excessive growth, and keeping invasive plant species in check by weeding them out.



**The community's difficulties**

- The Gujjar-Bakarwal Tribe of J&K is one of the most backward of all J&K tribes.
- Most habitation areas of the Gujjar Bakarwal tribe in Jammu and Kashmir lack facilities such as o Road communication, electricity, water supply schemes, medical facilities, and educational facilities, putting the Gujjar Bakarwal tribe in a lot of hardships and troubles.
- For the benefit of the Gujjar and Bakarwal communities, the government has implemented a number of employment schemes in Jammu and Ladakh union territory, including the following:
- Jawahar Rojgar Yojana o Indira Awas Yojana o Self-Employment for Educated Unemployed Youth o Lift Irrigation Execution Programs

**Government Community Initiatives:**

- For centuries, Jammu and Kashmir's nomadic community, known as Gujjars and Bakerwals, have undertaken arduous journeys on foot as part of their seasonal migration to find better pastures for their livestock
- They frequently lose cattle and, on occasion, family members to accidents and hardships along the way.
- However, this year, the UT administration has offered technological solutions and transport services to help them cover long distances in less time.

**Concerning the Government's Initiative:**

- The Tribal Affairs Department of J&K surveyed 98,000 Gujjar-Bakarwal families to map their transit routes and locations.
- Officials delineated pastures and grazing land in each district using remote sensing technology and a geographic information system, and this was followed by mapping of routes and migration patterns to understand when Bakerwals and their livestock use the highways.
- The Tribal Affairs Department also worked with the Forest Department and the Census Operations Department to provide tribal families with smart cards.
- Use of Smart Cards - o Smart cards will replace the current requirement for multiple permissions and provide a unified central database to all organisations and agencies for smooth and hassle-free family movement during the biannual vertical migration.
- The smart card, which is embedded with a chip, contains demographic information, transit routes, originating location, destination, and other vital statistics.
- Over the next three months, a pilot project will serve 10,000 families.

**Nobel Memorial Prize in Economic Sciences****Context**

Former Fed Chair Ben Bernanke and two other US economists, Douglas Diamond and Philip Dybvig, were awarded the Nobel Memorial Prize in Economic Sciences. They were recognised for their work over four decades on the role of bank bailouts in financial crises. The work for which Bernanke, Dybvig, and Diamond have been recognised dates back to the early 1980s, and it has laid the groundwork for modern bank regulations.

**Relevance:** GS Paper 1: Effects of globalization on Indian society.

**Mains Question**



Do you believe that bestowing the Nobel Peace Prize on certain individuals and organisations strengthens the voices of peace and human rights around the world and in India? Express your thoughts. (250 words)

### During the Great Depression

- The Great Depression was a severe worldwide economic depression that lasted from 1929 to 1939 and was precipitated by a significant drop in stock prices in the United States.
- Between January 1930 and March 1933, US industrial production fell by 46%, unemployment increased to 25%, and the Gross Domestic Product (GDP) fell by 30%.
- It lasted nearly a decade and was characterised by steep declines in industrial production and prices (deflation), mass unemployment, banking panics, and sharp increases in poverty and homelessness rates.
- Economists and historians cannot agree on the precise causes of the Great Depression.

### Ben Bernanke's study:

- In 1983, Ben Bernanke published a research paper on the Great Depression. He emphasised that "Bank Runs" were the primary cause of a relatively normal recession spiralling into the greatest economic crisis in modern history.
- A bank run occurs when large groups of depositors withdraw money from banks at the same time out of fear that the institution will fail.
- If enough people do this at the same time, the bank's reserves cannot cover all of the withdrawals, and the bank goes bankrupt.
- Due to bank runs, the 1929 recession had morphed into a full-fledged banking crisis by 1930, with half of the banks going bankrupt.
- Bernanke demonstrated that the economy did not begin to recover until the government finally put in place strong measures to prevent further bank panics.
- Today, Bernanke's views — that allowing banks to fail often worsens a financial crisis — are accepted wisdom, supported by empirical studies.

### Analysis by Douglas Diamond and Philip Dybvig:

- In 1983, Douglas Diamond and Philip Dybvig published another research paper highlighting "fundamental conflicts between the needs of savers and investors."
- Savers always want access to at least some of their savings for unexpected use; this is also known as the liquidity need.
- They want the ability to withdraw money as needed.
- On the other hand, borrowers, particularly those taking out a loan to build a house or a road, require the funds for a much longer period of time.
- Borrowers can't function if they can't get their money back quickly.
- This is commonly referred to as the Diamond-Dybvig model.

### Banks' Role in the Diamond-Dybvig Model:

- Diamond and Dybvig presented a mathematical model demonstrating how banks act as intermediaries between savers and borrowers, smoothing out incompatibilities in their needs.
- Savers want to be able to invest and withdraw funds in the short term, whereas borrowers, such as businesses, require long-term loans and commitments.
- Because savers do not generally need to withdraw all of their funds at once, banks can absorb fluctuations in order to maintain 'liquidity,' allowing money to circulate and society to benefit.

**The significance of this study:**

- Throughout the 2008 Financial Crisis –
- The financial crisis of 2007-08 was the most severe since the Great Depression.
- As predicted by Diamond and Dybvig's model, the crisis began with a slump in the housing sector and progressed to financial market panic.
- That crisis was widely attributed to reckless lending by banks to borrowers in the housing market who lacked the ability to repay their debts.
- Diamond and Dybvig's work had already demonstrated how perverse incentives can emerge in the banking system to drive such risky lending strategies.
- The crash highlighted the need for banking regulation to prevent such behaviour.
- Bernanke's recognition that factors other than traditional economic thinking, such as behavioural biases, feedback loops, and the role of confidence collapse, can cause system instabilities was likely critical in navigating the 2008 crisis.
- Throughout the Covid-19 Pandemic -Such lessons also aided in reducing the risk of illiquidity during the Covid- 19 pandemic lockdowns.
- For example, the European Central Bank intervened by providing banks with financial assistance and incentives to lend to consumers and businesses.

**AVOID INFANT ABANDONMENT BY OPTING FOR "SAFE SURRENDER."****Context**

- There has been a disturbing trend recently in the media regarding infant abandonment cases.
- In Tamil Nadu, for example, a two-year-old girl found alone in a government bus was handed over to police, who traced her mother using CCTV footage.
- In a similar case, police in West Bengal found a two-week-old boy abandoned in a closed tea stall and provided immediate medical attention.
- The article discusses the seriousness of the issue of child abandonment, the underlying causes, and potential solutions.

**Relevance**

GS Paper I and II: Role of women and women organizations, schemes for vulnerable sections. Fundamental rights, Issues with adoption laws etc

**Mains Questions**

Examine the main provisions of the National Child Policy and throw light on the status of its implementation. (UPSC 2016)

**Background**

- According to the Parliamentary Standing Committee on Personnel, Public Grievances, and Law and Justice's recent report, "Review of Guardianship and Adoption Laws," there is a huge mismatch between the number of people wanting to adopt children and the number of legally available children for adoption.
- According to the report, one solution would be to make "orphan and abandoned children" available for adoption as soon as possible.

**Statistics**

- National Crime Records Bureau: According to NCRB data, more than 700 criminal cases of "exposure and abandonment of a child under the age of twelve" were registered in 2021.
- Top abandonment: Between 2016 and 2020, Delhi and Maharashtra had the highest number of desertions.
- Awaiting adoptions: According to a parliamentary report, as of December 2021, there were 27,939 prospective parents registered with the Central Adoption
- Resource Authority (CARA), up from nearly 18,000 in 2017.
- In addition, only 2,430 of 6,996 orphaned, abandoned, and surrendered children residing in childcare institutions considered adoptable were legally free for adoption by Child Welfare Committees.
- Adoption timeline: It claimed that in the last five years, the waiting time for adoption had increased from one year to three years. In 2021-22, there were only 3,175 children adopted.
- In 2021-22, there were 2,991 in-country adoptions and 414 inter-country adoptions, according to the CARA portal.

### CARA's Background

- The Central Adoption Resource Authority (CARA) was established in 1990 as an autonomous and statutory body of the Ministry of Women and Child Development.
- Role: Its primary concern is the adoption of orphaned, abandoned, or surrendered children, and it regulates both in-country and inter-country adoptions through its affiliated and recognised adoption agencies.
- Inter-country adoptions are governed by the provisions of the 1993 Hague Convention on Inter-country Adoption, which India ratified in 2003.

### Legislation

- The Juvenile Justice (Care and Protection of Children) Act of 2015 (or the JJ Act): It requires hospitals, Child Care Institutions (CCIs), foster care agencies, and Child Welfare Committees (CWCs) to legally place abandoned babies in the adoption system, and it allows parents to hand over their child to adoption agencies or the CWC.
- Procedure: Parents or guardians who want to give up a child are given 60 days to reconsider their decision after submitting a "surrender letter," after which documents such as an Aadhar card, a PAN card, and hospital discharge papers are collected.
- If both parents are drug addicts or alcoholics, a child may be considered and declared eligible for surrender after the prescribed process of inquiry and counselling.
- Strict penalties: It is the responsibility of the authority or officer in front of whom the surrender deed is executed to produce the child before the CWC within 24 hours. Failure to report abandonment within the required time frame is a criminal offence.
- Safe surrender: The JJ Act states that no First Information Report (FIR) shall be filed against any biological parent during the investigation of an abandoned and surrendered child.
- The purpose of this provision is to ensure that all efforts are made to locate the child's parents or guardians without resorting to criminal action.
- Furthermore, the CWC is prohibited from disclosing the identity of such children, and all reports relating to the child are to be treated as confidential.
- Importance of Surrender: It ensures that the child will be cared for until he or she reaches the age of majority or is adopted by a suitable and willing parent.

### Concerning abandonment and surrender

- An abandoned child is one who has been abandoned by his biological or adoptive parents or guardians.
- Surrendered child: A parent or guardian who wishes to surrender a child due to physical, emotional, or social factors beyond their control must present the child to the Committee.
- Legal provisions: In police parlance, abandonment is classified into three categories: infanticide, foeticide, and finally child exposure and abandonment.
- Infanticide: preventing a child from being born alive or causing a child to die after birth (10 years in prison under IPC section 315)
- Foeticide: Causing the death of an unborn child, which constitutes culpable homicide (ten years in prison under Sections 315 and 316).
- Abandonment: Parental or guardian abandonment of a child under the age of 12 years (7 years in prison under Section 317)
- Implications of child abandonment: Abandonment endangers the child's life and exposes the child to life-long trauma. It also violates the fundamental human right to life and dignity.

#### **Reasons for child abandonment include:**

- Lack of knowledge of legislation: A major reason for child abandonment in India is a lack of awareness about the law governing the surrender of unwanted children.
- Personal reasons: unwanted pregnancy, relationship breakdown, lower socioeconomic status, etc.
- Hassle-free surrender: Many people believe that safe surrender requires a lot of paperwork, so they take illegal shortcuts.

#### **A broad interpretation**

- Pregnancy termination: The Supreme Court of India recently issued a liberal interpretation of the law regarding pregnancy termination for single and unmarried women.
- In 2021, the words "married woman" were replaced with "any woman," and "husband" was replaced with "partner" in Section 3(2)(b) of the Medical Termination of Pregnancy Act of 1971.
- Ambiguity: However, Rule 3B of the MTP Rules, 2003 was not amended, leaving room for different interpretations by lower courts.
- Rule 3B(c) refers to a change in marital status while a pregnancy is ongoing, and is followed by the explanatory words "widowhood and divorce."
- In light of this, the Supreme Court issued an interim order allowing an unmarried woman petitioner to terminate her 24-week pregnancy resulting from a failed live-in relationship, subject to the Medical Board's recommendations.
- Importance: The Supreme Court's decision to grant unmarried women the same right to medically terminate pregnancy as other categories (divorcees, widows, minors, disabled and mentally-ill women, and survivors of sexual assault or rape) liberates her from mental trauma.

#### **The Way Forward**

- Regulatory body: CARA was established as the nodal body for in-country and inter- country adoptions in response to rampant malpractices and inter-country adoption rackets.
- However, institutionalisation may be harmful in the long run, so equal attention must be paid to the finer aspects of child care, and the organisation must allow itself to be guided by a child-centric philosophy.
- Raising Awareness: It is believed that Accredited Social Health Activists (ASHAs), daais, and anganwadi workers, who have a strong network in villages, are aware of the majority of cases of



unwanted pregnancies. As a result, educating and sensitising them may reduce instances of abandonment.

- Nursing home staff should also be included in such a programme.
- Promote legislation: These provisions of the JJ Act must be widely publicised so that no child is abandoned and parents, guardians, and functionaries who are required to report any abandonment do not face criminal charges.
- Local surveys: The Parliamentary Standing Committee has proposed conducting periodic district surveys to identify orphaned/abandoned children.
- Parental privacy: Amendments to the JJ Act can also be purchased, allowing vulnerable parents to surrender their child confidentially at local police stations without stigma or legal repercussions.
- Create a separate constitutional body for child welfare, similar to the Election Commission of India, where central, state, and district child protection bodies are monitored and held accountable.
- Identity linking: Every person's DNA could be recorded in his Aadhaar card, allowing cases of abandonment and even foeticide to be checked using such tools by tracing parents and assigning responsibility.

## POLITY & CONSTITUTION

### Chief of Defence Staff (CDS)

#### Context:

The Government appointed former Eastern Army Commander Lt. General Anil Chauhan as the next Chief of Defence Staff (CDS). The appointment comes more than nine months after the post fell vacant following the death of General Bipin Rawat.

#### Relevance:

- GS II- Polity and Governance

#### Dimensions of the Article:

1. Who is CDS?
2. Functions of CDS
3. Need of such a post

#### Functions of CDS

- To act as the Principal Military Advisor to Raksha Mantri on all Tri-Service matters.
- To administer the Tri-Service organizations/agencies/commands.
- To be a member of Defence Acquisition Council chaired by Raksha Mantri.
- To function as the Military Advisor to the Nuclear Command Authority.
- To bring about jointness in operation, logistics, transport, training, support services, communications, repairs and maintenance, etc of the three Services.
- To implement Five-Year Defence Capital Acquisition Plan and Two-Year roll-on Annual Acquisition Plans, as a follow up of Integrated Capability Development Plan.
- To bring about reforms in the functioning of three Services with the aim to augment combat capabilities of the Armed Forces by reducing wasteful expenditure.

#### Need of such a post



- To usher in reforms in the higher defence management Centre.
- For a more streamlined system of reporting and decision making.

## States should use fiscal space to increase capital spending

### Context:

According to a study by ratings firm ICRA, 13 major states have a massive fiscal space of Rs 7.4 lakh crore for capital spending in the current fiscal, which is 81% higher than the previous fiscal. These may also be eligible for the Centre's interest-free loan for 50 years to invest in capacity expansion in their respective states.

### Relevance

General Studies-I & 2: Governance, Constitution, Polity, Social Justice and International relations.

### Mains Question

How have the recommendations of the 14th Finance Commission of India enabled the states to improve their fiscal position? (150 Words)

### Observations of the ICRA

- GDP share: In 2020-21, Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, and West Bengal will account for 85% of India's GDP.
- Estimated capital spending: These 13 states spent Rs 4.1 trillion on capital expenditure last fiscal year, and their budget estimates for capex spending this fiscal year are Rs 5.8 trillion, according to the rating agency.
- Fiscal space is defined as the flexibility in a government's budget that allows it to provide resources for a desired purpose without jeopardising the sustainability of its financial position or the economic stability.
- ICRA concerns: While funds appear to be available in FY2023, the actual outlay incurred by these state governments in the first months of this fiscal year has been rather muted.
- According to ICRA, the combined revenue deficit of these 13 states will be Rs 2.1 lakh crore, which is higher than the budgeted Rs 1.8 lakh crore.
- According to ICRA, while tax devolution and GST compensation grants are likely to exceed the amounts budgeted by the sample states in FY2023, this will not fully offset the estimated shortfall in other revenues and the projected higher-than-budgeted revenue expenditure in this fiscal.
- Assessment: Based on this, ICRA has determined that these states will have sufficient resources to fully fund and/or exceed their budgeted capex this year, but has expressed concerns about whether these states' capex will exceed the budgeted level, despite having ample fiscal space to do so.

### Capital expenditure (Capex)

- Capital expenditure (Capex) is money spent by the government on the development of machinery, equipment, buildings, health facilities, education, and so on.
- It also includes government spending on fixed assets such as land and investments that will yield profits or dividends in the future.
- Loan repayment, like asset creation, is capital expenditure because it reduces liability.

- Significance: Capital spending is associated with investment or development spending, where expenditure has long-term benefits, acting as a multiplier.
- It also increases labour participation, assesses the economy, and improves its capacity to produce more in the future.
- Distinct from Expenditure on Revenue: Unlike capital expenditure, which creates assets for the future, revenue expenditure neither creates nor reduces the government's liabilities.
- Employee salaries, interest payments on past debt, subsidies, pensions, and so on are examples of revenue expenditure. It occurs frequently in nature.

### **Flows of resources to finance the fiscal deficit**

- In order to estimate these states' capital outlay and net lending, the resources that are likely to be available to them for funding their fiscal deficit must first be calculated. These are some examples:
- The unconditional market borrowings of 3.5% of their GSDP, o The additional borrowing linked to the completion of power sector reforms (0.5% of GSDP), and o The interest-free capex loan provided by the Centre
- Debt calibration: The estimated resource flows from these channels are then reduced by their off-budget debt, which will be adjusted in 2022-23, and the year's projected revenue deficit.
- Increased tax devolution: To encourage early capital spending, the Centre has increased tax devolution to states.
- In August 2022, it released two instalments of tax devolution to states totaling 1.17 trillion, compared to the normal monthly devolution of 58,333 crore.

### **Concerning the interest-free capex loan**

- Launch: The Centre first announced it in October 2020-21 as part of the measures to support economic activity
- Increased funding: However, the government increased scheme allocation to Rs 1 trillion in 2022-23 from around Rs 150 billion in the previous two years.
- Slow capital growth: The increase in sanctioned funds comes amid slow capex off-take by states in the early months, with 21 states achieving only 15% of the budgeted target by July 2022.
- Project financing: \$1 trillion has been allocated as interest-free 50-year capital expenditure loans for states that exceed their normal borrowing limit to be spent on new or ongoing projects.

### **Concerning off-budget borrowings**

- Definition: Loans taken by state entities, special purpose vehicles, and so on that are expected to be serviced through the state government's own budget rather than the borrowing entity's cash flows or revenues.
- Recent developments: The Union government has recently clarified that henceforth, off-budget borrowings would be considered as borrowing of the state government and would be subject to the provisions of Article 293(3) of the Constitution of India.
- As a result, the Centre will adjust the state governments' incremental off- budget borrowings in 2021-22 from their net borrowing ceiling over a one to four-year period beginning in 2022-23 and ending in 2025-26.
- Article 293(3): A State may not raise any loan without the consent of the Government of India if any part of a loan made to the State by the Government of India or its predecessor Government remains outstanding, or in respect of which a guarantee has been given by the Government of India or its predecessor Government.

**Conclusion**

- From a fiscal standpoint, state governments are well-positioned to emerge as key drivers of economic growth this year, but their ability to ramp up capital spending and capitalise on the fiscal space that they have will be a key determinant of the aggregate fiscal impulse to the economy.
- Also, how effectively states increase their spending will have a significant impact on the rate at which the Indian economy grows in the near future.

**HINDI IMPOSITION AND ITS DISCONTENTS****Context:**

The reported recommendation of the Parliamentary Committee on Official Language to use Hindi as the medium of instruction in Central institutions of higher education in Hindi-speaking States and regional languages in other States has once again ignited a controversy over, what is called by critics of the BJP, an attempt to impose Hindi on non-Hindi speaking people.

**Relevance:**

GS II: Polity and Governance

**Dimensions of the Article:**

1. Backdrop to the Hindi imposition row
2. Why do many parties in Tamil Nadu stand against the recommendation?
3. What does the present proposal say?
4. What is the alternative suggested by critics of the proposal ?

**Backdrop to the Hindi imposition row**

- The origin of the linguistic row goes back to the debate on official languages.
- In the Constituent Assembly, Hindi was voted as the official language by a single vote.
- However, it added that English would continue to be used as an associate official language for 15 years.
- The Official Languages Act came into effect on the expiry of this 15-year period in 1965.
- This was the background in which the anti-Hindi agitation took place.
- However, as early as in 1959, Jawaharlal Nehru had given an assurance in Parliament that English would continue to be in use as long as non-Hindi speaking people wanted it.

**Why do many parties in Tamil Nadu stand against the recommendation?**

- Tamil Nadu has had a long history of agitations against "Hindi imposition".
- In August 1937, in the then Presidency of Madras, the regime headed by C. Rajagopalachari, also known as Rajaji or CR, decided to make Hindi compulsory in secondary schools.
- E.V. Ramasamy, or Periyar as he was known, who was still in the Justice Party at that time, had spearheaded an agitation against the move, marking the first such stir.
- A few months after CR's resignation, the British government, in February 1940, made Hindi optional.
- In January 1965, the second round of agitations erupted in the wake of Hindi becoming the official language of the Union government coupled with the approach adopted by the Central government towards the whole issue.

- At different points in time, leaders, starting from Jawaharlal Nehru in the mid- 1950s, assured the people of Tamil Nadu that there would be no “imposition” of Hindi.

### Recent years:

- National Education Policy or reports of English signage on National Highways in the State getting replaced with Hindi signage, the political class of the State had overwhelmingly expressed its reservations.
- The reiteration of the age-old assurance by the Central government coupled with the promise of the promotion of other Indian languages have barely mollified the protesters.
- The essence of the Official Languages Act, 1963, is to provide something to each of the differing groups to meet its objections and safeguard its position.
- Whenever the parties in the State see any attempt to disturb this status quo, their reaction is always uniform — a virulent opposition.

### What does the present proposal say?

- If reports in sections of the media are an indication, English, as a medium of instruction in all technical and non-technical institutions, will be permitted only where it is absolutely essential, as the idea is to replace the language gradually with Hindi in those institutions.
- While IITs, IIMs and All India Institute of Medical Sciences are considered technical institutions, Kendriya Vidyalayas and Navodaya Vidyalayas fall under the other category.
- Also, the committee has recommended the removal of English as one of the languages in examinations held for recruitment to the Central services.
- It has stated that the requisite knowledge of Hindi among candidates should also be ensured.

### What is the alternative suggested by critics of the proposal ?

- They have called for equal treatment to all the languages specified under the Eighth Schedule of the Constitution.
- The Kerala Chief Minister has specifically stated that question papers for competitive examinations should be prepared in all the languages while his Tamil Nadu counterpart has urged the Centre to promote all languages and keep open the avenues of progress in terms of education and employment equal to speakers of all languages.

## **SECTION 66A OF IT ACT**

### Context:

Recently, the Supreme Court directed that no person should be prosecuted under Section 66A of the Information Technology Act, 2000, which has been struck down.

### Relevance:

GS II: Polity and Governance

### Dimensions of the Article:

1. Details
2. About Section 66A of IT Act
3. Objections to Section 66A
4. What is the IT Act?

## 5. Amendment to the IT Act

### Details

- The SC ruled that no complaints should be filed regarding alleged violations of Section 66A.
- The reference to and reliance on Section 66A will stand erased in all instances where citizens are being prosecuted for violations of that section, it was stated.
- In the Shreya Singhal case, Section 66A was ruled unconstitutional by the court in 2015.

### About Section 66A of IT Act

- Introduced in 2008 by the amendments to the IT Act, 2000
- It provided the government with power to arrest and imprison an individual for allegedly "offensive and menacing" online posts.
- It prescribed that a conviction could fetch a maximum of three years in jail.
- Shreya Singhal vs. Union of India: In 2015, the SC struck down the law calling it open-ended and unconstitutionally vague, and thus expanded the contours of free speech to the Internet.

### Objections to Section 66A

- The terms "offensive," "menacing," "annoyance," etc., according to experts, are vague, ill defined, or not defined at all.
- Anyone could interpret anything as offensive.
- There was a lot of room for abuse of power when using this clause to threaten media professionals.
- Additionally, this limited the freedom of speech and expression that the Constitution recognises as a fundamental right.
- Most notably, the area was utilised to arrest anybody who made any unkind remarks or criticisms about politicians.

### Amendment to the IT Act

- The Information Technology (Amendment) Act, 2008 – An act to amend the IT Act 2000 received the assent of the President on 5th February 2009.
- It dealt with various changes such as: Data Protection –with no specific reference to Data Protection in 2000 Act, the ITA 2008 introduced two sections addressing Data Protection, Section 43A (Compensation for failure to protect data), and Section 72A (Punishment for disclosure of information in breach of lawful contract).
- Information Preservation – Section 67C refers to the Preservation and Retention of Information by Intermediaries. According to Central Government, any intermediary who intentionally or knowingly contravenes the provisions shall be punished with an imprisonment for a term which may extend to 3 years and shall not be liable to fine.
- Section 66 A: It provided the government with power to arrest and imprison an individual for allegedly "offensive and menacing" online posts.
- Section 69 gives power to issue directions for interception or monitoring or decryption of any information through any computer source.
- Section 69B authorizes to monitor and collect traffic data or information through any computer resource for Cyber security.

## **BIJOE EMMANUEL CASE**

### Context:



The Supreme Court delivered a split verdict in the Karnataka hijab ban case, directing the matter to be placed before the Chief Justice of India for appropriate directions. While Justice Hemant Gupta dismissed the appeals challenging the Karnataka High Court order, Justice Sudhanshu Dhulia allowed them. In his judgment, Justice Dhulia referred to the Bijoe Emmanuel case, saying it “squarely covers the issue”.

### **Relevance:**

GS II: Polity and Governance

### **Dimensions of the Article:**

1. Bijoe Emmanuel verdict
2. What was the case?
3. What else did the court say?

### **Bijoe Emmanuel verdict**

- In August 1986, a Supreme Court bench had, in *Bijoe Emmanuel & Ors vs State Of Kerala & Ors*, granted protection to three children of the Jehovah's Witness sect, who didn't join in the singing of the national anthem at their school.
- The court held that forcing the children to sing the anthem violated their fundamental right to religion.
- The children's father, VJ Emmanuel, had pleaded that for Jehovah's Witnesses, only Jehovah should be worshiped.
- Since the national anthem was a prayer, his children would stand up in respect when it was playing, but their faith did not allow them to sing it.

### **What was the case?**

- In 1985, in Kidangoor in Kottayam district, siblings Bijoe Emmanuel, aged 15 and studying in Class X, Binu and Bindu, 14 and 10, studying in Class IX and V respectively, were suspended from their school after a complaint that they didn't sing the national anthem.
- The three were students of NSS High School, run by the Hindu organisation Nair Service Society. The school had 11 students from the Jehovah's Witnesses religious sect at the time.
- Their parents, college professor V J Emmanuel and mother Lillikutty moved the high court, where a single bench rejected the plea. Their re-appeal also failed, after which they went to the Supreme Court and received a favourable verdict.
- After the win in the court, the three Emmanuel children came back to the school for just one day.
- The family then decided not to continue with formal education for any of their seven children.
- Their father has said, “I went to court not to protect the right of my children to study in a school. It was meant for freedom of worship of all members of Jehovah's Witnesses.”
- What else did the court say?
- The Supreme Court in the *Bijoe Emmanuel* case had made other pertinent remarks on freedom of speech and expression and the right to practise and propagate one's religion.
- “Article 25 [right to practise and propagate your religion] is an article of faith in the Constitution, incorporated in recognition of the principle that the real test of a true democracy is the ability of even an insignificant minority to find its identity under the country's Constitution. This has to be borne in mind in interpreting Art. 25,”
- The SC also said that,

- “We are satisfied, in the present case, that the expulsion of the three children from the school for the reason that because of their conscientiously held religious faith, they do not join the singing of the National Anthem in the morning assembly though they do stand up respectfully when the Anthem is sung, is a violation of their Fundamental Right to freedom of conscience and freely to profess, practise and propagate religion”
- “We, therefore, find that the Fundamental Rights of the appellants under Art. 19(1)(a) and 25(1) have been infringed and they are entitled to be protected. We allow the appeal, set aside the judgment of the High Court and direct the respondent authorities to re-admit the children into the school. We only wish to add: our tradition teaches tolerance; our philosophy preaches tolerance; our constitution practises tolerance; let us not dilute it.”

## SC DELIVERS SPLIT VERDICT ON KARNATAKA HIJAB BAN

### Context:

The Supreme Court delivered a split verdict on whether Muslim students should shed their hijabs at their school gates.

**Relevance:** GS II: Polity and Governance

### Dimensions of the Article:

1. About Split verdict
2. Earlier cases with a split verdict
3. How is religious freedom protected under the Constitution?
4. How have courts ruled so far on the issue of a hijab?

### About Split verdict

- A split verdict is passed when the Bench cannot decide one way or the other in a case, either by a unanimous decision or by a majority verdict.
- Split verdicts can only happen when the Bench has an even number of judges.
- This is why judges usually sit in Benches of odd numbers (three, five, seven, etc.) for important cases, even though two-judge Benches — known as Division Benches — are not uncommon.

### After the verdict

- In case of a split verdict, the case is heard by a larger Bench.
- The larger Bench to which a split verdict goes can be a three-judge Bench of the High Court, or an appeal can be preferred before the Supreme Court. In the case of the hijab verdict, the CJI, who is the ‘master of the roster’, will constitute a new, larger Bench to hear the matter.

### Earlier cases with a split verdict

- In May, a two-judge Bench of the Delhi High Court delivered a split verdict in a batch of petitions challenging the exception provided to marital rape in the Indian Penal Code (IPC).
- Among other cases in which courts have delivered split verdicts is the Madras High Court Division Bench order on the challenge to the disqualification of AIADMK MLAs owing allegiance to TTV Dinakaran (2018).

### How is religious freedom protected under the Constitution?

- Article 25(1) of the Constitution guarantees the “freedom of conscience and the right freely to profess, practise and propagate religion”.

- It is a right that guarantees a negative liberty — which means that the state shall ensure that there is no interference or obstacle to exercise this freedom.
- However, like all fundamental rights, the state can restrict the right for grounds of public order, decency, morality, health and other state interests.
- Over the years, the Supreme Court has evolved a practical test of sorts to determine what religious practices can be constitutionally protected and what can be ignored.
- In 1954, the Supreme Court held in the Shirur Mutt case that the term “religion” will cover all rituals and practices “integral” to a religion.

How have courts ruled so far on the issue of a hijab?

- In 2015, at least two petitions were filed before the Kerala High Court challenging the prescription of dress code for All India Pre-Medical Entrance which prescribed wearing “light clothes with half sleeves not having big buttons, brooch/badge, flower, etc. with Salwar/Trouser” and “slippers and not shoes”.
- Admitting the argument of the Central Board of School Education (CBSE) that the rule was only to ensure that candidates would not use unfair methods by concealing objects within clothes, the Kerala HC directed the CBSE to put in place additional measures for checking students who “intend to wear a dress according to their religious custom, but contrary to the dress code”.
- “If the Invigilator requires the head scarf or the full sleeve garments to be removed and examined, then the petitioners shall also subject themselves to that, by the authorised person. It is also desirable that the C.B.S.E issue general instructions to its Invigilators to ensure that religious sentiments be not hurt and at the same time discipline be not compromised,” Justice Vinod Chandran ruled.

#### **Amna Bint Basheer v Central Board of Secondary Education (2016).**

- The Kerala HC examined the issue more closely. Justice P B Suresh Kumar, who allowed the plea by the student, held that the practice of wearing a hijab constitutes an essential religious practice but did not quash the CBSE rule.
- The court once again allowed for the “additional measures” and safeguards put in place the previous year.
- But both these cases involve restrictions placed on the freedom of religion for a specific purpose — to ensure a fair examination process — and the CBSE had cited a resource crunch to check every candidate if they allowed autonomy in choosing their dress.

#### **Fathima Tasneem v State of Kerala (2018)**

- A single Bench of the Kerala HC held that collective rights of an institution would be given primacy over individual rights of the petitioner.
- The case involved two girls, aged 12 and 8, represented by their father who wanted his daughters to wear the headscarf as well as a full-sleeved shirt.
- The school that refused to allow the headscarf is owned and managed by the Congregation of the Carmelites of Mary Immaculate (CMI) under CMI St Joseph Province.
- The father appealed before a division Bench of the High Court. The division Bench headed by Justice Vinod Chandran dismissed the appeals as it was “submitted that the appellants-petitioners are not now attending the School and are no more in the rolls of the respondent-School.”

### **ALLEGATIONS AGAINST GOOGLE BY THE NBDA**

#### **Context:**

Recently, the News Broadcasters and Digital Association (NBDA) approached the Competition Commission of India (CCI) against search-engine operator Google, alleging that the latter had deprived them of their justifiable revenue acquired from news dissemination on the tech-giant's platforms. The complaint would be clubbed with similar cases filed by the Indian Newspaper Society (INS) in February this year and the Digital News Publishers Association (DNPA) last year.

**Relevance:** :GS II: Polity and Governance

### **Dimensions of the Article:**

1. About NBDA
2. What are the key allegations?
3. Why is Google dominant?

### **Objectives of the News Broadcasters & Digital Association (NBDA)**

- To promote, protect and secure the interests including the right of freedom of speech and expression of the news broadcasters, digital news media and other related entities.
- To promote awareness about the latest developments in the media industry relating to television news broadcasters, digital news media and to disseminate knowledge amongst its Members and the general public regarding such developments.
- To provide for the Members a place of meeting so as to enable them to work in consensus to achieve common goals for the overall betterment of their industry and to have a common platform/forum at which they may air their grievances and arrive at solutions.
- To promote the growth of friendly relations amongst the Members and amongst persons engaged in the production and broadcasting of television/media software and to encourage co-operation among the Members so as to maximize mutual benefits.
- To protect all its Members from persons or entities who carry on unfair and/or unethical practices or who discredit the television news broadcasters, digital news media and other related entities.
- No objects of the Company will be carried out without obtaining prior approval/ NOC from the concerned authority, wherever required.
- None of the main objects shall be carried out on commercial basis.

### **What are the key allegations?**

- Google has been found to be dominant in both markets of relevance to digital publishers — online web search services and digital advertising services.
- A news website sells advertising spaces on its platform through ad-exchanges.
- In addition to this, Google also operates a platform that manages a publisher's sale of online ads and tools to purchase display ad space.
- The central contestation among the parties holds that the tech-giant has not compensated news publishers for their contribution to (Google's various) platforms and has engaged in practices to bolster its monopoly in the space.
- The DNPA had put forth that website publishers receive only 51% of the advertisement revenue.
- It has been alleged that owing to the tech-giant's dominance in the space, publishers have been "forced" to integrate content on their platforms.
- They have no other alternative but to trade in the company's exchanges and use its buying tool, Google Ads/DV 360, to receive bids from advertisers.

### **Why is Google dominant?**



- As per the NBDA, Google's search engine commands a 94% market share in the country.
- The number becomes all the more crucial for news publishers with the increased transition toward news consumption online (inclusive of app-based consumption).
- The traditional newspaper industry in India has sustained itself on a business model wherein advertising accounts for two-third of its total revenue.
- On similar lines, with online proliferation, there is an increased reliance of news publishers on digital ad revenues, and in turn, tech-based companies.
- More than half of the total traffic on news websites is routed through Google.
- The search engine, by way of its algorithms and internal quality vetting, determines which news websites would be prioritised in search queries.
- Essential to understand here is that search engines are an important determinant in online news consumption.
- Readers would more often opt for an online web search rather than reaching out to a specific news website by typing its URL in a browser.
- This has made search-engines the first port of call for information online.

## CIS-GENDER

### Context:

In a significant judgment, the Supreme Court said it was unconstitutional to distinguish between married and unmarried women while allowing abortion when the foetus is between 20-24 weeks. Going a step further, the court said the term 'woman' in the judgment included persons other than cisgender women.

**Relevance:** GS II: Polity and Governance

### Dimensions of the Article:

1. What is cisgender?
2. Cisgender: Origins of the term
3. Criticism of the word

### Cisgender: Origins of the term

- The latin prefix 'cis' literally means 'on the same side of', while 'trans' means on the other side.
- Trans as a prefix is used commonly (transatlantic, trans-tasman), though cis is rarer in popular usage.
- 'Cisgender' entered Britain's Oxford English Dictionary in 2015, and the USA's Merriam Webster Dictionary in 2016.
- Both dictionaries document its first usage around 1994.

### Criticism of the word

- Some people, including those working on trans rights, feel terms like 'cisgender' belong in the realm of gender theory alone, and their usage can be counterproductive – people are less likely to grasp a message if they have to look up the individual words that make up the message.
- Others feel 'cisgender' as a counter to 'transgender' is restrictive – reinforcing a binary of genders that many choose to reject – and does not have space for intersex people (people born with a combination of male and female biological features).

CCI imposes penalty on Google



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### CCI imposes penalty on Google

- **Context:**
- The Competition Commission of India (CCI) on Tuesday imposed a penalty of Rs. 936.44 crore on Google for “abusing its dominant position with respect to its Play Store policies”, in the second such penalty on the Internet giant within a week.

### Relevance:

- GS II- Polity and Governance (Government Interventions)

### Dimensions of the Article:

- 1. Key points
- 2. About competition commission of India

### Key Points:

- For app developers, app stores have become a necessary medium for distribution of their apps to the end users and the availability of app store(s) is directly dependent on OS installed on a smart device.
- Google's Play Store constitutes the main distribution channel for app developers in the Android mobile ecosystem, which allows its owners to capitalize on the apps brought to market.
- Selling of in-app digital goods constitutes an important means for app developers to monetize their creations/innovations.
- Google's Play Store policies require the App developers to exclusively and mandatorily use Google Play's Billing System (GPBS) not only for receiving payments for Apps (and other digital products like audio, video, games) distributed/sold through the Google Play Store but also for certain in-app purchases.
- Further, app developers cannot, within an app, provide users with a direct link to a webpage containing an alternative payment method or use language that encourages a user to purchase the digital item outside of the app (antisteering provisions).
- If the app developers do not comply with Google's policy of using GPBS, they are not permitted to list their apps on the Play Store.
- Thus, they would lose out the vast pool of potential customers in the form of Android users.
- Making access to the Play Store dependent on mandatory usage of GPBS for paid apps and in-app purchases is one sided and arbitrary and devoid of any legitimate business interest.
- The app developers are left bereft of the inherent choice to use payment processor of their liking from the open market.
- The CCI has also examined the allegations of exclusion of rival UPI apps as effective payment options on Play Store.
- Google is found to be following discriminatory practices by not using GPBS for its own applications *i.e.*, YouTube. This also amount to imposition of discriminatory conditions as well as pricing as

YouTube is not paying the service fee as being imposed on other apps covered in the GPBS requirements.

- Mandatory imposition of GPBS disturbs innovation incentives and the ability of both the payment processors as well as app developers to undertake technical development and innovate and thus, tantamount to limiting technical development in the market for in-app payment processing services.
- Hence, Google was found to violate various provisions of the Competition Act, 2002.

#### ***About competition commission of India:***

- Nodal: Ministry of corporate affairs
- Competition Commission of India (CCI) is a statutory body of the Government of India responsible for enforcing the Competition Act, 2002.
- Competition Commission of India aims to establish a robust competitive environment.
- Through proactive engagement with all stakeholders, including consumers, industry, government and international jurisdictions.
- By being a knowledge intensive organization with high competence level.
- Through professionalism, transparency, resolve and wisdom in enforcement.

#### ***Composition of CCI:***

- The Commission consists of one Chairperson and six Members.
- The commission is a quasi-judicial body .
- Eligibility of members: The Chairperson and every other Member shall be a person of ability, integrity and standing and who, has been, or is qualified to be a judge of a High Court, or, has special knowledge of, and professional experience of not less than fifteen years in international trade, economics, business, commerce, law, finance, accountancy, management, industry, public affairs, administration or in any other matter which, in the opinion of the Central Government, may be useful to the Commission.

### **News Broadcasting & Digital Standards Authority**

#### ***Context:***

- The **News Broadcasting & Digital Standards Authority (NBDSA)**, a self-regulatory agency set up by news and digital broadcasters, has fined the Hindi TV channel News18 India Rs 50,000 for turning a news debate on hijab into a “communal issue” and not adhering to guidelines.

#### ***Relevance:***

- GS II: Polity and Governance

#### ***Dimensions of the Article:***

- 1. About News Broadcasting & Digital Standards Authority (NBDSA)
- 2. Powers and Functions

#### ***About News Broadcasting & Digital Standards Authority (NBDSA)***

- The NBDSA is an independent body set up by the News Broadcasters & Digital Association (NBDA), which serves as a representative of private television news, current affairs and digital broadcasters.

- It describes itself as “the collective voice of the news, current affairs and digital broadcasters in India.”
- Funded entirely by its members, the NBDA has 26 news and current affairs broadcasters (comprising 119 news and current affairs channels) as its members.
- Various senior members of Indian media organisations serve on its Board of Directors.
- The body includes a Chairperson who is to be an eminent jurist, and other members such as news editors, and those experienced in the field of law, education, literature, public administration, etc. nominated by a majority of the Board.

#### ***Objectives:***

- To promote, protect and secure the interests including the right of freedom of speech and expression of the news broadcasters, digital news media and other related entities.
- It shares developments in the industry with members, provides a space for achieving common goals and consensus and aims to protect all its members from persons carrying “unfair and/or unethical practices or who discredit the television news broadcasters, digital news media and other related entities.

#### ***Powers and Functions:***

- Within this structure, the NBDSA has to “lay-down and foster high standards, ethics and practices in news broadcasting, including entertaining and deciding complaints against or in respect of broadcasters”.
- These standards mention a focus on objectivity, impartiality, maintaining discretion when reporting on crime against women and children, not endangering national security, etc.
- The Authority may initiate proceedings on its own and issue notice or take action in respect to any matter which falls within its regulations.
- This can also be through complaints referred to the Authority by the Ministry of Information & Broadcasting or any other governmental body, or by anyone else via its website
- A “two-tier” procedure is in place for redressing grievances, where any person aggrieved by the content of any broadcast is required to first make a complaint to the concerned broadcaster and if they are not satisfied by the redress, a complaint can be filed before the Authority.
- Those cases which have already been taken to court cannot be complained against.
- Within 14 days from the date of receipt of a complaint, the Authority will issue notice to the concerned broadcaster to show cause why action should not be taken under the regulations.
- An inquiry is held in which proof, documents, and people can be called in by the authority. If the complainant or the respondent does not get back to the Authority, the complaint can be set aside.
- The NBDSA may, for reasons to be recorded in writing, warn, censure, express disapproval against and/or impose a fine upon the broadcaster.
- It can also recommend to the concerned authority for suspension/revocation of the license of such broadcaster. The fine imposed by the Authority shall not exceed Rs. 1 lakh and such fine shall be recovered from the concerned broadcaster.

#### **Lok Adalat**

#### ***Context:***

- Chhattisgarh government had launched Lok Adalat in jails for the speedy disposal of cases for the prisoners of the state.

- These courts will be held every working Saturday and provide relief to undertrials, and in some cases convicted prisoners, by explaining their rights and legal options such as plea bargaining and settlement.

***Relevance:***

- GS II- Polity

***Dimensions of the Article:***

- 1. About Lok Adalats
- 2. Significance of Lok Adalats

***About Lok Adalats:***

- A Lok Adalat is one of the substitute dispute redressal mechanisms.
- National Legal Services Authority alongside other Legal Services Institutions conducts Lok Adalats.
- It is a forum where cases or disputes incomplete in the court of law are compromised cordially.
- Under the Legal Services Authorities Act, 1987 Lok Adalats have been given statutory status.
- Under the Legal Services Authorities Act, 1987 the decision made by the Lok Adalats is considered to be a verdict of a civil court and is ultimate and binding on all parties.
- There is no provision for an appeal against the verdict made by Lok Adalat
- If the parties are not satisfied with the award of the Lok Adalat though there is no provision for an appeal, they are free to initiate litigation.
- There is no court fee payable when a dispute is filed in a Lok Adalat.
- If a dispute pending in the court of law is referred to the Lok Adalat and is settled later, the court fee originally paid in the court on the petition is also reimbursed back to the parties.
- The individuals determining the cases in the Lok Adalats are called the Members of the Lok Adalats
- They have the role of statutory intermediaries only
- They do not have any judicial role

***Composition:***

- The chairman, two members, and one social worker.
- The chairman must be a sitting or retired judicial officer.
- The other two members should be a lawyer

***Significance of Lok Adalats***

- As per the National Judicial Data Grid, 16.9% of all cases in district and taluka courts are three to five years old.
- For High Courts, 20.4% of all cases are five to 10 years old, and over 17% are 10-20 years old.
- Furthermore, over 66,000 cases are pending before the Supreme Court, over 57 lakh cases before various HCs, and over 3 crore cases are pending before various district and subordinate courts.
- Moreover, Lok Adalats are economically affordable, as there are no court fees for placing matters before the Lok Adalat; finality of awards, as no further appeal is allowed.
- As a result, litigants are forced to approach Lok Adalats mainly because it is a party-driven process, allowing them to reach an amicable settlement.

**Take immediate action against hate speech: SC**

**Context:**

- Recently, The Supreme Court said it is “tragic what we have reduced religion to” in the 21st century and a “climate of hate prevails in the country”, while directing the police and authorities to immediately and suo motu register cases against hate speech makers without waiting for a complaint to be filed.
- The court directed that first information reports (FIRs) should be registered and criminal proceedings initiated against the makers of hate speech “irrespective of their religion so that the secular character of the country is preserved”.

**Relevance:** GS II- Polity and Governance

**Dimensions of the Article:**

- 1. What is “Hate Speech”?
- 2. Laws related to hate speech in India
- 3. Indian Penal Code on Hate Speech
- 4. Observations of different institutions related to hate speech
- 5. Rangila Rasool case
- 6. Later cases

**What is “Hate Speech”?**

- In general, “Hate Speech” refers to words whose intent is to create hatred towards a particular group, that group may be a community, religion or race. This speech may or may not have meaning, but is likely to result in violence.
- BPRD Definition: The Bureau of Police Research and Development recently published a manual for investigating agencies on cyber harassment cases that defined hate speech as a “language that denigrates, insults, threatens or targets an individual based on their identity and other traits (such as sexual orientation or disability or religion etc.).”
- According to the Law Commission of India, “Hate speech generally is an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like. This, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence.”

**Laws related to hate speech in India**

- **Article 19 of the Constitution**– Freedom of Speech and Expression is guaranteed to all the citizens of India. However, the right is subjected to reasonable restrictions in the 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.

**Indian Penal Code on Hate Speech**

- **Section 295A** defines and prescribes a punishment for deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs.
- “Whoever, with deliberate and malicious intention of outraging the religious feelings of any class of citizens of India by words, either spoken or written, or by signs or by visible representations or



- otherwise, insults or attempts to insult the religion or the religious beliefs of that class, shall be punished with imprisonment of either description for a term which may extend to [three years], or with fine, or with both,” the IPC section reads.
- **According to Section 153A of IPC**, “promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony”, is a punishable offence and attracts three years of imprisonment.
- **According to Section 505 of IPC**, “Statements that promote mutiny by the armed forces, or causes such fear or alarm that people are induced to commit an offence against the state or public tranquillity; or is intended to incite or incites any class or community to commit an offence against another class or community”, will attract a jail term of up to three years under Section 505(1).
- **Under Section 505(2)**, “it is an offence to make statements creating or promoting enmity, hatred or ill-will between classes.
- **Under Section 505(3)**, the offence will attract up to a five-year jail term if it takes place in a place of worship, or in any assembly engaged in religious worship or religious ceremonies.

### *Observations of different institutions related to hate speech*

- The **Supreme Court** had observed that “hate speech is an effort to marginalize individuals based on their membership in a group. It seeks to delegitimize group members in the eyes of the majority, reducing their social standing and acceptance within society. It, therefore, rises beyond causing distress to individual group members and lays the groundwork for later, broad attacks on vulnerable....”
- **The Human Rights Council’s** ‘Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression’ expressed that freedom of expression can be restricted on the following grounds:
  - Child pornography (to protect the rights of children).
  - Hate speech (to protect the rights of affected communities)
  - Defamation (to protect the rights and reputation of others against unwarranted attacks)
  - Direct and public incitement to commit genocide (to protect the rights of others)
  - Advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence (to protect the rights of others, such as the right to life).

### *Rangila Rasool case*

- Rangila Rasool was a tract — brought out by a Hindu publisher — that had made disparaging remarks about the Prophet’s private life. Cases against the first pamphlet, filed under **Section 153A**, were dismissed by the Punjab and
- Haryana High Court, which examined the question whether targeting religious figures is different from targeting religions.
- When a second, similar piece was published, it raised tensions. While the magistrate had convicted the publisher Rajpaul under Section 153A, the Lahore High Court held that a “scurrilous and foul attack” on a religious leader would prima facie fall under Section 153A — although not every criticism.
- This debate in interpretation prompted the colonial government to enact Section 295A with a wider scope to address these issues.

### *Later cases*

- In 1957, the constitutionality of Section 295A was challenged in **Ramji Lal Modi v State of Uttar Pradesh**.

- The Supreme Court upheld the law on the grounds that it was brought in to preserve “public order”.
- Public order is an exemption to the fundamental right to freedom of speech and expression and the right to religion recognised by the Constitution.
- In a 1960 ruling, in **Baba Khalil Ahmed v State of Uttar Pradesh**, the Supreme Court said that “malicious intent” of the accused can be determined not just from the speech in question but also from external sources.
- In 1973, in **Ramlal Puri v State of Madhya Pradesh**, the Supreme Court said the test to be applied is whether the speech in question offends the “ordinary man of common sense” and not the “hypersensitive man”.
- However, these determinations are made by the court and the distinction can often be vague and vary from one judge to the other.
- In **Baragur Ramachandrappa v State of Karnataka**, a 2007 decision of the Supreme Court, “a pragmatic approach” was invoked in interpreting Section 295A.
- The state government had issued a notification banning Dharmakaarana, a Kannada novel written by award-winning author P V Narayana on the ground that it was hate speech, invoking a gamut of provisions including Section 295A.
- The pragmatic approach was to restore public order by “forfeiture” of a book over individual interest of free speech.

Uniform civil code

### *Context*

- The Ministry of Law and Justice has told the Supreme Court that the court cannot direct Parliament to frame any law and it sought dismissal of PILs (Public Interest .Litigation) seeking a Uniform Civil Code (UCC) in the country.

**Relevance:** GS II- Polity

### *Dimensions of the Article:*

- 1. What is Uniform Civil Code (UCC)?
- 2. Positive aspects of Uniform Civil Code include
- 3. Challenges in Implementing Uniform Civil Code Include
- 4. Does India not already have a UCC for civil matters?
- 5. How does the idea of UCC relate to the Fundamental Right to religion?

### *What is Uniform Civil Code (UCC)*

- The Uniform Civil Code (UCC) in India proposes to replace the personal laws based on the scriptures and customs of each major religious community in the country with a **common set governing every citizen**.
- The constitution has a provision for **Uniform Civil Code in Article 44 as a Directive Principle of State Policy** which states that “The State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India.”
- **Article 44** is one of the Directive Principles of State Policy. These, as defined in Article 37, are not justiciable (not enforceable by any court) but the principles laid down therein are fundamental in governance.
- Fundamental Rights are enforceable in a court of law. While Article 44 uses the words “state shall endeavour”, other Articles in the ‘Directive Principles’ chapter use words of the state” etc.

- **Article 43** mentions “state shall endeavour by suitable legislation”, while the phrase “by suitable legislation” is absent in Article 44. All this implies that the duty of the state is greater in other directive principles than in Article 44.

### *Positive aspects of Uniform Civil Code include*

- UCC will divest religion from social relations and personal laws and will **ensure equality** in terms of justice to both men and women regardless of the faith they practice.
- There will be **uniform laws for all Indians** with regard to marriage, inheritance, divorce etc.
- It will help in **improving the condition of women** in India as Indian society is mostly patriarchal
- Informal bodies like caste panchayats give judgements based on traditional laws. UCC will ensure that legal laws are followed rather than traditional laws.
- It can help in **reducing instances of vote bank politics**. If all religions are covered under same laws, politicians will have less to offer to communities in exchange of their vote.

### *Challenges in Implementing Uniform Civil Code Include*

- Implementation of UCC might **interfere with the principle of secularism**, particularly with the provisions of Articles 25 and 26, which guarantee freedom relating to religious practices.
- Conservatism by religious groups, which resist such changes as it **interferes with their religious practices**.
- It is difficult for the government to come up with a uniform law that is accepted by all religious communities. All religious groups- whether majority or minority have to support the change in personal laws.
- **Drafting of UCC is another obstacle**. There is no consensus regarding whether it should be a blend of personal laws or should be a new law adhering to the constitutional mandate.

### *Does India not already have a uniform code in civil matters?*

- Indian laws do follow a uniform code in most civil matters — Indian Contract Act, Civil Procedure Code, Sale of Goods Act, Transfer of Property Act, Partnership Act, Evidence Act, etc.
- States, however, have made hundreds of amendments and, therefore, in certain matters, there is diversity even under these secular civil laws. Recently, several states refused to be governed by the uniform Motor Vehicles Act, 2019.
- If the framers of the Constitution had intended to have a Uniform Civil Code, they would have given exclusive jurisdiction to Parliament in respect of personal laws, by including this subject in the Union List. But “personal laws” are mentioned in the Concurrent List.
- In 2020, the Law Commission concluded that a Uniform Civil Code is neither feasible nor desirable.

### *How does the idea of a Uniform Civil Code relate to the fundamental right to religion?*

- **Article 25** lays down an individual’s fundamental right to religion; Article 26(b) upholds the right of each religious denomination or any section thereof to “manage its own affairs in matters of religion”; **Article 29** defines the right to conserve distinctive culture. An individual’s freedom of religion under **Article 25** is subject to “public order, health, morality” and other provisions relating to fundamental rights, but a group’s freedom under **Article 26** has not been subjected to other fundamental rights.
- In the Constituent Assembly, there was division on the issue of putting Uniform Civil Code in the fundamental rights chapter.

- The matter was settled by a vote. By a 5:4 majority, the fundamental rights sub-committee headed by Sardar Vallabhbhai Patel held that the provision was outside the scope of Fundamental Rights and therefore the Uniform Civil Code was made less important than freedom of religion.

## 50th Chief Justice of India

### *Context:*

- Justice Dhanajaya Yeshwant Chandrachud was appointed as the 50th Chief Justice of India (CJI) succeeding the 49th CJI Uday Umesh Lalit.
- Justice Chandrachud will have a relatively longer tenure of two years and is due to retire on 10th November, 2024.

### *Relevance:*

- GS II- Polity and Governance

### *Dimensions of the Article:*

- 1. Appointment of the CJI
- 2. Administrative Powers of CJI (Master of Roster)

### *Appointment of the CJI:*

- The Chief Justice of India and the Judges of the Supreme Court (SC) are appointed by the President under clause (2) of **Article 124 of the**

### **Constitution.**

- As far as the CJI is concerned, the outgoing CJI recommends his successor.
- The Union Law Minister forwards the recommendation to the Prime Minister who, in turn, advises the President.
- SC in the **Second Judges Case (1993)**, ruled that the senior most judge of the Supreme Court should alone be appointed to the office of the CJI.
- The Supreme Court collegium is headed by the Chief Justice of India and comprises four other senior most judges of the court.
- The collegium system is the system of appointment and transfer of judges that has evolved through judgments of the Supreme Court (Judges Cases), and not by an Act of Parliament or by a provision of the Constitution.
- In 2019, the SC ruled that the office of Chief Justice of India (CJI) comes under the purview of the Right to Information (RTI) Act, 2005.

### *Qualifications*

- The Indian Constitution says in **Article 124 (3)** that in order to be appointed as a judge in the Supreme Court of India, the person has to fit in the following criteria:
- He/She is a citizen of India
- Has been for at least five years a Judge of a High Court or of two or more such Courts in succession;
- Has been for at least ten years an advocate of a High Court or of two or more such Courts in succession; or is, in the opinion of the President, a distinguished jurist

### *Administrative Powers of CJI (Master of Roster):*

- It is common to refer to the office as primus inter pares – first amongst equals.



- Besides his adjudicatory role, the CJI also plays the role of the administrative head of the Court.
- In his administrative capacity, the Chief Justice exercises the prerogative of allocating cases to particular benches.
- The Chief Justice also decides the number of judges that will hear a case.
- Thus, he can influence the result by simply choosing judges that he thinks may favour a particular outcome.
- Such administrative powers can be exercised without collegial consensus, and without any stated reasons.

#### ***Removal:***

- He/She can be removed by an order of the President only after an address by Parliament has been presented to President.
- This should be supported by a special majority of each House of Parliament (i.e., by a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting).
- Grounds of Removal: Proved misbehaviour or Incapacity (Article 124(4)).

#### **TN bans online 'Games of chance' and Gambling**

- Online gambling and online games of chance have been banned in Tamil Nadu. At the same time, the other online games will be regulated.

#### ***Relevance:***

- GS II: Polity and Governance

#### ***Dimensions of the Article:***

- 1. Types of online gaming available in India:
- 2. The requirement for a central law:
- 3. How big is the online gaming market in India?
- 4. Why are States resorting to banning online gaming?

#### ***Types of online gaming available in India:***

- **e-Sports:** These are video games that, in the 1990s, were played privately or on consoles in video game stores, but are now played online in a structured manner between professional players, either individually or in teams.
- **Fantasy sports:** These are games in which the player chooses a team of real-life sports players from a variety of teams and earns points based on how well the players perform in real-life. As an example,
- **Casual online games:**
- These could be **skill-based**, with the outcome heavily influenced by mental or physical ability, or chance-based, with the outcome heavily influenced by some randomised activity, such as rolling a die.
- Gambling is defined as a **game of chance** in which players bet money or anything of monetary value.

#### ***The requirement for a central law:***

#### ***Online gaming so far has been a state subject:***



- State governments have said they find it extremely difficult to enforce certain rules like geo-blocking certain apps or websites within the territory of their state.
- Also, there is a concern that rules passed in one state are not applicable in another, which has caused inconsistency in how the online gaming industry is regulated in the country.
- State governments also do not have enough blocking powers like the Centre to issue blocking orders for offshore betting sites.

### *Societal concerns*

- Stakeholders have highlighted a number of societal concerns that can arise from the proliferation of online games in the country.
- There have been a number of reported incidents of people losing large sums of money on online games, leading to suicides in various parts of the country.

### *No regulatory framework:*

- There is currently no regulatory framework to govern various aspects of online gaming companies such as having a grievance redressal mechanism, implementing player protection measures, protection of data and intellectual property rights, and prohibiting misleading advertisements.
- For online gaming businesses, the inconsistency has led to uncertainty.
- The thinking within the government is to have a nodal agency that will address all issues related to online gaming, including introducing a uniform law to determine what forms of online gaming are legally allowed.

### *How big is the online gaming market in India?*

- The revenue of the Indian mobile gaming industry is expected to exceed \$1.5 billion in 2022, and is estimated to reach \$5 billion in 2025.
- The industry in the country grew at a CAGR of 38% between 2017-2020, as opposed to 8% in China and 10% in the US.
- It is expected to grow at a CAGR of 15% to reach Rs 153 billion in revenue by 2024.
- India's percentage of new paying users (NPU) in gaming has been the fastest growing in the world for two consecutive years, at 40% in 2020 and reaching 50% in 2021.

### *Why are States resorting to banning online gaming?*

- Online games like rummy and poker **are addictive in nature**;
- When played with monetary stakes leads to **depression, mounting debts and suicides**.
- Reportedly, there have been a few instances where youngsters, faced with mounting debts due to losses in online games have committed other crimes like **theft and murder**.
- Some experts also believe that online games are **susceptible to manipulation by the websites** operating such games and that there is a possibility that users are not playing such games against other players, but against automatic machines or 'bots', wherein there is no fair opportunity for an ordinary user to win the game.

### **IPO-isation of political manifestos ahead of polls**

#### *Context*

- In an effort to crack down on the political practise of announcing "freebies" to entice voters, the Election Commission of India mandated that political parties explain the financial implications of their promises and how they will be fulfilled. However, ECI's proposal to ask parties to quantify

poll promises, explain ab initio (from the start), and assess fiscal impact is being compared to the "IPO-isation" of a political manifesto.

### *Relevance*

- **GS Paper 2:** Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations and potential; citizens' charters, transparency & accountability and institutional and other measures.

### *Mains Question*

- What exactly are election manifestos? Explain the significance of election manifestos in Indian democracy and the challenges they pose. (250 Words)

### *Background*

- In 2015, the ECI issued guidelines through an amendment to the Model Code of Conduct (MCC) in response to the Supreme Court's directions in the Subramaniam Balaji Case and Article 324 of the Constitution.
- Article 324 of the Constitution mandates the Election Commission to conduct elections to the Parliament and State Legislatures, among other things.
- These amendments require political parties and candidates to follow through on promises made in their manifestos.
- The ECI has requested that political parties and candidates respond with their positions as soon as possible.
- If no response is received, ECI will assume that the parties or candidates have nothing to say about the proposed amendments to the MCC.

### *Concerning ECI notices/directives*

- **Reprimanding (criticising) parties:** In a letter to political party officials, ECI chastised the parties for offering freebies without explaining how they would be fulfilled.
- **Pro-forma:** The proposed 'standardised disclosure pro-forma' for recognised National and State Political Parties includes sections that political parties must fill out in order to reflect the rationale for the promises and provide possible ways and means to fulfil them.
- The ECI also suggested that the parties disclose the impact on the fiscal sustainability of the State's or Central Government's finances, as the case may be.
- **Roadmap:** The ECI also asked political parties to explain how they planned to raise funds for the freebies promised in the manifesto.
- **Unwanted consequences:** The ECI also noted that the consequences of inadequate disclosures by political parties are attenuated (diminished) by the fact that elections are held frequently, giving political parties opportunities to engage in competitive electoral promises.
- This is especially noticeable in multi-phase elections, and most political parties do not submit declarations on time.

### *The Importance of the ECI Move*

- **Right to accurate information:** According to ECI's letter, eligible voters have the right to vote freely and with access to accurate information at all stages of the electoral process.
- **Democratic right:** According to ECI, the right to vote, the most precious gift of democracy, is inextricably linked to timely and reliable information.

- As a result, the timely availability of data points to assess the financial viability of election manifesto promises becomes critical.
- **Unviable poll promises:** This ECI action will assist in avoiding making undue poll promises that are likely to taint the integrity of the election process or exert undue influence on voters in exercising their franchise.
- **Level playing field:** The freebie culture in politics affects the level playing field for all political parties and candidates, as well as the conduct of free and fair elections.

### *ECI move criticism*

- **No standard definition:** It is impossible to define freebies, and labelling any promise as a "irrational freebie" is fraught with controversy
- In an affidavit to the Supreme Court, the ECI stated that the terms "irrational" and "freebie" are subjective and open to interpretation. A promise made by one political party may be considered a freebie by another, and vice versa.
- **Vision document:** It is a manifesto that includes more than a few financial promises and serves as a document with both subjective and objective elements in a democracy.
- **Welfare politics:** In today's Indian scenario, where poverty is high, unemployment is widespread, and inequality is extreme, welfare politics will drive the political economy.
- For example, Oxfam's 2022 annual report on Inequality in India revealed that the number of poor doubled to 134 million as the wealth of the country's dollar billionaires doubled.
- The richest 1% have amassed 51.5 percent of total wealth, while the bottom 60% of the population has only 5%.
- **No specified criterion:** The election watchdog cannot specify parameters for promises that do not have a financial cost. Like reservations in community jobs.
- **Overstepping boundaries:** The Election Commission of India is constitutionally tasked with conducting free and fair elections, not with limiting political and economic imagination.
- **Institutional overreach:** Making such disclosures a part of the MCC may eventually place the onus of evaluating proformas submitted by political parties on the poll watchdog, which could be an example of ECI's institutional overreach.
- **Election contestation:** Even if the promises are unrealistic or absurd, it is the responsibility of the opposing parties and the media to expose them.
- **Voter mandate:** It is ultimately up to the voter to assess the economic and fiscal implications of freebie policies, as well as to reward good performance and punish non-delivery by political parties.
- **Policy domain:** Because economic policy is in the hands of elected representatives, ECI has no role to intervene in the legislature's purely political domain.

### *SBI issues a warning about freebies.*

- **About the report:** In a recent report, Soumya Kanti Ghosh, the State Bank of India's group chief economic advisor, warned against the growing trend of offering freebies during elections.
- **Demonstration:** Three poor states, Rajasthan, Chhattisgarh, and Jharkhand, were cited as examples, with pension liabilities totaling three lakh crores.
- According to the report, these states' pension liabilities were quite high, at 217, 190, and 207 percent, respectively.
- **Raising loans:** According to the report, state off-budget borrowing had reached 4.5% of GDP, and the extent of freebies or welfare schemes had reached a significant portion of GDP in many states.

- Freebie expenditure: According to the report, cash transfers, utility subsidies, loan or fee waivers, and interest-free loans announced by states in their latest budgets range from 1% to 2.7% of GSDP in several states.
- For example, in the case of Punjab and Andhra Pradesh, both of which are heavily in debt, freebies have exceeded 2% of GSDP.

## Mahatma Gandhi National Rural Employment Guarantee Scheme

- In a first providing empirical evidence, a study conducted on the impact of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) during the COVID-19 pandemic has revealed that the wages earned under the Act helped people compensate between 20% and 80% of the income loss incurred because of the lockdown.
- The report also said that around 39% all job card-holding households interested in working under the MGNREGA did not get a single day of work in the year 2020-21.

### *Relevance:*

- GS-II: Social Justice and Governance (Health and Poverty related issues, Government Interventions and Policies, Issues arising out of the design and implementation of Government Policies)

### *Dimensions of the Article:*

- 1. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- 2. How MGNREGA came to be?
- 3. Features of MGNREGA
- 4. Objectives of MGNREGA

### *Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)*

- Mahatma Gandhi National Rural Employment Guarantee Act, MGNREGA, is an Indian labour law and social security measure that aims to guarantee the 'right to work'. This act was passed in September 2005.
- It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.
- It covers all districts of India except the ones with 100% urban population.
- MGNREGA is to be implemented mainly by gram panchayats (GPs). The involvement of contractors is banned.
- Apart from providing economic security and creating rural assets, NREGA can help in protecting the environment, empowering rural women, reducing ruralurban migration and fostering social equity, among others.
- The MGNREGA wage rates are fixed according to changes in the **CPI-AL (Consumer Price Index-Agriculture Labour)**, which reflects the increase in the **inflation** in rural areas.

### *How MGNREGA came to be?*

- In 1991, the P.V Narashima Rao government proposed a pilot scheme for generating employment in rural areas with the following goals:
- Employment Generation for agricultural labour during the lean season.
- Infrastructure Development
- Enhanced Food Security



- This scheme was called the Employment Assurance Scheme which later evolved into the MGNREGA after the merger with the Food for Work Programme in the early 2000s.

### ***Features of MGNREGA***

- It gives a significant amount of control to the Gram Panchayats for managing public works, strengthening Panchayati Raj Institutions.
- Gram Sabhas are free to accept or reject recommendations from Intermediate and District Panchayats.
- It incorporates accountability in its operational guidelines and ensures compliance and transparency at all levels.

### ***Objectives of MGNREGA***

- Provide 100 days of guaranteed wage employment to rural unskilled labour
- Increase economic security
- Decrease migration of labour from rural to urban areas.

## **Prime Minister's Development Initiative for North- East (PM-DevINE)**

### ***Why in News?***

- The Union Cabinet, chaired by the Prime Minister has approved a new Scheme, Prime Minister's Development Initiative for North East Region (PM-DevINE) for the remaining four years of the 15th Finance Commission from 2022-23 to 2025-26.

### ***About Prime Minister's Development Initiative for North-East (PM-DevINE)***

- PM-DevINE is a Central Sector Scheme with **100% Central funding** and will be implemented by Ministry of Development of North Eastern Region (DoNER).
- The PM-DevINE Scheme will have an outlay of Rs.6,600 crore for the four year period from 2022-23 to 2025-26 (remaining years of 15th Finance Commission period).
- Efforts will be made to complete the PM-DevINE projects by 2025-26 so that there are no committed liabilities beyond this year.
- This implies front-loading of the sanctions under the Scheme in 2022-23 and 2023-24 primarily.
- While expenditure would continue to be incurred during 2024-25 and 2025-26, focused attention will be given to complete the sanctioned PM-DevINE projects.
- To limit construction risks of time and cost overrun, falling on the Government projects would be implemented on Engineering-procurement-Construction (EPC) basis, to the extent possible.
- However, it will not be a substitute for existing central or state Schemes.

### ***Aim:***

- PM-DevINE will lead to creation of infrastructure, support industries, social development projects and create livelihood activities for youth and women, thus leading to employment generation.

### ***Implementation:***

- PM-DevINE will be implemented by Ministry of DoNER through North Eastern Council or Central Ministries/ agencies.
- Measures would be taken to ensure adequate operation and maintenance of the projects sanctioned under PM-DevINE so that they are sustainable.

### ***Objectives:***



- Fund infrastructure convergently, in the spirit of PM Gati Shakti;
- Support social development projects based on felt needs of the NER;
- Enable livelihood activities for youth and women;
- Fill the development gaps in various sectors

## Tele-MANAS

**Focus:** GS II: Governance

- **Why in News?**
- Establishing a new milestone in the field of mental health on the occasion of World Mental Health Day, Tele Mental Health Assistance and Networking Across States (Tele-MANAS) initiative of Union Ministry of Health & Family Welfare was launched.

### About Tele-MANAS:

- Tele-MANAS will be organised in two tier system;
- Tier 1 comprises of state Tele-MANAS cells which include trained counsellors and mental health specialists.
- Tier 2 will comprise of specialists at District Mental Health Programme (DMHP)/Medical College resources for physical consultation and/or e- Sanjeevani for audio visual consultation.

### About MANAS:

- It is a comprehensive, scalable, and national digital wellbeing platform and an app developed to augment mental well-being of Indian citizens.
- It integrates the health and wellness efforts of various government ministries, scientifically validated indigenous tools with gamified interfaces developed/researched by various national bodies and research institutions.
- It is based on life skills and core psychological processes, with universal accessibility, delivering age-appropriate methods and promoting positive attitude focusing on wellness.
- Developed by National Institute of Mental Health and Neuro Sciences (NIMHANS) Bengaluru, Armed Forces Medical College (AFMC) Pune and Centre for Development of Advanced Computing(C-DAC) Bengaluru.
- Catering to the overall wellbeing of people of all age groups, the initial version of MANAS focuses on promoting positive mental health in the age group of 15- 35 years.

### Aim:

- To build a healthier and happier community, to empower it to nurture its innate potential for building a Swasth and Atmanirbhar Bharat.

## Online gaming

### Context:

- An **inter-ministerial task force**, set up by the Ministry of Electronics and Information Technology (MeitY) to propose contours of a national-level legislation to regulate online gaming, has proposed the creation of a central regulatory body for the sector, clearly defining what games of skill and chance are, and bringing online gaming under the purview of the **Prevention of Money Laundering Act, 2002**, among other things.

### Relevance:

- GS II: Governance

### *Dimensions of the Article:*

- 1. Why a central-level law?
- 2. How big is the online gaming market in India?
- 3. Why are States resorting to banning online gaming?
- 4. Recommendations of the task force

### *Why a central-level law?*

#### **Online gaming so far has been a state subject:**

- State governments have said they find it extremely difficult to enforce certain rules like geo-blocking certain apps or websites within the territory of their state.
- Also, there is a concern that rules passed in one state are not applicable in another, which has caused inconsistency in how the online gaming industry is regulated in the country.
- State governments also do not have enough blocking powers like the Centre to issue blocking orders for offshore betting sites.

#### **Societal concerns**

- Stakeholders have highlighted a number of societal concerns that can arise from the proliferation of online games in the country.
- There have been a number of reported incidents of people losing large sums of money on online games, leading to suicides in various parts of the country.

#### **No regulatory framework**

- There is currently no regulatory framework to govern various aspects of online gaming companies such as having a grievance redressal mechanism, implementing player protection measures, protection of data and intellectual property rights, and prohibiting misleading advertisements.
- For online gaming businesses, the inconsistency has led to uncertainty.
- The thinking within the government is to have a nodal agency that will address all issues related to online gaming, including introducing a uniform law to determine what forms of online gaming are legally allowed.

### *Which ministry will be in charge of the regulation?*

- The task force has suggested that **MeitY may act as the nodal ministry** to regulate online gaming, except for the e-sports category on which the Department of Sports can take the lead.
- The scope of the regulation by MeitY should only cover online gaming, that is, games of skill, and the issues of online betting and gambling being games of chance in nature should be excluded from its scope, the task force is learnt to have recommended.
- Certain other aspects of online gaming such as advertisements, code of ethics relating to content classifications etc. could be regulated by the Information and Broadcasting Ministry, while the Consumer Affairs Ministry can regulate the sector for unfair trade practices.

### *How big is the online gaming market in India?*

- The revenue of the Indian mobile gaming industry is expected to exceed \$1.5 billion in 2022, and is estimated to reach \$5 billion in 2025.

- The industry in the country grew at a CAGR of 38% between 2017-2020, as opposed to 8% in China and 10% in the US.
- It is expected to grow at a CAGR of 15% to reach Rs 153 billion in revenue by 2024.
- India's percentage of new paying users (NPU) in gaming has been the fastest growing in the world for two consecutive years, at 40% in 2020 and reaching 50% in 2021.

### *Why are States resorting to banning online gaming?*

- Online games like rummy and poker **are addictive in nature**;
- When played with monetary stakes leads to **depression, mounting debts and suicides**.
- Reportedly, there have been a few instances where youngsters, faced with mounting debts due to losses in online games have committed other crimes like **theft and murder**.
- Some experts also believe that online games are **susceptible to manipulation by the websites** operating such games and that there is a possibility that users are not playing such games against other players, but against automatic machines or 'bots', wherein there is no fair opportunity for an ordinary user to win the game.

### *Recommendations of the task force:*

- A **central-level law** for online gaming should apply to real money and free games of skill, including e-sports, online fantasy sports contests, and card games among others.
- **Casual games with no real money element** in the form of stakes may be kept outside the scope of such rules, unless they have a high number of users in India, or permit the publication or transmission of information in the nature of any inappropriate content like violence, nudity, addictive content or misleading content.
- It has also recommended **creating a regulatory body** for the online gaming industry, which will determine what qualifies as a game of skill or chance, and accordingly certify different gaming formats, seek compliance and enforcement.
- A **three-tier dispute resolution mechanism**, similar to that prescribed under the Information Technology Rules, 2021 for online streaming services, consisting of a grievance redressal system at the gaming platform level, self regulatory body of the industry, and an oversight committee led by the government should be put in place for online gaming.
- **Any online gaming platform – domestic or foreign– offering real money online games to Indian users will need to be a legal entity** incorporated under Indian law.
- These platforms will also be treated as 'reporting entities' under the Prevention of Money Laundering Act, 2002, and will be required to report suspicious transactions to the Financial Intelligence Unit-India.

### **Mediation Bill 2021**

#### *Context:*

- The Mediation Bill, 2021 was introduced in the Rajya Sabha on December 20, 2021, with the Parliamentary Standing Committee being tasked with a review of the Bill. The committee's report to the Rajya Sabha was submitted on July 13, 2022. In its report, the Committee recommends substantial changes to the Mediation Bill, aimed at institutionalising mediation and establishing the Mediation Council of India.

#### *Relevance:*

- GS-II: Governance (Government Policies and Initiatives, Issues arising out of the design and implementation of Policies)

### ***Dimensions of the Article:***

- 1. What is Alternative Dispute Resolution (ADR)?
- 2. Types of Alternative Dispute Resolution
- 3. Highlights of the Draft Mediation Bill 2021
- 4. Issues with the bill

### ***What is Alternative Dispute Resolution (ADR)?***

- The process by which disputes between the parties are settled or amicably resolved without the intervention of judicial institution and any trial is known as Alternative Dispute Resolution.
- The ADR mechanism offers to facilitate the resolution of matters of business issues and the others where it has not been possible to initiate any process of negotiation or arrive at a mutually agreeable solution.
- ADR offers to resolve all types of matters including civil, industrial, and family, etc where people are finding it difficult to settle.
- Generally, ADR uses a neutral third party who helps parties to communicate, discuss the differences and resolve the dispute.
- ADR enables individuals and groups to maintain co-operation, social order, and provides an opportunity to reduce hostilities.

### ***Types of Alternative Dispute Resolution***

#### **Arbitration:**

- The dispute is submitted to an arbitral tribunal which makes a decision (an “award”) on the dispute that is mostly binding on the parties.
- It is less formal than a trial, and the rules of evidence are often relaxed.
- Generally, there is no right to appeal an arbitrator’s decision.
- Except for some interim measures, there is very little scope for judicial intervention in the arbitration process.

#### **Conciliation:**

- A non-binding procedure in which an impartial third party, the conciliator, assists the parties to a dispute in reaching a mutually satisfactory agreed settlement of the dispute.
- Conciliation is a less formal form of arbitration.
- The parties are free to accept or reject the recommendations of the conciliator.
- However, if both parties accept the settlement document drawn by the conciliator, it shall be final and binding on both.

#### **Mediation:**

- In mediation, an impartial person called a “mediator” helps the parties try to reach a mutually acceptable resolution of the dispute.
- The mediator does not decide the dispute but helps the parties communicate so they can try to settle the dispute themselves.
- Mediation leaves control of the outcome with the parties.



## Negotiation:

- A non-binding procedure in which discussions between the parties are initiated without the intervention of any third party with the object of arriving at a negotiated settlement to the dispute
- It is the most common method of alternative dispute resolution.
- Negotiation occurs in business, non-profit organizations, government branches, legal proceedings, among nations and in personal situations such as marriage, divorce, parenting, and everyday life.

## Lok Adalats:

- The establishment of Lok Adalat system of dispute settlement system was brought about with the Legal Services Authorities Act 1987 for expediting the system of dispute settlement. In Lok Adalats, disputes in the pre-litigation stage could be settled amicably.

## *Highlights of the Draft Mediation Bill 2021*

- The Draft Mediation Bill 2021 recognises mediation as a profession and acknowledges the importance of institutes to train mediators, and service providers to provide structured mediation under their rules. These provisions of the bill are seen as a huge improvement over the part-time honorarium basis it has in the court-annexed mediation schemes.
- The Bill does away with the confusion emanating from using both expressions 'Mediation' and 'Conciliation' in different statutes by opting for the former in accordance with international practice, and defining it widely to include the latter.
- It provides for pre-litigation mediation and also recognises online dispute resolution (ODR).
- It provides for enforcement of commercial settlements reached in international mediation viz between parties from different countries as per the Singapore Convention on Mediation to which India was a notable signatory.
- The Convention assures disputants that their mediation settlements will be enforced without much difficulty across the world, unlike the fresh headaches that the litigative decree or arbitration award presents at the time of enforcement.
- It is expected that this Bill would make India a hub for international mediation in the commercial disputes field, and indeed institutions are being opened for this purpose.

## *Issues with the bill*

- Despite dispute resolution being the judiciary's domain, there is no role for CJI in the appointment process.
- It unwisely treats international mediation when conducted in India as a domestic mediation.
- Now, that is excellent for cases between Indian parties, but disastrous when one party is foreign. The reason is that the Singapore Convention does not apply to settlements that already have the status of a judgment or decree.
- Therefore, if you conduct your cross-border mediation in India, you lose out on the tremendous benefits of worldwide enforceability.
- The Council has three members, a retired senior judge, a person with experience of Alternative Dispute Resolution (ADR) law and an academic who has taught ADR. None of the members will be active practitioners as mediators, hence, it establishes a profession which is being regulated without a single professional on the regulator side.
- There is an unnecessary long list of disputes which should not be mediated, which is not understandable. For example:



- Patents and copyright cases settle on commercial terms leaving untouched the validity of the grant, so why deny this possibility and consign the parties to litigative longevity.
- In the case of telecom, why can't manufacturers and service providers and consumers be allowed to talk and resolve issues?
- In cases involving minors or persons of unsound mind, the law provides for the court to pass orders to protect them.

## Global Hunger Index 2022

### *Context:*

- India ranks 107 out of 121 countries on the Global Hunger Index in which it fares worse than all countries in South Asia barring war-torn Afghanistan.

### *Relevance:*

- GS-II: Social Justice and Governance (Issues related to Hunger and Poverty, Government Policies and Interventions)

### *Dimensions of the Article:*

- 1. About Global Hunger Index (GHI)
- 2. Highlights of the Global Hunger Index (GHI) 2022

### *About Global Hunger Index (GHI)*

- The Global Hunger Index (GHI) is a tool that measures and tracks hunger globally as well as by region and by country.
- The Global Hunger Index (GHI) prepared by European NGOs of Concern Worldwide and Welthungerhilfe.
- The GHI combines 4 component indicators:
- **Undernourishment:** the share of the population with insufficient caloric intake (data are from the UN Food and Agriculture Organization)
- **Child stunting:** the share of children under age five who have low height for their age (data are from UNICEF, the World Health Organization, the World Bank, and the Demographic and Health Surveys Program)
- **Child wasting:** the share of children under age five who have low weight for their height (data are from UNICEF, the World Health Organization, the World Bank, and the Demographic and Health Surveys Program)
- **Child mortality:** the mortality rate of children under age five (data are from the United Nations Inter-agency Group for Child Mortality Estimation).
- Countries are divided into five categories of hunger on the basis of their score, which are 'low', 'moderate', 'serious', 'alarming' and 'extremely alarming'.
- The GHI is calculated annually, and its results appear in a report issued in October each year.
- Besides presenting GHI scores, each year the GHI report includes an essay addressing one particular aspect of hunger.
- The aim of the Global Hunger Index is to raise awareness and act against hunger to reduce hunger around the world.

### *Highlights of the Global Hunger Index (GHI) 2022*

- India's score of 29.1 places it in the 'serious' category.

- India also ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99). Afghanistan (109) is the only country in South Asia that performs worse than India on the index.
- China is among the countries collectively ranked between 1 and 17 having a score of less than five.
- India's child wasting rate (low weight for height), at 19.3%, is worse than the levels recorded in 2014 (15.1%) and even 2000 (17.15), and is the highest for any country in the world and drives up the region's average owing to India's large population.
- Prevalence of undernourishment, which is a measure of the proportion of the population facing chronic deficiency of dietary energy intake, has also risen in the country from 14.6% in 2018-2020 to 16.3% in 2019-2021.
- This translates into 224.3 million people in India considered undernourished.
- But India has shown improvement in child stunting, which has declined from 38.7% to 35.5% between 2014 and 2022, as well as child mortality which has also dropped from 4.6% to 3.3% in the same comparative period.
- On the whole, India has shown a slight worsening with its GHI score increasing from 28.2 in 2014 to 29.1 in 2022.

## SOCIAL JUSTICE & GOVERNANCE

### PM's Scheme for Mentoring Young Authors – YUVA 2.0

**Focus:** Government Policies and Interventions

#### *Why in News?*

- The Ministry of Education, Department of Higher Education, today launched YUVA 2.0 - Prime Minister's Scheme for Mentoring Young Authors, an Author Mentorship programme to train young and budding authors (below 30 years of age) in order to promote reading, writing and book culture in the country, and project India and Indian writings globally

#### *About YUVA:*

- The launch of YUVA (Young, Upcoming and Versatile Authors) is to encourage young writers to write about India's freedom struggle.
- YUVA is a part of India@75 Project (Azadi Ka Amrit Mahotsav) to bring to the fore the perspectives of the young generation of writers on themes like Unsung Heroes, Freedom Fighters, Unknown and Forgotten Places and their role in National Movement, and other related themes in an innovative and creative manner.
- This scheme will thus help to develop a stream of writers who can write on a spectrum of subjects to promote Indian heritage, culture and knowledge system.
- The **National Book Trust, India under the Ministry of Education** as the Implementing Agency will ensure phase-wise execution of the Scheme under well-defined stages of mentorship.
- The books prepared under this scheme will be published by National Book Trust, India; and will also be translated into other Indian languages ensuring the exchange of culture and literature, thereby promoting 'Ek Bharat Shreshtha Bharat'.
- The selected young authors will interact with some of the best authors of the world; participate in literary festivals etc.

#### *About YUVA 2.0 (Young, Upcoming and Versatile Authors):*

- The launch of YUVA 2.0 (Young, Upcoming and Versatile Authors) is in tune with the Prime Minister's vision to encourage the youth to understand and appreciate India's democracy.
- YUVA 2.0 is a part of India@75 Project (Azadi Ka Amrit Mahotsav) to bring to the fore the perspectives of the young generation of writers on the **THEME : 'Democracy (institutions, events, people, constitutional values – past, present, future)'** in an innovative and creative manner.
- This scheme will thus help to develop a stream of writers who can write on a spectrum of subjects to promote Indian heritage, culture and knowledge system.
- The scheme will help to develop a stream of writers who can write on various facets of Democracy in India encompassing the past, present and future.
- Besides, it will also provide a window to the aspiring youth to articulate themselves and present a comprehensive outlook of Indian Democratic values at domestic as well as international platforms.
- This scheme has been conceptualized on the premise that the 21st century India needs to groom a generation of young authors to create ambassadors of Indian literature.
- In view of the fact that our country is ranked third in the arena of book publishing and we have a treasure trove of indigenous literature, India must project it at the global stage.

## Global TB Report 2022

### *Context:*

- Recently, The WHO released the Global TB Report 2022. The Report notes the impact of the COVID-19 pandemic on the diagnosis, treatment and burden of disease for TB all over the world

### *Relevance:*

- GS II: Government policies and Interventions

### *Dimensions of the Article:*

- 1. Highlights of the Report:
- 2. About Tuberculosis
- 3. About Nikshay Poshan Yojana (NPY)
- 4. About Pradhan Mantri TB Mukh Bharat Abhiyaan

### *Highlights of the Report:*

- India's TB incidence for the year 2021 is 210 per 100,000 population – compared to the baseline year of 2015 (incidence was 256 per lakh population in India) and there has been an 18% decline which is 7 percentage points better than the global average of 11%, said the Health Ministry, while reacting to the World Health Organization (WHO) Global TB Report 2022.
- These figures also place India at the 36th position in terms of incidence rates (from largest to smallest incidence numbers).
- According to the WHO report, an estimated 10.6 million people fell ill with tuberculosis (TB) in 2021, an increase of 4.5% from 2020, and 1.6 million people died from TB (including 187 000 among HIV positive people).

### *About Tuberculosis*

- TB remains the world's deadliest infectious killer.
- Each day, over 4000 people lose their lives to TB and close to 30,000 people fall ill with this preventable and curable disease
- TB is caused by bacteria (*Mycobacterium tuberculosis*) that most often affect the lungs.

- **Transmission:** TB is spread from person to person through the air. When people with TB cough, sneeze or spit, they propel the TB germs into the air.
- **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment:** TB is a treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.
- Multidrug-resistant tuberculosis (MDR-TB) is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
- Extensively drug-resistant TB (XDR-TB) is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti- TB drugs, often leaving patients without any further treatment options.

### ***Nikshay Poshan Yojana (NPY)***

- It is a direct benefit transfer (DBT) scheme for nutritional support to Tuberculosis (TB) patients rolled out in April 2018 by Ministry of Health and Family Welfare.
- The scheme is a centrally sponsored scheme under National Health Mission (NHM).
- Financial norms of NHM in terms of cost sharing are applicable to the scheme.
- This scheme is implemented across all States and UTs in India.
- All TB patients notified on or after 1st April 2018 including all existing TB patients under treatment are eligible to receive incentives.
- The patient must be registered/notified on the NIKSHAY portal.

### ***About Pradhan Mantri TB Mukh Bharat Abhiyaan***

- It has been envisioned to bring together all community stakeholders to support those on TB treatment and accelerate the country's progress towards TB elimination.
- This is aimed at working towards TB elimination from the country by 2025.
- Under the scheme, individuals, NGOs and corporates can adopt TB patients by committing support for 1-3 years.
- To join the initiative, they have to register on the site, which has an anonymous list of TB patients, categorized according to the primary health centres, blocks, districts and states.
- The sponsors can select the number of patients as per their capacity.

### ***Components of the scheme:***

- The Ni-kshay Mitra initiative which forms a vital component of the 'Abhiyaan' is also launched along with the Abhiyaan.
- This portal provides a platform for donors to provide various forms of support to those undergoing TB treatment.
- The three-pronged support includes:
  - Nutritional,
  - Additional diagnostic,
  - Vocational support.

### **Draft National Credit Framework**



**Context:**

- School students in India can soon earn 'credits' from classroom learning as well as extracurricular activities and deposit them in a 'bank' — much like the system already being followed in some colleges and universities.
- The policy to integrate this credit system, the draft National Credit Framework (NCrF), was put in public domain by Education Minister.

**Relevance:**

- GS II: Education

**Dimensions of the Article:**

- What are 'credits' in the education system?
- What are credit frameworks?
- What are the highlights of the NCrF?

**What are 'credits' in the education system?**

- Credits are essentially a "recognition that a learner has completed a prior course of learning, corresponding to a qualification at a given level", according to the draft document.
- In other words, it is a way of quantifying learning outcomes.

**How does the credit system work?**

- Take for example the Choice-Based Credit System (CBCS) followed by many universities in India.
- Under the CBCS, students need to earn a certain number of credits for completing a degree.
- While doing so, it offers them the opportunity to mix and match a wide variety of courses, enabling interdisciplinary and intradisciplinary education.
- This is not possible under the conventional marks or percentage-based evaluation system.
- At a time the University Grants Commission (UGC) is encouraging provisions such as the four-year undergraduate programme with multiple entry and exit options, a credit-based approach has become imperative.
- Simply put, it offers flexibility in choosing courses, the option to change courses or institutions midway, or to reenter the education system after dropping out without losing years.
- The students can digitally deposit their credits in the Academic Bank of Credits or ABC, which in many ways works like a commercial bank, and redeem them whenever required.
- According to the University Grants Commission (Establishment and Operation of Academic Bank Of Credits in Higher Education) Regulations notified in July, 2021, the credits shall remain valid for a maximum duration of seven years.

**What are credit frameworks?**

- Credit frameworks are guidelines to be followed by schools, colleges and universities in adopting the credit system.
- For example, the National Higher Education Qualification Framework (NHEQF) lays out the guidelines for higher educational institutions that want to implement the credit system.

**How is the NCrF different from the existing frameworks?**

- The proposed NCrF seeks to integrate all the frameworks under one umbrella.



- Moreover, it also brings the entire school education system under the ambit of credits for the first time. So far, only the National Institute of Open Schooling followed a credit system. The NCeF also covers skill and vocational education.

### ***What are the highlights of the NCeF?***

- The biggest change that the NCeF, once implemented, will usher in is in the school education sector.
- All the provisions of the credit system will also be available to school students.
- It will remove the need for equivalence certification for academic programmes that meet the NCeF requirements and facilitate transfer of students between schools and boards.
- NCeF addresses the difficulties students are facing in respect of equivalence of certificates issued by various school education boards in India for the purpose of admissions in higher education institutions and employment in Central/State Government.
- A student shall have to earn at least 40 credits for completing a year of school education after putting in 1200 hours of “**notional learning hours**”.

### ***Notional learning hours:***

- Notion learning hours in the context of NCeF means time spent not just in classroom teaching, but also in a range of co-curricular and extracurricular activities.
- The list of such activities include sports, yoga, performing arts, music, social work, NCC, vocational education, as well as on the job training, internships or apprenticeships.

### ***How will the credit points be obtained?***

- For the purpose of calculation, the NCeF has divided the education system into multiple levels.
- For school education, there are four levels.
- Students clearing class XII will be at credit level 4.
- For higher education, the levels are from 4.5 to 8 — which is basically from first year UG to PhD.
- The total credit points earned by the student will be obtained by multiplying the credits earned by them with the NCeF level at which the credits have been earned.

## **Swadesh Darshan Scheme**

### ***Context***

- Centre to promote destinations in 15 States as part of Swadesh Darshan 2.

### ***Relevance:***

- GS II: Government Policies and Interventions

### ***Dimensions of the Article:***

- 1. About Swadesh Darshan scheme
- 2. Swadesh Darshan Scheme 2.0

### ***About Swadesh Darshan scheme***

- Nodal: Ministry of Tourism

### ***Features of Swadesh Darshan Scheme:***

- Swadesh Darshan scheme is one of the flagship scheme of the Ministry of tourism for the development of thematic circuits in the country in a planned and prioritised manner
- 100% funding from Centre for the project components undertaken for public funding.
- To leverage the voluntary funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.
- Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by PMC (Programme Management Consultant). PMC will be a national level consultant to be appointed by the Mission Directorate.
- A National Steering Committee (NSC) will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.
- A Mission Directorate headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.

#### ***Objective:***

- To develop theme-based tourist circuits in the country.
- These tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner.
- To develop quality infrastructure in the country with the objective of providing better experience and facilities to the visitors on one hand and on other hand fostering the economic growth.

#### ***Swadesh Darshan Scheme 2.0***

- The revamped programme, Swadesh Darshan 2.0, aims to achieve "Aatmanirbhar Bharat" by fulfilling India's full potential as a tourist destination under the motto "vocal for local."
- In order to transform the Swadesh Darshan Scheme into a comprehensive mission to create sustainable and responsible tourism destinations, Swadesh Darshan 2.0 represents a generational transition rather than an incremental adjustment.
- The creation of benchmarks and standards for both general and theme-specific tourism destination development will be encouraged, and the States will use these benchmarks and standards when organising and implementing their projects.

#### ***Following major themes have been identified for tourism under the Scheme.***

- Culture and Heritage
- Adventure Tourism
- Eco-Tourism
- Wellness Tourism
- MICE Tourism
- Rural Tourism
- Beach Tourism
- Cruises – Ocean & Inland

#### **India-made cough syrups and deaths in Gambia**

##### ***Context:***

- Recently, the World Health Organisation (WHO) issued an alert about four Indian-manufactured cough syrups that it said could potentially be linked to acute kidney injury in children and 66 deaths in the small West African nation of The Gambia.

**Relevance:** GS II: Health

***Dimensions of the Article:***

- What happened in Gambia?
- Why are the syrups not sold in India?
- What are the Related Regulations in India?

***What happened in Gambia?***

- At the end of July, the country's Epidemiology and Disease Control Department was informed of a "sudden" increase in cases of children ages 5 months-4 years reporting to hospital with acute kidney injury.
- By August, 32 cases and 28 deaths had been reported — a case fatality ratio at 87.5 per cent.
- The Gambia reported the four syrups, used for fever, cough, and allergic cold, to the WHO.
- In its alert, the WHO said laboratory analysis of samples of each of these products had confirmed the presence of "unacceptable amounts of diethylene glycol and ethylene glycol as contaminants".
- The syrups — Promethazine Oral Solution, Kofexmalin Baby Cough Syrup, Makoff Baby Cough Syrup, and Magrip N Cold Syrup — were manufactured by Maiden Pharmaceuticals, based in Sonipat, Haryana.

***Diethylene glycol and ethylene glycol:***

- Both are chemical contaminants that may be present in the solvent that is used in the syrups.
- It is toxic to humans, and can result in abdominal pain, vomiting, diarrhoea, inability to pass urine, headache, and altered mental state.
- It can also lead to acute kidney injury that may be fatal in children.
- In 2020, 17 children died in Jammu and Kashmir after consuming a syrup with high levels of diethylene glycol.

***Why are the syrups not sold in India?***

- A drug regulatory expert who was part of the investigation into the 2020 J&K deaths said India has phased out syrups in favour of suspensions.
- In syrup, the active pharmaceutical ingredient (API) is completely mixed in the solvent — imagine a sugar solution.
- In a suspension, on the other hand, API particles are suspended uniformly in a solvent — imagine cooked dal.
- That is why it says on labels on the bottles, 'shake well before use', otherwise the API will settle at the bottom.
- APIs such as paracetamol and others contained in the four syrups are not water-soluble, and hence need a base solvent like propylene glycol. "Propylene glycol is available in two varieties — one type is meant for industrial use, the other for pharmaceutical use.
- To save on costs, some companies use the industrial propylene glycol that may contain diethylene glycol and ethylene glycol as contaminants.
- Suspensions do not need propylene glycol as the active ingredient does not have to be dissolved. They use a liquid base called carboxymethylcellulose (CMC), with no risk of containing the two contaminants.

***What are the Related Regulations in India?***

***The Drugs and Cosmetics Act:***

- The Drugs and Cosmetics Act, 1940 and Rules 1945 have entrusted various responsibilities to central and state regulators for regulation of drugs and cosmetics.
- It provides the regulatory guidelines for issuing licenses to manufacture Ayurvedic, Siddha, Unani medicines.
- It is mandatory for the manufacturers to adhere to the prescribed requirements for licensing of manufacturing units & medicines including proof of safety & effectiveness, compliance with the Good Manufacturing Practices (GMP).

**Central Drugs Standard Control Organisation(CDSCO):**

- Prescribes standards and measures for ensuring the safety, efficacy and quality of drugs, cosmetics, diagnostics and devices in the country.
- Regulates the market authorization of new drugs and clinical trials standards.
- Supervises drug imports and approves licences to manufacture the abovementioned products.
- CDSCO regulates export of drugs in India, any manufacturer with the certification from CDSCO can export drugs outside India.

**Drugs Controller General of India:**

- Drugs Controller General of India is a department of the Central Drugs Standard Control Organization of the Government of India responsible for approval of licenses of specified categories of drugs such as blood and blood products, IV fluids, vaccines, and sera in India.
- It comes under the Ministry of Health & Family Welfare.
- It also sets standards for manufacturing, sales, import, and distribution of drugs in India.
- It lays down the standard and quality of manufacturing, selling, import and distribution of drugs in India.

**Teaching in mother tongue**

- **Context**
- The Union Ministry of Education recently released the National Curriculum Framework (NCF) for foundational stage education (children aged 3 to 8 years).
- With the unveiling of the first NCF for the foundational stage by the government, pre-primary school children in India have entered the formal schooling system for the first time.
- In addition to dedicating the NCF to early childhood care and education (ECCE), the Minister also announced the launch of 'Balvatika' at Kendriya Vidyalayas.

**Relevance**

- GS Paper 2: Social Justice

**Mains question**

- It took India 62 years after independence to make schooling a fundamental right for its children, and much more needs to be done. Discuss. (250 words)

***The National Curriculum Framework (NCF) for primary and secondary education:***

- Experts have proven that 85% of brain development occurs by the age of 7 or 8, laying the groundwork for life-long learning and development.

- As a result, the National Education Policy (NEP) 2020 includes the new 5+3+3+4 curricular structure, which incorporates ECCE for all children aged 3 to 8.
- ECCE under the Anganwadi system was primarily focused on a child's nutrition, whereas the private sphere - the playschool system - was unregulated.
- In light of this, the Ministry of Education established the National Steering Committee (chaired by K Kasturirangan) in 2021 to oversee the development of the NCF.
- The recently released NCF is based on the above-mentioned committee's recommendations.
- The NCF for the foundational stage will be followed (in the future) by editions for higher grades, teacher education, and adult education.

### ***Concerning the new NCF:***

- The new framework incorporates the 'panchakosha' concept for the education of children aged 3 to 8, which consists of five components:
  - Physical advancement (sharirik vikas),
  - Life energy development (pranik vikas),
  - Emotional and mental growth (manasik vikas),
  - Intellectual growth (bauddhik vikas), and
  - Spiritual advancement (chaitisik vikas).
- It calls for a holistic overall transformation of the ECCE curriculum, allowing for positive transformation of India's school education system, including pedagogy.
- It places 'play' at the heart of curriculum organisation approaches because children learn best through play.
- As a result, NCF will enable all children to achieve Foundational Literacy and Numeracy.
- The NCF will address the role of teachers, as well as parents and communities, in achieving the developmental outcomes desired at this stage.
- Because the term "curriculum" encompasses a student's overall school experiences, the NCF aims to help change practises in education rather than just ideas.
- As a result, NCF encompass not only curricular content and pedagogy, but also the school environment and culture.
- It is not so much about textbook revision as it is about changes in the teaching and learning process.
- The National Council of Educational Research and Training (NCERT) is expected to complete the new foundational level syllabus and textbooks soon.

### ***Background:***

- The NCF serves as a guideline for school syllabuses, textbooks, and teaching practises in India.
- The NCERT in India previously published four NCFs (1975, 1988, 2000, and 2005).
- Language teaching is a complex issue in a multilingual country like India, where teachers may have to deal with a variety of languages in the classroom.
- The language of interaction and communication in ECCE should normally be the child's first or home language, according to the NCF 2005.
- However, given sociopolitical realities, English should be introduced as a second language as early as Class I or preschool.

### ***In the new NCF, the following recommendations/observations were made:***



- India is currently experiencing a learning crisis, with children enrolled in primary school but failing to achieve basic skills such as foundational literacy and numeracy.
- Only 50.9% of the 19,344,199 Grade 1 students admitted in 2020-21 had previous preschool experience.
- For children up to the age of eight, mother tongue will be the primary medium of instruction in both public and private schools, because learning a new language reverses the entire learning process in the early years.
- English could be one of the options for a second language. It does not, however, provide a specific timetable for introducing English.
- For young children to acquire the skills of speaking fluently in other languages, a natural, communication-focused approach that supports their primary medium of instruction is required (which could also be English).
- This age group of children should not be burdened with textbooks.

### The Global Hunger Index: A lesson in measuring hunger incorrectly

#### *Context*

- According to the recently released Global Hunger Index report, India is ranked 107th out of 123 countries, down from 101st in 2021. The government has rejected the report, claiming it is an attempt to "taint" India, questioning its methodology, and emphasising the government's significant efforts to improve access to foodgrains for India's poor.

#### *Relevance*

- *GS Paper 2:* health, hunger and Poverty

#### *Mains Question*

- Even with a number of programmes in place to combat malnutrition, India faces a formidable challenge. Discuss. (250 words) (250 words)

#### *Concerning the Global Hunger Index (GHI)*

- The GHI is an annual publication launched in 2006 by Welthungerhilfe (a German private aid organisation) and the International Food Policy Research Institute (IFPRI)
- In 2018, IFPRI ceased to be a publisher. Since then, two European NGOs, Welthungerhilfe and Concern Worldwide, have released the GHI.
- The Global Hunger Index 2022 marks the 17th edition.
- **Goal:** Comprehensively measure and track hunger on a global, regional, and national scale.
- **Yardstick:** The index is based on four indicators, which are as follows:
- **Malnutrition:** The proportion of the population whose caloric intake is insufficient. This is the most familiar concept of hunger. This accounts for one-third of the GHI score.
- **Child stunting:** The proportion of children under the age of five who are short for their age, indicating chronic malnutrition. This accounts for one-sixth of the GHI score.
- **Child wasting:** The proportion of children under the age of five who are underweight for their height, indicating acute malnutrition. This accounts for one-sixth of the GHI score.
- **Child mortality:** The proportion of children who die before reaching the age of five, reflecting, in part, the fatal combination of inadequate nutrition and unhealthy environments. This accounts for one-third of the GHI score.

- **Scores:** The overall score is assigned on a scale of 100 points, with a lower score being better (0 means no hunger).

### *Concerns about India in the Index*

- **Serious category:** A score between 20 and 34.9 is classified as "serious," and India falls into this category with a total score of 1.
- Except for war-torn Afghanistan, India ranks last among South Asian countries.
- **Worst global picture:** The most concerning global picture is that of child wasting, in which India has regressed to a level worse than it was three decades ago.
- **Child Wasting:** At 3%, India's child wasting rate (low weight for height) is higher than in 2014 (15.1%) and even 2000 (17.15%).
- It is the highest for any country in the world and, due to India's large population, drives up the region's average.
- **Undernourishment:** The prevalence of undernourishment in India has risen from 6% in 2018-2020 to 16.3% in 2019-2021.
- This translates to 224.3 million undernourished people in India, out of a total of 828 million undernourished people worldwide.
- **Child Stunting:** India has made progress, with child stunting falling from 7% to 35.5% between 2014 and 2022.
- **Child mortality:** Between 2014 and 2022, child mortality fell from 6% to 3.3%.

### *Reasons for government retaliation*

- The Indian government has criticised the GHI for the second year in a row.
- The government's argument is based on three grounds, which are as follows:
- **Hunger definition:** The GHI employs "an erroneous measure of hunger" by defining hunger in terms of factors other than a lack of food.
- **Not holistic:** Because three of the four variables used are related to children, they cannot be representative of the entire population.
- **Small sample size:** The fourth indicator, the proportion of undernourished people, is based on estimates from the Food and Agricultural Organization, which are based on an opinion poll conducted with a very small sample size of 3000 (Gallup World Poll's survey).
- **Insensitivity:** The government also claimed that the report deliberately ignores efforts made by the government to ensure food security for the population, such as providing additional free food grains to 80 crore Indians beginning in March 2020, in addition to entitlements under the National Food Security Act (NFSA), 2013.

### *Examining the index*

- **Evaluating sample representativeness:** In addition to its small size, the Gallup sampling methodology differs from the norm in India.
- Furthermore, because the FAO has not released standard errors for their estimates, it is difficult to assess whether the increase in the proportion of Indian households experiencing hunger, from 14.8% in 2013-15 to 16.3% in 2019-21, is statistically significant, given the difficulties in collecting data during the pandemic.
- **Inadequate and poorly described data:** The Global Hunger Index is riddled with insufficient and poorly described data.
- The index raises questions about whether it is truly measuring hunger or imply grouping together various indicators that have only a weak relationship with hunger.

- **No comprehensive picture:** The problem with GHI is that it directs governmental attention to cross-national comparisons, which can lead to the rejection of underlying issues and the sidelining of public discourse.
- **Non-hunger-related indicators:** While undernourishment may indicate the proportion of people who are hungry, the latter three, namely stunting, wasting, and mortality, are only partially related to hunger. As an example, consider the following:
- **Exemplification:** Child mortality is heavily influenced by a country's disease climate and public health system.
- Today, 40 out of every 1,000 children in India die before reaching the age of five, with 27 of these deaths occurring in the first month of life.
- This suggests that many child deaths are caused by conditions associated with birth, such as congenital conditions or delivery complications, rather than hunger.
- **Poverty is not the only cause:** UNICEF notes in an article titled "Stop Stunting" that stunted children exist even in the richest households. As a result, poverty is not a direct cause of stunting.
- Stunting is caused by a variety of factors, including infant and child care practises, hygiene, dietary diversity, and cultural practises surrounding maternal diet during pregnancy.
- Wasting is also associated with illnesses and a lack of food intake, not necessarily hunger. Children suffering from diarrhoea, for example, are less likely to eat, and their nutritional status makes them more susceptible to disease.
- **Different trends for different indicators:** According to the National Family Health Survey 2 and 5, the child mortality rate fell from 95 deaths per thousand to 40 deaths per thousand between 1998-1999 and 2019-21. This is a significant improvement due to increased immunisation coverage and hospital delivery.
- Child stunting decreased significantly, from 51.5% to 35.5%, possibly due to improved water and sanitation systems.
- Wasting has barely changed, falling from 19.5 percent to 19.3 percent.

### *The way forward*

- In addition to caloric intake as a nutrition indicator, other aspects of food deprivation, such as vitamin and mineral intake, fat consumption, diet diversity, and breastfeeding practises, must be closely monitored.
- Additionally, to ensure transparency, international agencies must only use data that is freely available in the public domain, as well as key characteristics such as respondents' education, residence, and age.

### **NAAC scores under scrutiny**

#### *Context*

- A deemed university in Bhubaneswar recently outperformed the prestigious Indian Institute of Science (IISc) Bengaluru in terms of NAAC score. However, according to the National Institute of Ranking Framework (NIRF) score, IISc Bengaluru is the best university in India, which contradicts the accreditation and ranking system.

#### *Relevance*

- GS Paper – 2: Education, Human Resource

#### *Mains Question*

- What is NAAC? How it is enlarging its support for betterment of higher education in india?
- Critically analyze. (150 Words)

### ***NAAC (National Assessment and Accreditation Council):***

- The University Grants Commission established the NAAC as an autonomous body (UGC).
- It was founded in 1994 as a result of recommendations made under the National Education Policy (1986).
- Bengaluru is the headquarters.

### ***NAAC's goals are as follows:***

- Arrange for periodic evaluation and accreditation of higher education institutions or units, as well as specific academic programmes or projects;
- To stimulate the academic environment in higher education institutions in order to promote the quality of teaching-learning and research;
- To promote self-assessment, accountability, autonomy, and innovation in higher education.
- Conduct quality-related research, consulting, and training programmes,

### ***Mission:***

- arrange for the periodic assessment and accreditation of institutions of higher
- education or units thereof, or specific academic programmes or projects;
- To stimulate the academic environment for the promotion of quality of teaching learning and research in higher education institutions;
- To encourage self-evaluation, accountability, autonomy, and innovation in higher education;
- To conduct quality-related research studies, consultancy, and training programmes.

### ***Accreditation Procedure:***

- Based on input: NAAC heavily relies on applicant institutions' self-assessment reports.
- The first step is for an applicant institution to submit a self-study report with quantitative and qualitative metrics information.
- NAAC expert teams then validate the data, followed by peer team visits to the institutions.

### ***Future Perspective:***

- Outcome-based Approach: The NAAC intends to use an outcome-based approach, with the emphasis on determining whether students have relevant skills and academic abilities.

### ***What is the difference between assessment and accreditation?***

- Assessment is the evaluation of an institution's or its units' performance based on predetermined criteria.
- Accreditation is quality certification for a set period of time, which in the case of NAAC is five years.
- In January 2013, the University Grants Commission (UGC) made accreditation mandatory for Higher Educational Institutions (HEIs) through a gazette notification.

### ***Which Educational Institutes Are Eligible to Apply for Accreditation?***

- Only higher education institutions that have been in operation for at least six years or that have graduated at least two batches of students are eligible to apply.



- The accreditation is valid for a period of five years.
- Furthermore, aspirant institutes must be UGC-accredited and have regular students enrolled in full-time teaching and research programmes.

### *Current Status of India's Higher Education Sector*

- India's higher education system, after China and the United States, is the world's third-largest in terms of student population.
- Since independence, India's Higher Education sector has seen a tremendous increase in the number of Universities/University level Institutions & Colleges.
- Only three Indian universities are among the top 200 in the prestigious Quacquarelli Symonds (QS) World University Rankings 2023: IIT-Bombay, IIT-Delhi, and IISc (Bangalore).

### *Higher Education in India: Challenges*

- **Enrollment:** India's Gross Enrollment Ratio (GER) in higher education is only 25.2%, which is quite low when compared to developed and major developing countries.
- In GER, there is no equity between different sections of society. Males (26.3%), females (25.4%), SC (21.8%), and ST (15.9%) had GER.
- There are also regional variations. While some states have high GER, others lag far behind the national average.
- College density (number of colleges per lakh eligible population) ranges from 7 in Bihar to 59 in Telangana, compared to the national average of 28.
- Because most of the top universities and colleges are concentrated in metropolitan and urban areas, regional disparities in access to higher education exist.
- **Quality:** Because of poor educational quality, higher education in India is plagued by rote learning, a lack of employability, and skill development.
- **Infrastructure:** Another barrier to higher education in India is a lack of infrastructure. Public sector universities in India lack the necessary infrastructure due to budget deficits, corruption, and lobbying by vested interest groups (Education Mafias). Even the private sector falls short of the global standard.
- Faculty shortages and the state educational system's inability to attract and retain qualified teachers have long posed challenges to quality education. Even in the most prestigious institutions, a lack of faculty forces ad hoc expansion.
- While the pupil-to-teacher ratio in the country has remained stable (30:1), it needs to be improved to be comparable to the USA (12.5:1), China (19.5:1), and Brazil (19:1).

### *Advantages of NAAC Accreditation:*

- A higher education institution learns whether it meets certain quality standards set by the evaluator in terms of curriculum, faculty, infrastructure, research, and financial well-being through a multi-layered process steered by the NAAC.
- The NAAC assigns institutions grades ranging from A++ to C based on these parameters. If an institution receives a D, it is not accredited.
- In addition to recognition, accreditation helps institutions attract capital because funding agencies seek objective data for performance funding.
- Through an informed review process, it assists an institution in determining its strengths, weaknesses, and opportunities.

- NAAC accreditation benefits students pursuing higher education abroad because many global higher education authorities insist on the institution where the student studied being recognised and accredited.

***More on the story:***

- A deemed university in Bhubaneswar recently outperformed the prestigious Indian Institute of Science (IISc) Bengaluru in terms of NAAC score.
- Meanwhile, IISc Bengaluru is ranked first in India by the National Institute Ranking Framework (NIRF) 2022.
- Seven institutes, all in the private sector, currently have an NAAC score higher than IISc Bengaluru.
- This puts the accreditation and ranking systems at odds with one another.

***What is the National Institute Ranking Framework?***

- The National Institutional Ranking Framework is a methodology used by the Ministry of Education to rank higher education institutions in India.
- The Ministry will release the 7th edition of the NIRF in July 2022.
- The ranking framework evaluates educational institutions based on five broad generic groups of -
  - o Resources, Teaching, and Learning (TLR),
  - o Professional Practice and Research (RP),
  - o Graduation Results (GO),
  - o Outreach and Inclusion (OI)
  - o Attitude (PR).

***NAC Accreditation vs. NIRF Rankings: Which Is Better?***

- Accreditation is a comprehensive assessment that occurs once every five years.
- Ranking, on the other hand, is an annual event that takes place every year without fail (since 2015)
- Despite the fact that both are educational institute assessors, there are significant differences in the specific criteria and metrics used to prepare the qualitative and quantitative reports.
- According to the chairman of the NAAC's executive committee, there are some discrepancies in the scores and the current system needs to be reviewed and improved.

**Attention-deficit hyperactivity disorder**

***Context:***

- The US Food and Drug Administration (FDA) announced a shortage of **Adderall**, medication used to treat attention-deficit hyperactivity disorder (ADHD).

***Relevance:***

- GS II: Health

***Dimensions of the Article:***

- 1. About attention-deficit hyperactivity disorder
- 2. About Adderall

***About attention-deficit hyperactivity disorder***

- ADHD is one the most common **neurodevelopmental disorders of childhood**, usually diagnosed at an early age and lasting into adulthood.
- According to the US Centres for Disease Control and Prevention (CDC), children with ADHD might have trouble paying attention or controlling impulsive behaviours, and can be overly active.
- Many adults remain undiagnosed, and symptoms can cause difficulty at work, home or relationships.
- The CDC states that symptoms can appear different at older ages, for example, hyperactivity can appear as extreme restlessness.

#### ***About Adderall:***

- Adderall is the brand name for the formulation that consists of a combination of dextroamphetamine and amphetamine.
- It is an FDA-approved drug for the treatment of ADHD and narcolepsy, a sleep condition that causes daytime sleepiness.
- Adderall belongs to the class of drugs known as stimulants and increases the levels of dopamine and norepinephrine in the brain.
- For people diagnosed with ADHD, Adderall can help improve focus, concentration, impulse control and hyperactivity, because of its effects on the central nervous system.
- It can also have the same effects on those who do not have ADHD.
- Adderall is classified as a Schedule II drug in the US, which means that while it has positive medicinal effects, there is a large potential for abuse.
- Over the past decade, there have been many reports about the growing use and misuses of stimulants like Adderall among students and athletes, who might find enhanced cognition or sports performance.

#### **Lassa fever**

##### ***Context:***

- Recently a study has found that Climate change may aid the spread of Lassa fever, which is endemic to parts of west Africa, to the Central and Eastern parts of the African continent in the next 50 years.

##### ***Relevance:*** GS II- Health

##### ***Dimensions of the article:***

- 1. Key Findings
- 2. What is Lassa fever?
- 3. How does it spread?
- 4. Symptoms

##### ***Key Findings***

- There would be a 600% jump in the number of people exposed to the virus that causes Lassa fever.
- The number of people at risk of exposure would rise to 453 million by 2050 and 700 million by 2070, up from about 92 million in 2022.
- An estimated 80% of infections are mild or asymptomatic. But the remaining 20 % can cause haemorrhaging from the mouth and gut, low blood pressure and potential permanent hearing loss.

- Temperature, rainfall and the presence of pastureland areas are key factors that contributed to the transmission of the Lassa virus.
- If the virus is successfully introduced and propagated in a new ecologically suitable area, its growth would be limited over the first decades.

### *What is Lassa fever?*

- The Lassa fever-causing virus is found in West Africa and was first discovered in 1969 in Lassa, Nigeria.
- The discovery of this disease was made after two nurses died in Nigeria.
- The death rate associated with this disease is low, at around one per cent.
- But the death rate is higher for certain individuals, such as pregnant women in their third trimester.
- According to the European Centre for Disease Prevention and Control, about 80 per cent of the cases are asymptomatic and therefore remain undiagnosed.
- Some patients may need to be hospitalised and develop severe multi-system disease. Fifteen per cent of the hospitalised patients may die.

### *How does it spread?*

- The fever is spread by rats and is primarily found in countries in West Africa including Sierra Leone, Liberia, Guinea, and Nigeria where it is endemic.
- A person can become infected if they come in contact with household items of food that is contaminated with the urine or feces of an infected rat.
- It can also be spread, though rarely, if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or the mouth. Person-to-person transmission is more common in healthcare settings.
- Even so, people don't usually become contagious before symptoms appear and cannot transmit the infection through casual contact such as through hugging, shaking hands or sitting near someone who is infected.

### *Symptoms*

- Mild symptoms include slight fever, fatigue, weakness and headache and more serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen and shock.
- Symptoms typically appear 1-3 weeks after exposure.
- Death can occur from two weeks of the onset of symptoms, usually as a result of multi-organ failure.
- The most common complication associated with the fever is deafness.

### **Emergency Credit Line Guarantee Scheme**

- **Focus:** GS II: Government Schemes
- **Why in News?**
- Recognising that an efficient and strong civil aviation sector is vital for the economic development of the country, the Department of Financial Services (DFS), Ministry of Finance, has modified the Emergency Credit Line Guarantee Scheme (ECLGS) to enhance the maximum loan amount eligibility for airlines under ECLGS 3.0 to 100% of their fund based or non-fund-based loan outstanding.



### *About Emergency Credit Line Guarantee Scheme (ECLGS)*

- Emergency Credit Line Guarantee Scheme (ECLGS) was announced as part of the Atma Nirbhar Bharat Package in 2020
- **Objective:** to help businesses including MSMEs to meet their operational liabilities and resume businesses in view of the distress caused by the COVID- 19 crisis, by providing Member Lending Institutions (MLIs).
- It provides 100% guarantee coverage against any losses suffered by them due to non-repayment of the ECLGS funding by borrowers by **National Credit Guarantee Trustee Company Limited (NCGTC)** for additional funding of up to Rs. 3 lakh crore to eligible MSMEs and interested MUDRA borrowers.
- The credit will be provided in the form of a Guaranteed Emergency Credit Line (GECL) facility.
- Tenor of the loan under Scheme shall be four years with a moratorium period of one year on the principal amount.
- No Guarantee Fee shall be charged by NCGTC from the Member Lending Institutions (MLIs) under the Scheme.
- Interest rates under the Scheme shall be capped at 9.25% for banks and FIs, and at 14% for NBFCs.

### *Aims and objectives of ECLGS*

- The Scheme aims at mitigating the economic distress faced by MSMEs by providing them additional funding in the form of a fully guaranteed emergency credit line.
- The main objective is to provide an incentive to Member Lending Institutions (MLIs), i.e., Banks, Financial Institutions (FIs) and NBFCs to increase access to, and enable the availability of additional funding facility to MSME borrowers.

### *The eligibility criteria for availing credit under ECLGS are:*

- For ECLGS 1.0; MSME units, Business Enterprises, Mudra Borrower and individual loans for business purpose having loan outstanding upto Rs.50 crore and days past due upto 60 days as on 29.02.2020.
- For ECLGS 2.0; Borrower belonging to 26 stressed sectors identified by Kamath Committee & Healthcare sector having loan outstanding above Rs.50 crore and upto Rs.500 crore and days past due upto 60 days as on 29.02.2020.
- For ECLGS 3.0; Borrower belonging to Hospitality, Travel & Tourism, Leisure & Sporting and Civil Aviation sector having days past due upto 60 days as on 29.02.2020.
- For ECLGS 4.0; Existing Hospitals/Nursing Homes/Clinics/Medical Colleges/units engaged in manufacturing of liquid oxygen, oxygen cylinders etc. having credit facility with a lending institution with days past due upto 90 days as on March 31, 2021.

### *Benefits of the ECLGS*

- The scheme aims to mitigate the distress caused by COVID-19 and the consequent lockdown, which has severely impacted manufacturing and other activities in the MSME sector.
- The scheme is expected to provide credit to the sector at a low cost, thereby enabling MSMEs to meet their operational liabilities and restart their businesses.
- By supporting MSMEs to continue functioning during the current unprecedented situation, the Scheme is also expected to have a positive impact on the economy and support its revival.

### **SC quota for Dalit Muslims and Christians**

**Context:**

The Supreme Court of India has sought the most recent position of the Union government on a batch of petitions challenging the Constitution (Scheduled Castes) Order of 1950, which allows only members of Hindu, Sikh and Buddhist religions to be recognised as SCs.

**Relevance:**

GS II: Government Policies and Interventions

**Dimensions of the Article:**

1. Who all are included in the Constitution Order of 1950?
2. Why don't Dalits who convert to Christianity and Islam get quota benefits?
3. Does this religion-based bar apply to converted STs and OBCs as well?
4. What efforts have been made to include Muslims and Christians of Dalit origin among SCs?

**Who all are included in the Constitution Order of 1950?**

- When enacted, the **Constitution (Scheduled Castes) Order of 1950**, initially provided for recognising only Hindus as SCs, to address the social disability arising out of the practice of untouchability.
- The Order was amended in 1956 to include Dalits who had converted to Sikhism and once more in 1990 to include Dalits who had converted to Buddhism.
- Both amendments were aided by the reports of the **Kaka Kalelkar Commission in 1955** and the High Powered Panel (HPP) on Minorities, Scheduled Castes and Scheduled Tribes in 1983 respectively.
- On the other hand, the Union government in 2019 rejected the possibility of including Dalit Christians as members of SCs, rooting the exclusion on an Imperial Order of 1936 of the then colonial government, which had first classified a list of the Depressed Classes and specifically excluded "Indian Christians" from it.

**Why don't Dalits who convert to Christianity and Islam get quota benefits?**

- The original rationale behind giving reservation to Scheduled Castes was that these sections had suffered from the social evil of untouchability, which was practised among Hindus.
- Under **Article 341 of the Constitution**, the President may "specify the castes, races or tribes or parts of or groups within castes, races or tribes which shall...be deemed to be Scheduled Castes".
- The first order under this provision was issued in 1950, and covered only Hindus.
- Following demands from the Sikh community, an order was issued in 1956, including Sikhs of Dalit origin among the beneficiaries of the SC quota.
- In 1990, the government acceded to a similar demand from Buddhists of Dalit origin, and the order was revised to state: "No person who professes a religion different from the Hindu, the Sikh or the Buddhist religion shall be deemed to be a member of Scheduled Caste."

**Does this religion-based bar apply to converted STs and OBCs as well?**

- It does not. The Department of Personnel and Training (DoPT) website states, "The rights of a person belonging to a Scheduled Tribe are independent of his/her religious faith."
- Following the implementation of the Mandal Commission report, several Christian and Muslim communities have found place in the Central and state lists of OBCs.

**What efforts have been made to include Muslims and Christians of Dalit origin among SCs?**

- After 1990, a number of Private Member's Bills were brought in Parliament for this purpose.
- In 1996, a government Bill called The Constitution (Scheduled Castes) Orders (Amendment) Bill was drafted, but in view of a divergence of opinions, the Bill was not introduced in Parliament.

- *Then government headed by PM Manmohan Singh set up two important panels:*
- **Ranganath Misra Commission:** The National Commission for Religious and Linguistic Minorities, popularly known as the Ranganath Misra Commission, in October 2004 and
- **Sachar Committee:** A seven-member high-level committee headed by former Chief Justice of Delhi High Court Rajinder Sachar to study the social, economic, and educational condition of Muslims in March 2005.

***What did they recommend?***

- The Sachar Committee Report observed that the social and economic situation of Dalit Muslims and Dalit Christians did not improve after conversion.
- The Ranganath Misra Commission, which submitted its report in May 2007, recommended that SC status should be completely de-linked from religion and Scheduled Castes should be made fully religion-neutral like Scheduled Tribes.
- Reception to these recommendations
- The report was tabled in Parliament in 2009, but its recommendation was not accepted in view of inadequate field data and corroboration with the actual situation on the ground.
- Few studies, commissioned by the National Commission for Minorities, was also not considered reliable due to insufficient data.

**Telecom Technology Development Fund scheme**

***Focus:*** Government policies and Interventions

***Why in News?***

- Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications, officially launched Telecom Technology Development Fund (TTDF) Scheme.

***About Telecom Technology Development Fund (TTDF) Scheme:***

- The scheme is aligned with Prime Minister clarion call of adding Jan Anusandhaan in the new phase of Amrit Kaal.
- Telecom Technology Development Fund (TTDF) aims to fund R&D in rural specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.
- Additionally, the Scheme aims to promote technology ownership and indigenous manufacturing, create a culture of technology co-innovation, reduce imports, boost export opportunities and creation of Intellectual Property.
- Under the scheme, USOF is also targeting to develop standards to meet countrywide requirements and create the ecosystem for research, design, prototyping, use cases, pilots, and proof of concept testing, among others.
- The scheme entails grants to Indian entities to encourage and induct indigenous technologies tailor-made to meet domestic needs.

***What is the Universal Service Obligation Fund (USOF)?***

- The Universal Service Obligation Fund (USOF) was established with the primary objective of providing access to 'Basic' telecom services to people in the remote and rural areas at reasonable and affordable prices.
- USOF ensures that there is universal non-discriminatory access to quality ICT (Information and Communications Technology) services at economically efficient prices to people in rural and remote areas.
- It was created under the Ministry of Communications in 2002.
- It is a non-lapsable fund, i.e., the unspent amount under a targeted financial year does not lapse and is accrued for next years' spending.

- All credits to this fund require parliamentary approval and it has statutory support under Indian Telegraph (Amendment) Act, 2003.
- Universal Service stands for universal, interdependent and intercommunicating, affording the opportunity for any subscriber to any exchange to communicate with any other subscriber of any other exchange.
- Subsequently, the scope was widened to provide subsidy support for enabling access to all types of telegraph services including mobile services, broadband connectivity, and creation of infrastructure like Optical Fiber Cable (OFC) in rural and remote areas.
- With access to affordable telecom services in remote and rural areas, the USOF is the right step towards stemming urban migration. This would ensure to generate employment opportunities in the rural areas which would help generate more income.
- ***The USOF proposes to meet its social, economic, political and constitutional objectives which are as follows:***
- To extend the telecommunication network.
- To stimulate the uptake of Internet and Communication Technologies (ICT) services.
- To bring the underserved and unserved areas of the country into the telecom spectrum and narrow down the access gap.
- To use the pooled USO levy for an equitable distribution through target subsidies.

#### ***Who are the partners of USOF?***

- As per the Department of Telecommunications, there are 24 partners of USOF. It includes:
- Bharat Sanchar Nigam Limited
- Tata Tele Services Limited
- Reliance Communications Limited
- Vodafone
- Bharti Airtel Limited, etc

#### **Ek Bharat Shreshtha Bharat**

- ***Focus:*** GS II- Government policies and Interventions
- ***Why in News?***
- Recently, Government of India has announced a month-long programme named the '**Kashi-Tamil Sangamam**' "to strengthen" and "rekindle" the cultural and civilisational bond between Tamil Nadu and Varanasi.
- This programme would be a part of the **Ek Bharat Shreshtha Bharat** initiative

#### ***About Ek Bharat Shreshtha Bharat***

- "Ek Bharat Shreshtha Bharat" was announced by Hon'ble Prime Minister on 31<sup>st</sup> October, 2015 on the occasion of the 140th birth anniversary of Sardar Vallabhbhai Patel.
- Through this innovative measure, the knowledge of the culture, traditions and practices of different States & UTs will lead to an enhanced understanding and bonding between the States, thereby strengthening the unity and integrity of India.
- All States and UTs will be covered under the programme.
- There will be pairing of States/UTs at national level and these pairings will be in effect for one year, or till the next round of pairings.
- The activity will be very useful to link various States and Districts in annual programmes that will connect people through exchanges in areas of culture, tourism, language, education trade etc. and citizens will be able to experience the cultural diversity of a much larger number of States/UTs while realizing that India is one.

#### ***Objectives***

- To **CELEBRATE** the Unity in Diversity of our Nation and to maintain and strengthen the fabric of traditionally existing emotional bonds between the people of our Country;



- To **PROMOTE** the spirit of national integration through a deep and structured engagement between all Indian States and Union Territories through a yearlong planned engagement between States;
- To **SHOWCASE** the rich heritage and culture, customs and traditions of either State for enabling people to understand and appreciate the diversity that is India, thus fostering a sense of common identity;
- TO **ESTABLISH** long-term engagements and
- TO **CREATE** an environment which promotes learning between States by sharing best practices and experiences.

## Rythu Bharosa Kendras

### *Context:*

- An Ethiopian delegation led by the country's Agricultural Minister is in Andhra Pradesh (AP) to study the first-of-its kind Rythu Bharosa Kendras (RBKs), which have been set up by the Y S Jagan Mohan Reddy government.

### *Relevance:*

- GS II: Government Policies and Interventions

### *Dimensions of the Article:*

- 1. What are Rythu Bharosa Kendras?
- 2. Have the RBKs proved to be helpful to farmers?

### *What are Rythu Bharosa Kendras?*

- Set up for the first time in the country, the RBKs are unique seeds-to-sales, single-window service centres for farmers that have been set up across the state.
- They are a one-stop solution to all farmers' needs and grievances.
- RBKs sell pre-tested quality seeds, certified fertilisers and animal feed.
- Farmers can purchase or hire farm equipment, and even sell their produce at the prevailing MSP in the RBKs.
- Touted as role models for the country, agriculture and horticulture officials manning the RBKs also provide services like soil testing and make recommendations — on which crops to sow, and quantity and type of fertiliser to be used.
- The state government also pays crop insurance, procures grains and makes payments to farmers through the RBKs.

### *Have the RBKs proved to be helpful to farmers?*

- RBKs facilitate interaction between farmers, agriculture scientists, and agriculture extension officers right at the village level. Apart from providing services and items for sale, RBK officials demonstrate new farm equipment and provide training to farmers.
- Based on inputs provided by officials after soil testing and weather conditions, many farmers have changed their cropping patterns and benefited immensely, according to the state Agriculture Department.
- The RBKs have been responsible for elimination of spurious seeds and uncertified and dangerous fertilisers, which can cause crop damage and failures.
- 10,700 RBKs — multi-functional kiosks with digital Aadhar authentication equipment — have been set up across the state. The RBKs, staffed by agriculture and horticulture graduates, help farmers decide the crops they should cultivate in a scientific manner.
- They also assist in selling their produce at MSPs, through supporting systems of e-cropping, geo-tagging, and the CM App through which payments are made to farmers.
- The Centre has recently nominated the RBK concept for the Food and Agriculture Organisation's "Champion" award.

## Need to focusing on nutrition than hunger

### *Context*

- The article critically examines the Global Hunger Index (GHI) in light of its recent edition, which placed India in the "serious" category, trailing all South Asian countries except wartorn Afghanistan. According to the article, the National Family Health Survey (NFHS), unlike the GHI, does a good job of providing comparative state-level data, including the main indicators that determine health and nutrition.

### *Relevance*

- GS paper 2:** Issues related to poverty and hunger, institutions and bodies constituted for the protection of vulnerable sections of society etc

### *Mains Question*

- Despite significant advances in nutritional security, India's ranking in the Global Hunger Index remains a source of concern. Analyze critically.

### *Background*

- India was ranked 107th out of 123 countries in the recently released Global Hunger Index report 2022 (17th edition), down from 101st in 2021.
- The government has rejected the report, claiming it is an attempt to "taint" India, questioning its methodology, and emphasising the government's significant efforts to improve access to foodgrains for India's poor.

### *Concerning the Global Hunger Index (GHI)*

- The GHI is an annual publication launched in 2006 by Welthungerhilfe (a German private aid organisation) and the International Food Policy Research Institute (IFPRI).
- In 2018, IFPRI ceased to be a publisher. Since then, two European NGOs, Welthungerhilfe and Concern Worldwide, have released the GHI.
- Yardstick: The index is based on four indicators: child malnutrition, child stunting, child wasting, and child mortality.
- Scores: The overall score is assigned on a scale of 100 points, with a lower score being better (0 means no hunger).

### *GHI's Restrictions*

- No regional database: The Global Hunger Index (GHI) measures and ranks countries on a hunger index at the global, regional, and national levels, but not at the sub-national level, where some Indian states perform better.
- Unbalanced indicators: The GHI's stated goal is to reduce hunger worldwide.
- However, its methodology focuses disproportionately on children under the age of five.
- No comprehensive picture: GHI focuses governmental attention on cross-national comparisons, leading to the rejection of underlying issues and the sidelining of public discourse.
- Lack of conceptual clarity: The GHI uses childhood mortality and nutrition indicators, but it views hunger as a food production challenge, as stated in the preamble: "Communities, civil society organisations, small producers, farmers, and indigenous groups... shape how access to nutritious food is governed."
- According to the FAO, India is the world's largest producer and consumer of grain, as well as the largest producer of milk, at a time when per capita consumption of grain, vegetables, and milk has increased dramatically.
- It is thus contentious and unacceptable to group India with countries experiencing severe food shortages, as GHI has done.

### *India's viewpoint*

- National Family Health Survey (NFHS): Unlike the GHI, the NFHS provides comparative state-level data on health and nutrition, as well as the key indicators that influence health and nutrition.
- Indicators: The National Center for Health Statistics provides estimates of underweight (low weight for age), stunting (low height for age), and wasting (low weight for height).
- Importance: NFHS conditions disproportionately affect preschool children (those under the age of six) and jeopardise a child's physical and mental development while also increasing susceptibility to infections.
- Additionally, undernourished mothers, as a result of social and cultural practises, give birth to low-birth-weight babies who are susceptible to infections and carry their handicaps into childhood and adolescence.

### ***Concerning the NFHS***

- It contains detailed information on key domains of population, health, and family welfare, as well as associated domains such as population characteristics, fertility, family planning, infant and child mortality, maternal and child health, nutrition and anaemia, morbidity and healthcare, women's empowerment, and so on.
- Expanded scope: In comparison to the previous round of the survey (NFHS-4), the scope of NFHS-5 has been expanded by adding new dimensions such as:
- Death registration, pre-school education, expanded domains of child immunisation, micronutrient components for children, menstrual hygiene, frequency of alcohol and tobacco use, additional components of Non- Communicable Diseases (NCDs), expanded age range for measuring hypertension and diabetes among all aged 15 and above.

### ***Nutritional difficulties***

- Breastfeeding is one of the first nutritional challenges for children. According to NFHS 5, only 42% of infants are breastfed within one hour of birth, which is the recommended standard.
- By not being breastfed, an infant misses out on the benefits of developing antibodies against infections, allergies, and even protection against a variety of chronic diseases.
- Young child feeding practises: Causes such as not introducing semi-solid food after six months, breastfeeding for much longer than the recommended six months, and providing food lacking in nutritional diversity threaten child health.
- According to NFHS 5, the improvement has been marginal over the last two reports, and states such as Maharashtra, Rajasthan, Assam, UP, and Gujarat are at the bottom.
- Poor nutrition: The third problem is the result of poor nutrition. According to NFHS 5, the percentage of stunted, wasted, and underweight children is 36%, 19%, and 32%, respectively.
- Unsettling trends: It is concerning that states such as Bihar, Uttar Pradesh, and Jharkhand have fallen below their own levels from five years ago.
- Overall, the percentage of children suffering from anaemia has increased by eight percentage points, from 59% in NFHS 4 to 67% in NFHS 5.
- A large part of this is due to the mistaken belief that manufactured snacks are "good food." This phenomenon has been observed in both urban slums and rural villages.
- Cleanliness: According to CHETNA, a non-governmental organisation that works for women's and children's health and nutrition in three states (Gujarat, Madhya Pradesh, and Rajasthan) by observing home practises, young children are allowed to run around while eating, exposing the food to flies, dust, and heat.
- The NGO also discovered that when children need nutrition-dense food to develop, they are weaned on watery liquid from cooked grain.

### ***Solutions***

- Nutritional plan: The WHO and UNICEF recommend that breastfeeding begin within the first hour of birth and that infants be breastfed exclusively for the first six months.
- According to NFHS 5, the percentage improvement of children who were exclusively breastfed when they were under six months in India increased from 55% in NFHS 4 to 64% in NFHS 5.

- Broad perspective: The majority of these food distribution programmes benefit children attending anganwadis or schools, adolescents, and pregnant and lactating mothers. This must continue, but newborns, infants, and toddlers require special care as well.
- Education: India has successfully overcome problems such as reduced maternal and child mortality, improved access to sanitation, safe drinking water, and safe cooking fuel.
- Families can also be encouraged to start kitchen gardens and raise poultry to meet their nutritional needs.

### ***Conclusion***

- No more time should be wasted on the distorted and irrelevant GHI rankings. Instead, states should be urged to investigate the NFHS findings in order to chart a new course for improving nutrition practises for the youngest and most vulnerable members of society

## **INTERNATIONAL RELATIONS**

### **Turkey's disinformation law**

- ***Context:***
- Recently, Turkey's parliament adopted the much-critiqued 'disinformation law' that accords jail terms of up to three years to social media users and journalists for spreading 'disinformation'.

### ***Relevance:***

- GS II: International Relations

### ***Dimensions of the Article:***

- 1. About Disinformation law
- 2. What are the concerns?

### ***About Disinformation law:***

- Cumulatively known as 'the disinformation law', it comprises about 40 articles that would amend about 23 different laws.
- Of the 40, the most contentious is Article 29.
- It designates it an offence to publicly disseminate misleading information about the country's internal and external security, public order and general well-being for the purpose of causing fear or panic among the populace.
- The Turkish government has argued that the law would combat cases where the internet is used to share illegal content under false names and where anonymous accounts slander and defame individuals of differing political thought, religion or ethnicity.
- The article introduces a jail term between one and three years for any violation with the extension of an additional half of the initially stipulated term if the actions are done in anonymity.
- To implement this law, social media platforms could now be asked to hand over user data to Turkish courts.

### ***What are the concerns?***

- Critics, including the Venice Commission which is the advisory body to the Council of Europe on constitutional matters, have pointed to the unclear interpretation of certain crucial terminologies, especially 'disinformation'.
- The legislation accords the responsibility of determining the same to prosecutors.
- Critics here argue that Turkey being a heavily polarised country and the courts having previously turned against journalists and other social-scientists does not lend a confident picture.
- The Commission also highlighted concerns on assertions about what should constitute disturbance to 'public peace'.
- Following the meeting with the authorities, what seems to be the most alarming is that a public protest may be considered in itself a disturbance of public peace.



- This also triggers questions on 'dissemination' of the alleged 'disinformation' especially when the boundaries between physical and online spaces are blurred.
- Thus, the legislation lacks clarity on how the entity shall be deemed guilty, that is, for sharing or manufacturing the information (especially in an offline space).
- It is for the above-mentioned reasons that a jail term appears to be a stretched penal provision.

## Financial Action Task Force (FATF)

### *Context:*

- Pakistan is expected to be taken off the Financial Action Task Force grey list at the global watchdog body's plenary session in Paris this week, although it will be asked to update members on its actions to counter terror financing and money laundering on a regular basis, in a decision that India will monitor closely.

### *Relevance:*

- GS II- International Relations

### *Dimensions of the Article:*

- 1. Financial Action Task Force (FATF)
- 2. FATF Greylists
- 3. FATF Blacklists
- 4. Effects of FATF Blacklisting

### *Financial Action Task Force (FATF)*

- The Financial Action Task Force (on Money Laundering) (FATF) is an intergovernmental organisation founded in 1989 on the initiative of the G7 to develop policies to combat money laundering.
- In 2001, its mandate was expanded to include terrorism financing.
- FATF is a "policy-making body" that works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas.
- FATF monitors progress in implementing its Recommendations through "peer reviews" ("mutual evaluations") of member countries.
- Since 2000, FATF has maintained the FATF blacklist (formally called the "Call for action") and the FATF greylist (formally called the "Other monitored jurisdictions").
- The objectives of FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

### *FATF Greylists*

- FATF greylist is officially referred to as Jurisdictions Under Increased Monitoring.
- FATF grey list represent a much higher risk of money laundering and terrorism financing but have formally committed to working with the FATF to develop action plans that will address their AML/CFT deficiencies.
- The countries on the grey list are subject to increased monitoring by the FATF, which either assesses them directly or uses FATF-style regional bodies (FSRBs) to report on the progress they are making towards their AML/CFT goals.
- While grey-list classification is not as negative as the blacklist, countries on the list may still face economic sanctions from institutions like the IMF and the World Bank and experience adverse effects on trade.
- Unlike the next level "blacklist", greylisting carries no legal sanctions, but it attracts economic strictures and restricts a country's access to international loans

### *FATF Blacklists*

- FATF Blacklists is Officially known as High-Risk Jurisdictions subject to a Call for Action.

- FATF blacklist sets out the countries that are considered deficient in their antimoney laundering and counter-financing of terrorism regulatory regimes.
- The list is intended to serve not only as a way of negatively highlighting these countries on the world stage, but as a warning of the high money laundering and terror financing risk that they present.
- It is extremely likely that blacklisted countries will be subject to economic sanctions and other prohibitive measures by FATF member states and other international organizations.

### ***Effects of FATF Blacklisting***

- The effect of the FATF Blacklist has been significant, and arguably has proven more important in international efforts against money laundering than has the FATF Recommendations.
- While, under international law, the FATF Blacklist carried with it no formal sanction, in reality, a jurisdiction placed on the FATF Blacklist often found itself under intense financial pressure.
- FATF makes sure funds are not easily accessible by terror organisations that are causing crimes against humanity.
- FATF has helped to fight against corruption by 'grey-listing' countries that do not meet Recommended Criteria and this helps to cripple economies and states that are aiding terrorist and corrupted organisations.

### **What is OPEC+?**

#### ***Context:***

- The grouping of the world's largest oil-producing countries, the Organisation of the Petroleum Exporting Countries (OPEC) and its allies, together known as OPEC+, decided to cut oil production by 2 million barrels per day.
- This is the largest cut since the beginning of the Covid-19 pandemic. Brent crude, the international benchmark, was up 28 cents or 0.3%, at \$92.08 a barrel after the cut was announced, reported Reuters.

#### ***Relevance:***

- GS II- International Relations

#### ***Dimensions of the Article:***

- 1. India's crude oil imports from OPEC
- 2. About Organization of the Petroleum Exporting Countries (OPEC)
- 3. What is OPEC+?
- 4. Why are they slashing production?

### ***India's crude oil imports from OPEC***

- In FY08, OPEC oil accounted for almost 88 percent of India's crude imports.
- Because refiners in Asia's third-largest economy are buying cheaper Russian oil, its percentage of India's overall imports may drop.
- Russian oil, on the other hand, continues to account for less than 1% of India's crude imports in FY22.

### ***About Organization of the Petroleum Exporting Countries (OPEC)***

- The Organization of the Petroleum Exporting Countries is an intergovernmental organization of 14 nations, **founded in 1960 in Baghdad** by the first five members (Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela), and headquartered since 1965 in Vienna, Austria.
- As of 2018, the 14 member countries accounted for an estimated 44 percent of global oil production and almost 82% of the world's "proven" oil reserves, giving OPEC a major influence on global oil prices that were previously determined by the so-called "Seven Sisters" grouping of multinational oil companies.
- The stated mission of the organization is to "coordinate and unify the petroleum policies of its member countries and ensure the stabilization of oil markets, in order to secure an efficient, economic and regular

supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry.”

### ***What is OPEC+?***

- OPEC + countries are non-OPEC countries that export crude oil alongside the 14 OPEC countries.
- Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan are among the OPEC plus countries.

### ***What are their goals?***

- The OPEC and non OPEC producers first formed the alliance at a historic meeting in Algiers in 2016.
- The aim was to undertake production restrictions to help resuscitate a flailing market.

### ***Why are they slashing production?***

- Oil prices skyrocketed after Russia’s invasion of Ukraine in February, and have since begun to soften over the past few months, before dropping sharply to under \$90 in September due to fears of a recession in Europe and reduced demands from China because of its lockdown measures.
- Recent reduction is the biggest of its kind since 2020 when OPEC+ members slashed outputs by 10 million bpd during the Covid-19 pandemic, Reuters reported.
- The reductions would boost prices and be extremely beneficial for the Middle Eastern member states, to whom Europe has turned for oil after levelling sanctions against Russia since it invaded Ukraine.
- OPEC+ members are concerned that a faltering global economy would reduce the demand for oil, and the cuts are seen as a way to protect profits.
- Increased oil prices, which first occurred during the invasion of Ukraine, have helped Saudi Arabia, one of the founding members of OPEC, become one of the world’s fastest-growing economies

## **UNESCO lists 50 iconic Indian Textiles**

### ***Context:***

- UNESCO published a list of 50 exclusive and iconic heritage textile crafts of India.

### ***Relevance:***

- GS II: Important International institutions

### ***Dimensions of the Article:***

- 1. Details
- 2. Some of the Important Textiles Crafts Listed
- 3. About UNESCO
- 4. Tangible and Intangible Heritage
- 5. Representative list of the Intangible Cultural Heritage of Humanity

### ***Details***

- UNESCO’s “**Handmade for the 21st Century: Safeguarding Traditional Indian Textile**” mentions the history and legends behind the textiles, description of the complicated and secret processes in their making, causes for reducing popularity and also recommends various strategies for their preservation.
- As per UNESCO, the key challenge to protecting the **Intangible Cultural Heritage of the South Asian region is the lack of proper inventory and documentation.**
- The publication of UNESCO aims to bridge this gap and lists 50 textiles as exclusive and iconic heritage textile crafts of India by undertaking extensive research.

### ***Some of the Important Textiles Crafts Listed***

- Toda embroidery and Sungadi of Tamil Nadu
- Himroo weaves of Hyderabad in Telangana
- Bandha tie and dye weaving of Sambalpur in Odisha
- Khes from Panipat in Haryana
- Chamba rumals of Himachal Pradesh
- Thigma or wool tie and dye of Ladakh
- Awadh Jamdani from Varanasi in Uttar Pradesh
- Ilkal and Lambadi or Banjara embroidery from Karnataka
- Sikalnayakanpet Kalamkari from Thanjavur in Tamil Nadu
- Kunbi weaves from Goa
- Mashru weaves and Patola from Gujarat
- Himroo from Maharashtra
- Garad-Koirial of West Bengal

### ***About UNESCO***

- It was founded in 1945 to develop the “intellectual and moral solidarity of mankind” as a means of building lasting peace. It is located in Paris, France.
- **Major Initiatives of UNESCO:**
  - o Man and Biosphere Programme
  - o World Heritage Programme
  - o Global Geopark Network
  - o Network of Creative Cities
  - o Atlas of World Languages in Danger

### ***Tangible and Intangible Heritage***

- Cultural heritage in general consists of the products and processes of a culture that are preserved and passed on through the generations.
- Some of that heritage takes the form of cultural property, formed by tangible artefacts such as buildings or works of art.
- Many parts of culture, however are intangible, including song, music, dance, drama, skills, cuisine, crafts and festivals.
- Hence, buildings, historic places, monuments, and artifacts are physical intellectual wealth – hence they are “Tangible”.
- “Intangible” heritage consists of nonphysical intellectual wealth, such as folklore, customs, beliefs, traditions, knowledge, and language.
- An intangible cultural heritage (ICH) is a practice, representation, expression, knowledge, or skill considered by UNESCO to be part of a place's cultural heritage.

### ***Definition of Intangible Cultural Heritage (ICH)***

- As the practices, representations, expressions, as well as the knowledge and skills (including instruments, objects, artifacts, cultural spaces), that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. It is sometimes called living cultural heritage.

Intangible cultural Heritage is manifested in the following domains:

- o Oral traditions and expressions, including language;
- o Performing arts;
- o Social practices, rituals and festive events;
- o Knowledge and practices concerning nature and the universe;
- o Traditional craftsmanship



***Representative list of the Intangible Cultural Heritage of Humanity***

- The Representative List of the Intangible Cultural Heritage of Humanity contains intangible cultural heritage elements that "help demonstrate the diversity of cultural heritage and raise awareness about its importance".
- Elements in India which are included in the Representative List of the Intangible Cultural Heritage of Humanity:

**WHO releases first-ever fungal priority pathogen list*****Context:***

- The World Health Organisation (WHO) has released the first-ever priority pathogen list — which includes 19 fungi — to identify fungi which pose the greatest threat to public health.

***Relevance:***GS-2 Health, International Relations***Dimensions of the Article:***

- 1. WHO's first-ever Fungal Priority Pathogen List
- 2. Reason for the rise in fungal infections
- 3. Strategy recommended by WHO
- 4. World Health Organization (WHO)
- 5. World Health Assembly (WHA)

***WHO's first-ever Fungal Priority Pathogen List:***

- The WHO fungal priority pathogens list (FPPL) is the first global effort to systematically prioritize fungal pathogens, considering the unmet research and development (R&D) needs and the perceived public health importance.
- The list takes precedence from the bacterial priority pathogens list, first established by WHO in 2017 with a similar focus to galvanise global attention and action.
- This classification is based on the pathogen's public health impact or emerging antifungal resistance risk. The WHO urges a geography-wise close reading of these lists is key for assessing and tackling the threat.
- The list has been divided into three categories — critical, high and medium priority:
- The list's publication is opportune as fungi are becoming an increasingly common threat to public health.

***Reason for the rise in fungal infections:***

- Global warming and increasing international travel and trade are fuelling this rise. The COVID-19 pandemic saw an increase in mucormycosis or black fungus.
- Currently, only a few treatment candidates are being tested and just four classes of antifungal medicines are available.
- Poor diagnostic systems further compound the situation
- These factors are especially concerning for the at-risk population — those with comorbidities — such as patients with cancer, HIV/AIDS, organ transplants, chronic respiratory disease and post-primary tuberculosis infection.
- However, with a wide geographic spread resulting in more incidents, resistance to treatment is also on the rise.

***Strategy recommended by WHO:***

- Emerging from the shadows of the bacterial antimicrobial resistance pandemic, there is a rise in the number of fungal infections and the consequent rise in the resistance to treatments is becoming a public health concern worldwide.
- The strategy includes:
- Strengthening laboratory capacity and surveillance.

- Sustaining investments in research, development and innovation
- Enhancing public health interventions for prevention and control.

### ***World Health Organization (WHO)***

- The World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health.
- It is headquartered in Geneva, Switzerland.
- Its main objective is ensuring “the attainment by all peoples of the highest possible level of health.”
- The WHO’s broad mandate includes advocating for universal healthcare, monitoring public health risks, coordinating responses to health emergencies, and promoting human health and well-being.
- The World Health Assembly (WHA), composed of representatives from all 194 member states, serves as the agency’s supreme decision-making body.

### ***World Health Assembly (WHA)***

- The World Health Assembly is the decision-making body of WHO.
- It is attended by delegations from all WHO Member States and focuses on a specific health agenda prepared by the Executive Board.
- The Health Assembly is held annually in Geneva, Switzerland (sometimes in special sessions).

### ***The main functions of the World Health Assembly are:***

- To determine the policies of the Organization
- Appoint the Director-General
- Supervise financial policies
- Review and approve the proposed programme budget.
- Reporting to the Economic and Social Council in accordance with any agreement between the Organization and the United Nations.
- ***The Health Assembly is composed of delegates representing Member States:***
- Each Member State is represented by not more than three delegates, one of whom is designated by the Member as chief delegate.
- These delegates are chosen from among persons most qualified by their technical competence in the field of health, preferably representing the national health administration of the Member.

### **Financial Action Task Force (FATF)**

#### ***Context:***

- Four years after it was placed on the ‘grey list’ and penalised with severe financial strictures by the Financial Action Task Force (FATF), Pakistan won a major reprieve, as the international watchdog on terror financing and money laundering agreed to remove Pakistan’s name from the list of countries under ‘increased monitoring’.
- ***Relevance:*** GS II- International Relations

#### ***Dimensions of the Article:***

- 1. Financial Action Task Force (FATF)
- 2. FATF Greylists
- 3. FATF Blacklists
- 4. Effects of FATF Blacklisting

### ***Financial Action Task Force (FATF)***

- The Financial Action Task Force (on Money Laundering) (FATF) is an intergovernmental organisation founded in 1989 on the initiative of the G7 to develop policies to combat money laundering.

- In 2001, its mandate was expanded to include terrorism financing.
- FATF is a “policy-making body” that works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas.
- FATF monitors progress in implementing its Recommendations through “peer reviews” (“mutual evaluations”) of member countries.
- Since 2000, FATF has maintained the FATF blacklist (formally called the “Call for action”) and the FATF greylist (formally called the “Other monitored jurisdictions”).
- The objectives of FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

### ***FATF Greylists***

- FATF greylist is officially referred to as Jurisdictions Under Increased Monitoring.
- FATF grey list represent a much higher risk of money laundering and terrorism financing but have formally committed to working with the FATF to develop action plans that will address their AML/CFT deficiencies.
- The countries on the grey list are subject to increased monitoring by the FATF, which either assesses them directly or uses FATF-style regional bodies (FSRBs) to report on the progress they are making towards their AML/CFT goals.
- While grey-list classification is not as negative as the blacklist, countries on the list may still face economic sanctions from institutions like the IMF and the World Bank and experience adverse effects on trade.
- Unlike the next level “blacklist”, greylisting carries no legal sanctions, but it attracts economic strictures and restricts a country’s access to international loans

### ***FATF Blacklists***

- FATF Blacklists is Officially known as High-Risk Jurisdictions subject to a Call for Action.
- FATF blacklist sets out the countries that are considered deficient in their antimoney laundering and counter-financing of terrorism regulatory regimes.
- The list is intended to serve not only as a way of negatively highlighting these countries on the world stage, but as a warning of the high money laundering and terror financing risk that they present.
- It is extremely likely that blacklisted countries will be subject to economic sanctions and other prohibitive measures by FATF member states and other international organizations.

### ***Effects of FATF Blacklisting***

- The effect of the FATF Blacklist has been significant, and arguably has proven more important in international efforts against money laundering than has the FATF Recommendations.
- While, under international law, the FATF Blacklist carried with it no formal sanction, in reality, a jurisdiction placed on the FATF Blacklist often found itself under intense financial pressure.
- FATF makes sure funds are not easily accessible by terror organisations that are causing crimes against humanity.
- FATF has helped to fight against corruption by ‘grey-listing’ countries that do not meet Recommended Criteria and this helps to cripple economies and states that are aiding terrorist and corrupted organisations.

## **China’s ‘Wolf Warrior’ Diplomacy**

### ***Context:***

- As China’s position has undergone a change in world affairs over the years, Xi has advocated for a more intensive approach towards handling issues both domestically and internationally. The “wolf warrior” style of Chinese diplomacy particularly attracted attention.
- **Relevance:** GS II: International Relations
- **Dimensions of the Article:**
- 1. Wolf warrior diplomacy

- 2. Need for wolf warrior diplomacy
- 3. What does this look like in practice?

### ***Wolf warrior diplomacy***

- A term that gained popularity, especially after Xi became President, “wolf warrior diplomacy” is a tactic for the Chinese government to extend its ideology beyond China and counter the West and defend itself.
- It is an unofficial term for the more aggressive and confrontational style of communication that Chinese diplomats have taken to in the last decade.
- A 2015 Chinese action film, titled ‘Wolf Warrior’, and its sequel have served as the inspiration for the term.
- The films, with their nationalist themes and dialogues, focus on Chinese fighters who frequently face off against Western mercenaries.

### ***Need for wolf warrior diplomacy***

- The change in strategy has been attributed to many reasons, such as Xi’s more authoritarian tendencies as compared to earlier leaders, deteriorating China relations under former US President Donald Trump, the coronavirus pandemic-related accusations on China, etc.
- According to Chinese officials, the move is simply about standing up to what they believe is Western interference.

### ***What does this look like in practice?***

- Some examples can be seen in the form of messaging on social media too, where Chinese officials are quick to counter any allegations by the West and proactively launch attacks.
- For instance, in 2021 Chinese government spokesperson Lijian Zhao tweeted a digitally modified photo of an Australian soldier killing a child, claiming the Australian army was killing children in Afghanistan. This led the Australian Prime Minister to announce he would seek an official apology, but China did not budge.
- But this is not limited to Western countries

### **India and UK Free Trade Agreement**

- **Context:**
- The India-U.K. Free Trade Agreement (FTA) may not be ready in time for its October-end deadline indicated both New Delhi and London, as India reacted sharply to British Home Secretary’s statement linking the FTA with migration issues and the U.K. government said “quality”, not “speed” would determine the FTA’s launch.

### ***Relevance:***

- GS II- International Relations

### ***Dimensions of the Article:***

- 1. What are Free Trade Agreements (FTAs)?
- 2. Benefits of India-UK FTA
- 3. Areas of cooperation between India and UK:
- 4. Issues in India-UK relations

### ***What are Free Trade Agreements (FTAs)?***

- Free Trade Agreements (FTAs) are the arrangements between two or more trading alliances that primarily agree to lessen or dispose of customs tariff and non-tariff barriers on substantial trade between them.

### ***Key features of Free Trade Agreements (FTAs) are as follows:***

- The member nations of FTAs explicitly identify the duties and tariffs that are to be imposed on member countries when it comes to imports and exports.



FTAs typically cover trades in

- o merchandise -- such as agricultural or industrial products
- o services -- such as banking, construction, trading and so forth
- o intellectual property rights (IPRs)
- o investment
- o government procurement
- o competition policy and so on.
- FTAs additionally, for the most part, provide criterion called the 'Rules of Origin (RoO)', required for the determination of product's country of origin for the imposition of the preferential tariff on International trade. Note: Rules of Origin (RoO) are enforced with the issuance of a Certificate of Origin (CoO) by authorized agencies of the trading partner.
- FTAs act as an exception to the Most Favoured Nation principle adopted by WTO (World Trade Organization).

#### ***Benefits of India-UK FTA:***

- The FTA negotiations with the UK is expected to increase our exports in Leather, Textile, Jewellery and processed Agri products.
- It also expected to register a quantum jump in the export of Marine Products through the recognition of 56 marine units of India.
- The Mutual Recognition Agreements (MRAs) on Pharma could provide additional market access.
- There is also great potential for increasing exports in service sectors like IT/ITES, Nursing, education, healthcare, including AYUSH and audio-visual services.
- Observing that UK was a major trade partner of India with substantial bilateral volume of trade in goods and services, the cooperation extended across areas like tourism, tech, startups, education, climate change, etc.
- The two nations were looking forward to a mutually beneficial trade deal with balanced concessions and market access package in a wide range of sectors.
- It will also contribute in integrating value chains and help augment our mutual efforts to strengthen the resilience of supply chains.

#### ***Areas of cooperation between India and UK:***

- **Institutionalised dialogues:** India and UK have a number of bilateral dialogue mechanisms in place, covering a wide spectrum of areas including political, trade, education, science & technology, defence etc.
- **Trade:** UK is among India's major trading partners and during the year 2014- 15, UK ranked 18th in the list of India's top 25 trading partners. India's main exports to the UK are garments and textiles, machinery and instruments, petroleum products, footwear and leather.
- **Services:** As per UK's Office for National Statistics, India-UK bilateral trade in services in the year 2014 amounted to approx. £2.5 billion.
- **Investment:** UK is the 3rd largest inward investor in India, after Mauritius, and Singapore with a cumulative equity investment of US \$22.56 billion.
- **Economic Dialogue:** Bilateral mechanisms like India-UK Economic & Financial Dialogue (EFD) and India-UK Joint Economic and Trade Committee (JETCO) form the basis of institutional engagements between the two countries.
- **Education:** Education is an important plank of the India-UK bilateral relationship. Over the last 10 years, the relationship has grown substantially with the introduction of bilateral mechanisms such as the India-UK Education Forum UK-India Education and Research Initiative (UKIERI).
- **Indian Students:** UK has traditionally been a favourite destination for international students. At present, there are approximately 20,000 Indian students pursuing Undergraduate and Postgraduate courses in the UK.

- **Cultural Linkages:** Cultural linkages between India and UK are deep and extensive, arising out of shared history between the two countries. There has been a gradual mainstreaming of Indian culture and absorption of Indian cuisine, cinema, languages, religion, philosophy, performing arts, etc.
- **Indian Diaspora:** The India Diaspora in UK is one of the largest ethnic minority communities in the country, with the 2011 census recording approximately 1.5 million people of Indian origin in the UK equating to almost 1.8 percent of the population and contributing 6% of the country's GDP.
- **Geopolitical Significance** - The Indian Ocean is identified as a vital arena for closer defence and security cooperation between the two countries. Further, India needs UK's support on international fora for its aim to have a permanent seat in UNSC and full membership of NSG.

### *Issues in India-UK relations*

- The UK does not have a government-to-government framework for arms sales to India, relying instead on commercial-led transactions.
- UK is an active participant in Belt and Road Initiative of China for which India raised sovereignty issues.
- Colonial hangover in public is affecting the policy makers of India to take decisions for close relations with UK.
- Brexit raises major issues for Indian business:
  - o Political uncertainty and oscillating business policy along with fluctuating market share and prospect.
  - o Restructuring to set up EU subsidiaries of Indian companies

### **International Solar Alliance**

**Focus:** GS II- International Relations

- **Why in News?**
- Union Minister for Power and New and Renewable Energy today unveiled the curtain raiser to the Fifth Assembly of the International Solar Alliance along with side events to be held in New Delhi from 17th - 20th October, 2022. India holds the office of the President of the ISA Assembly.

### **About International Solar Alliance (ISA)**

- The International Solar Alliance is an alliance of 121 countries initiated by India, most of them being sunshine countries, which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn.
- The primary objective of the alliance is to work for efficient consumption of solar energy to reduce dependence on fossil fuels.
- The initiative was launched by Prime Minister Narendra Modi at the India Africa Summit, and a meeting of member countries ahead of the 2015 United Nations Climate Change Conference in Paris in November 2015.
- The Headquarters of ISA is in Gurugram, Haryana, India.
- The Purpose of ISA is Bring together a group of nations to endorse clean energy, sustainable environment, public transport and climate
- The membership of ISA is applicable to all UN Members.
- The alliance is a treaty-based inter-governmental organization.
- Countries that do not fall within the Tropics can join the alliance and enjoy all benefits as other members, with the exception of voting rights.
- After the United Nations, it is the largest grouping of states world-wide.
- The framework agreement of the International Solar Alliance opened for signatures in Marrakech, Morocco in November 2016, and 200 countries have joined.

### **United Nations World Geospatial Information Congress**

- **Focus:** GS II: International Relations

### *Why in News?*

- Experts discussed how the Integrated Geospatial Information Framework (IGIF), which provide a basis for developing, integrating, strengthening, and maximizing geospatial information management in all countries, could help supporting sustainable development and the well-being of society as well as overcoming challenges of the global village like flood, earthquake, pandemic, energy, digital security and so on at the 2nd UN World Geospatial Information Congress.

### *What is UNWGIC?*

- In 2018, Deqing, Zhejiang Province, China hosted the inaugural World Geospatial Information Congress of the United Nations.
- The UNWGIC is organised **every four years by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM)**.
- It is hosted by the Ministry of Science and Technology of the Government of India.
- The goals are to improve global cooperation between Member States and pertinent stakeholders in the management and capabilities of geospatial information.
- The theme of UNWGIC 2022 is '**Geo-Enabling the Global Village: No one should be left behind**'.

### *Objectives of UNWGIC*

- The initiative intends to offer reliable and high-quality geospatial data to serve national and international policy goals.
- Additionally, it emphasises global coordination and cooperation in the creation of geospatially connected human data.
- It supports social growth and wellbeing, tackles environmental and climate change issues, and embraces technological advances.

### *Advantages of geospatial technology:*

- Geospatial technology can be used to create intelligent maps and models which help to collect geographically referenced data.
- Decisions based on the value and importance of resources, most of which are limited, can become easy through geospatial technology.
- Intelligent maps and models can be created using geospatial technology.
- It can be used to reveal spatial patterns hidden in large amounts of data that are complex to access collectively through mapping.

### *The IMF's Economic Report*

#### *Context*

- The International Monetary Fund's most recent World Economic Outlook report reduced India's economic growth forecast for 2022 to 6.8%. This is a significant decrease from its previous forecast of 7.4% issued in July 2022.

#### *Relevance*

- GS Paper 2: **Important** International institutions, agencies and fora- their structure, mandate.

### *Mains Question*

- What are the main criticisms of the World Bank and the IMF? Discuss. (150 Words)

### *Concerning the World Economic Outlook*

- The World Economic Outlook (WEO) is a survey report published twice a year by the International Monetary Fund.

- The report analyses and forecasts economic developments and policies in IMF member countries.
- The report summarises the state of the global economy and highlights risks and uncertainties that could jeopardise growth.
- The IMF conducts surveys of economists and other experts twice a year to publish the WEO report, in April and October.

#### ***Summary of Recent Events:***

- In its October edition of the World Economic Outlook report, the IMF reduced India's growth forecast to 6.8% in 2022.
- This is due to a weaker-than-expected second-quarter output and more subdued external demand.
- India is expected to grow at a 6.1% annual rate in 2023.

#### ***The IMF's Growth Forecast***

- IMF has reduced its forecast for global growth from 6.0 percent in 2021 to 3.2 percent in 2022 and 2.7 percent in 2023. With the exception of the 2008 global financial crisis and the sharp drop immediately following the Covid-19 pandemic in 2020, this is the world's weakest growth profile since 2001.
- Global inflation is now expected to peak at 9.5 percent in late 2022, according to the IMF.
- It is expected to remain elevated for longer than previously anticipated, declining to 4.1% only by 2024.

#### ***What does this mean for India?***

- At first glance, India appears to be in a better position. India's GDP growth rate is higher, and inflation (7.41% in September 2022) is lower. However, India is only just emerging from the contraction caused by the Covid-19 pandemic in 2020.
- According to the World Bank, the country had the most people (5.6 crore) living in poverty in 2020.
- India faces four major challenges that are impeding her growth trajectory:
- Higher crude oil and fertiliser prices will drive up domestic inflation; a global slowdown will hurt exports, dragging down domestic growth and worsening the trade deficit; a strong dollar will put pressure on the rupee's exchange rate, reducing its forex reserves and capacity to import goods when times get tough; and
- Given the low demand among most Indians, the government may be forced to spend more on providing basic services.

## **DESPITE US PRESSURE, OPEC+ AGREES TO SIGNIFICANT CUTS IN OIL PRODUCTION**

#### ***Context***

- At a recent meeting in Vienna, OPEC+ agreed to the deepest cuts in oil production since the 2020 COVID pandemic.

#### ***Relevance***

- **GS Paper 2:** Important International institutions, agencies and fora, their structure, mandate.

#### ***Mains Question***

- How do organizations like OPEC influence global oil prices? Discuss. (150 Words) ***Petroleum Exporting Countries Organization (OPEC)***
- Founded in 1960 by founding members Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela, OPEC has since grown to 13 members.
- With the addition of 11 additional allied major oil-producing countries, including Russia, the organisation is known as OPEC+.
- OPEC+ is a group of 24 oil-producing countries.



- The OPEC+ format was established in 2017 with an agreement to coordinate oil production among countries in order to stabilise prices.
- The OPEC bloc is nominally led by Saudi Arabia, the group's largest oil producer, with Russia being the largest non-OPEC player.

### *Objective*

- To coordinate and unify the petroleum policies of its Member Countries;
- To ensure the stability of oil markets;
- To ensure an efficient, economical, and consistent supply of petroleum to consumers, as well as a consistent income to producers To ensure a reasonable return on investment for those who invest in the petroleum industry.

### *Significance*

- According to 2018 estimates, the OPEC bloc accounts for roughly 40% of the world's crude oil and 80% of the world's oil reserves.
- They usually meet once a month to decide how much oil each member country will produce.
- However, many claim that OPEC acts like a cartel, determining oil supply and influencing its price on the global market.
- The Organization of Petroleum Exporting Countries (OPEC) and its allies, known as OPEC+, decided to cut oil production by 2 million barrels per day, the largest cut since the beginning of the Covid-19 pandemic.

### *Reason for production cutbacks*

- Oil prices skyrocketed following Russia's invasion of Ukraine in February, but have since begun to fall in recent months.
- In September 2022, it fell to \$90 due to fears of a European recession and reduced demand from China as a result of its lockdown measures.
- OPEC+ members are concerned that a weakening global economy will reduce demand for oil, and the cuts are seen as a means of protecting profits.
- Experts have also suggested that Russia may be influencing OPEC in order to make oil more expensive for the West.
- The rise in oil prices will make it more difficult for Europe to carry out its sanctions against Russia in December.

### *Impact*

- Impact on the EU's plan to impose a price cap on Russian oil o The European Union recently announced its intention to impose a price cap on Russian oil exports.
- According to the plan, countries will be allowed to purchase Russian oil and petroleum products transported by sea that are sold at or below the price cap. o However, the recent decision to reduce supply is likely to keep global oil prices high, allowing Russia to continue aiming for significant revenue from its crude export.
- Energy weaponization o The West has accused Russia of weaponizing energy, causing a crisis in Europe that could lead to gas and electricity rationing this winter.
- In retaliation for the February invasion of Ukraine, Moscow accuses the West of weaponizing the dollar and financial systems such as SWIFT.

### **United Nations Security Council's (UNSC) 1267**

#### *Context:*

- Recently, China placed a "hold" on two joint India-US proposals, to designate Lashkar-e- Taiba (LeT) top leaders at the United Nations Security Council's (UNSC) 1267 list of terrorists affiliated to Al Qaeda and ISIS.
- **Relevance:** GS II: International Relations

*Dimensions of the Article:*

- 1. History of the Resolution 1267 (1999)
- 2. About United Nations Security Council

*History of the Resolution 1267 (1999)*

- In 1999, the UNSC Committee was established pursuant to Resolution 1267 (1999), which imposed a limited air embargo and asset freeze on the Taliban.
- Over time, measures became a targeted asset freeze, travel ban and arms embargo against designated individuals and entities.
- In June 2011, after the adoption of resolution 1988 (2011), the Committee split into two.
- The 1267 Committee was henceforth known as the Al-Qaida Sanctions Committee, mandated to oversee implementation of the measures against individuals and entities associated with Al-Qaida.
- A separate Committee was established pursuant to resolution 1988 (2011) to oversee implementation of the measures against individuals and entities associated with the Taliban.

*United Nations Security Council*

- The Security Council is one of the six main organs of the United Nations.
- The Permanent Residence of UNSC in the UN Headquarters New York City, USA.
- Its primary responsibility is the maintenance of international peace and security.
- While other organs of the United Nations make recommendations to member states, only the Security Council has the power to make decisions that member states are then obligated to implement under the Charter- Hence, it is the only body of the UN with the authority to issue binding resolutions to member states.
- Resolutions of the Security Council are typically enforced by UN peacekeepers, military forces voluntarily provided by member states and funded independently of the main UN budget.

*Membership*

- It has 15 Members (5 as Permanent Members and 10 as Non- Permanent Members), and each Member has one vote.
- The Five permanent members are: **China, France, Russian Federation, the United Kingdom, and the United States.**
- Each of the Permanent Members has Veto Power over every decision of UNSC.
- The Ten non-permanent members are Elected for two-year terms by the General Assembly.
- Each year, the General Assembly elects five non-permanent members (out of ten in total) for a two-year term. The ten non-permanent seats are distributed on a regional basis.
- As per the rules of procedure, a retiring member is not eligible for immediate re-election and the election is held by secret ballot and there are no nominations.
- The presidency of the Council rotates monthly, going alphabetically among member states.

*Functions and Powers of UNSC*

- Under the United Nations Charter, the functions and powers of the Security Council are:
- to maintain international peace and security in accordance with the principles and purposes of the United Nations;
- to investigate any dispute or situation which might lead to international friction;
- to recommend methods of adjusting such disputes or the terms of settlement;
- to formulate plans for the establishment of a system to regulate armaments;
- to determine the existence of a threat to the peace or act of aggression and to recommend what action should be taken;
- to call on Members to apply economic sanctions and other measures not involving the use of force to prevent or stop aggression;

- to take military action against an aggressor;
- to recommend the admission of new Members;
- to exercise the trusteeship functions of the United Nations in “strategic areas”;
- to recommend to the General Assembly the appointment of the Secretary-General and, together with the Assembly, to elect the Judges of the International Court of Justice.

## INDIAN ECONOMY

### Global Multidimensional Poverty Index

- **Context:**
- About 41.5 crore people exited poverty in India during the 15-year period between 2005-06 and 2019-21, out of which two-third exited in the first 10 years, and one-third in the next five years, according to the global Multidimensional Poverty Index (MPI).

#### **Relevance:**

- GS III: Indian Economy (Growth and Development)

#### **Dimensions of the article:**

- 1. What is multidimensional poverty?
- 2. Multidimensional Poverty Index (MPI)
- 3. Global Multidimensional Poverty Index (MPI)
- 4. Highlights of the Report

#### **What is multidimensional poverty?**

- Multidimensional poverty refers to the multiple deprivations that poor people face on a daily basis, such as poor health, a lack of education, insufficient living standards, disempowerment, low employment quality, the fear of violence, and living in ecologically hazardous places, to name a few.
- In order to formulate policies aiming at alleviating poverty and hardship in a nation, a multidimensional measure of poverty might include a variety of indicators that represent the complexity of this phenomenon.

#### **Multidimensional Poverty Index (MPI)**

- Multidimensional Poverty Indices use a range of indicators to calculate a summary poverty figure for a given population, in which a larger figure indicates a higher level of poverty.
- This figure considers both the proportion of the population that is deemed poor, and the 'breadth' of poverty experienced by these 'poor' households, following the **Alkire & Foster 'counting method'**.

#### **The Alkire-Foster 'counting method'**

- The Alkire-Foster (AF) method is a way of measuring multidimensional poverty developed by OPHI, which involves counting the different types of deprivation that individuals experience at the same time, such as a lack of education or employment, or poor health or living standards.

#### **Positives and Criticism**

- MPI advocates state that the method can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban/rural location, as well as other key household and community characteristics.
- MPIs are useful as an analytical tool to identify the most vulnerable people - the poorest among the poor, revealing poverty patterns within countries and over time, enabling policy makers to target resources and design policies more effectively.

- Critics of this methodology have pointed out that changes to cut-offs and thresholds, as well as the indicators included and weightings attributed to them can change MPI scores and the resulting poverty evaluation.

### *Global Multidimensional Poverty Index (MPI)*

- The Global Multidimensional Poverty Index (MPI) was developed in **2010 by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme** and uses health, education and standard of living indicators to determine the incidence and intensity of poverty experienced by a population.
- The Global MPI is released **Annually by UNDP and OPHI and the results published in their websites.**
- The index is released at the High-Level Political Forum (HLPF) on Sustainable Development of the United Nations.

### *Parameters*

- Global MPI is computed by assigning scores for each surveyed household on 10 parameters.
- Nutrition,
- Child mortality,
- Years of schooling,
- School attendance,
- Cooking fuel,
- Sanitation,
- Drinking water,
- Electricity,
- Housing,
- Household assets.

### *Highlights of the Report:*

- The incidence of poverty **fell from 55.1% in 2005-06 to 16.4% in 2019-21** in the country and that deprivations in all 10 MPI indicators saw significant reductions as a result of which the MPI value and incidence of poverty more than halved.
- Improvement in MPI for India has significantly contributed to the decline in poverty in South Asia and it is for the first time that it is not the region with the highest number of poor people, at 38.5 crore, compared with 57.9 crore in Sub-Saharan Africa.
- The report doesn't fully assess the effects of the COVID-19 pandemic on poverty in India as 71% of the data from the National Family Health Survey-5 (2019-2021) relied upon for MPI were collected before the pandemic.
- **Bihar, the poorest State in 2015-2016, saw the fastest reduction in MPI value in absolute terms.**
- The incidence of poverty there fell from 77.4% in 2005-2006 to 34.7% in 2019-2021.
- Despite the strides made, the report notes that the ongoing task of ending poverty remains daunting.
- **India has by far the largest number of poor people worldwide at 22.8 crore, followed by Nigeria at 9.6 crore.**
- Two-third of these people live in a household in which at least one person is deprived in nutrition.
- There were also 9.7 crore poor children in India in 2019-2021 — more than the total number of poor people, children and adults combined, in any other country covered by the global MPI.

### **Digital Banking Units**

**Focus:** GS III: Indian Economy

- **Why in News?**
- Recently, the Prime Minister of India has dedicated 75 Digital Banking Units (DBU) across 75 districts to the nation.



### *About Digital Banking Units*

- A digital banking unit is a specialized fixed point business unit or hub, housing a certain minimum digital infrastructure for delivering digital banking products and services.
- It aims at servicing existing financial products and services digitally in selfservice mode at any time.
- The RBI has announced the guidelines for DBUs, following the report of a working group of the **Indian Banks Association (IBA)**.
- Services: Opening of savings account, balance-check, print passbook, transfer of funds, investment in fixed deposits, loan applications, stop-payment instructions for cheques issued, application for credit / debit cards, view statement of account, pay taxes, pay bills, make nominations, etc.
- The DBUs will also facilitate onboarding to Government credit link schemes through the Jan Samarth portal and end-to-end digital processing of small ticket MSME/retail loans.

### *Benefits:*

- The DBUs will enable those who do not have Information and Communications Technology (ICT) infrastructure to access banking services digitally.
- They will also assist those who are not tech savvy to adopt digital banking.

### **Credit Guarantee Scheme for Startups**

- **Focus:** GS III: Indian Economy

### *Why in News?*

- Recently, the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry has notified the credit guarantee scheme for start-ups.

### *About Credit Guarantee Scheme for Startups (CGSS)*

- The program's goal is to provide credit guarantees for loans made by Member Institutions (MIs) to qualified borrowers who are startups.
- Financial intermediaries (banks, financial institutions, and nonbanking financial companies) that participate in lending or investing and meet the eligibility requirements outlined in the Scheme are considered MIs.
- This plan would aid in supplying start-ups with the crucial debt financing without the use of any collateral.
- The Scheme would provide transaction-based and umbrella-based credit guarantee coverage.
- The maximum exposure to any one instance would be Rs. 10 crore, or the actual amount of unpaid credit, whichever is smaller.
- In respect of transaction-based guarantee cover, the guarantee cover is obtained by the MIs on a single eligible borrower basis.
- Transaction based guarantees will promote lending by Banks/ NBFCs to eligible startups.
- The umbrella-based guarantee cover will provide guarantee to Venture Debt Funds (VDF) registered under Alternative Investment Funds (AIF) regulations of Securities and Exchange Board of India (SEBI) .

### *Aim:*

- To assist businesses who have been severely harmed by the pandemic and will now suffer even more from the rising interest rate environment, when it is unlikely that new business owners will have easy access to capital.

### **Decline in Forex Reserves**

- **Context**
- According to the Reserve Bank of India (RBI), India's forex reserves have fallen by USD 110 billion in the last 13 months.

**Relevance:**

- GS III: Indian Economy

**Dimensions of the Article:**

- 1. What are forex reserves?
- 2. What does the RBI do with the forex reserves?
- 3. Current Scenario
- 4. Causes of Declining Forex Reserves

**What are forex reserves?**

- Forex reserves are external assets in the form of gold, SDRs (special drawing rights of the IMF) and foreign currency assets (capital inflows to the capital markets, FDI and external commercial borrowings) accumulated by India and controlled by the Reserve Bank of India.
- The International Monetary Fund says official foreign exchange reserves are held in support of a range of objectives like supporting and maintaining confidence in the policies for monetary and exchange rate management including the capacity to intervene in support of the national or union currency.
- It will also limit external vulnerability by maintaining foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed.

**What does the RBI do with the forex reserves?**

- The Reserve Bank functions as the **custodian and manager of forex reserves**, and operates within the overall policy framework agreed upon with the government.
- The RBI allocates the dollars for specific purposes.
- For example, under the Liberalised Remittances Scheme, individuals are allowed to remit up to \$250,000 every year.
- The RBI uses its forex kitty for the orderly movement of the rupee.
- It sells the dollar when the rupee weakens and buys the dollar when the rupee strengthens.

**Where are India's forex reserves kept?**

- The **RBI Act, 1934** provides the overarching legal framework for deployment of reserves in different foreign currency assets and gold within the broad parameters of currencies, instruments, issuers and counterparties.
- As much as 64 per cent of the foreign currency reserves are held in securities like Treasury bills of foreign countries, mainly the US, 28 per cent is deposited in foreign central banks and 7.4 per cent is also deposited in commercial banks abroad, according to the RBI data.

**Current Scenario:**

- Since September 2021, when they reached a record high of USD 642.45 billion, India's foreign exchange reserves have decreased by USD 110 billion.
- It should be remembered that the Indian rupee is a freely floating currency, and that the market determines its exchange rate. There is no set exchange rate set by the RBI.
- India has performed significantly better than several reserve currencies, EMEs (emerging market economies), and its Asian competitors despite this sharp decrease.

**Causes of Declining Forex Reserves**

- The central bank has been **selling dollars from the forex reserves to support the rupee** amid pressures caused majorly by global developments.
- The intervention is needed to curb the free fall of the rupee and reduce volatility in the market.
- **Capital outflows by foreign portfolio investors (FPIs)** as the US Federal Reserve started the monetary policy tightening and interest rate hikes.

- FPIs have begun to withdraw from the Indian markets. These FPIs were sellers in financial and IT services and buyers in telecom and capital goods.
- The **valuation loss**, reflecting the appreciation of the US dollar against major currencies and the decline in gold prices also played a part in the decrease in foreign exchange reserves.
- About 67% of the decline in reserves during the current financial year was due to valuation changes arising from an appreciating US dollar and higher US bond yields

### Tokenisation for credit and debit card transactions

#### *Context:*

- Recently, the Reserve Bank of India's card-on-file (CoF) tokenisation norms have kicked in, which aim at improved safety and security of card transactions.

#### *Relevance:*

- GS-III: Indian Economy (Growth and Development of Indian Economy, Mobilization of Resources, Financial Inclusion, Banking Sector)

#### *Dimensions of the Article:*

- 1. What is Tokenisation and what are RBI's guidelines?
- 2. How will tokenisation work?
- 3. Who can offer tokenisation services?
- 4. What do customers gain from tokenisation?

#### *What is Tokenisation and what are RBI's guidelines?*

- Tokenisation means replacement of actual card details with an alternate **code dubbed as "token"**.
- The token will be unique for a combination of card, token requestor and device.
- This token is used to do card transactions in contactless mode at point-of-sale terminals, code payments and quick response.
- A tokenised card transaction is considered safer as the actual card details are not shared with the merchant during transaction processing.
- Customers who do not have the tokenisation facility will have to key in their name, 16-digit card number, expiry date and CVV each time they order something online.
- RBI had issued new guidelines in September 2021. Under the guidelines, merchants will not be able to store customers' card data in their servers.
- It prohibited merchants from storing customer card details as well as mandated for the adoption of card-on-file (CoF) tokenisation as an alternative to card storage.

#### *Card-on-File (CoF)*

- In CoF transaction, cardholder authorises a merchant to store his/her Mastercard or Visa payment details. The cardholder then authorises same merchant to bill the stored Mastercard or Visa account.
- E-commerce companies and airlines and supermarket chains normally store card details in their system.

#### *How will tokenisation work?*

- A debit or credit card holder can get the card tokenised by initiating a request on the app provided by the token requester.
- The token requester will forward the request to the card network which, with the consent of the card issuer, will issue a token corresponding to the combination of the card, the token requester, and the device.
- The customer will not be charged for availing the tokenisation service.
- Earlier, the facility for card tokenisation was available only for mobile phones and tablets of interested card holders.

- Subsequently, with an uptick in tokenisation volume, the RBI decided to extend the scope of tokenisation to include consumer devices – laptops, desktops, wearables (wrist watches, bands, etc.) and Internet of Things (IoT) devices.

#### *Who can offer tokenisation services?*

- Tokenisation can be performed **only by the authorised card network** and recovery of original Primary Account Number (PAN) should be feasible for the authorised card network only.
- Adequate safeguards have to be put in place to ensure that PAN cannot be found out from the token and vice versa, by anyone except the card network. RBI has emphasised that the integrity of the token generation process has to be ensured at all times.

#### *What do customers gain from tokenisation?*

- A tokenised card transaction is considered safer as the actual card details are not shared with the merchant during transaction processing.
- Actual card data, token and other relevant details are stored in a secure mode by the authorised card networks.
- The token requestor cannot store Primary Account Number (PAN), or any other card details.
- Card networks are also mandated to get the token requestor certified for safety and security that conform to international best practices/globally accepted standards.

### **Small Savings Schemes**

#### *Context:*

- The interest rate on small savings schemes has not been revised since the first quarter of 2020-21.
- The Centre has announced increases of 0.1-0.3 percentage points in interest rates payable on five small savings instruments (SSIs) marking the first increase in small savings rates since January 2019.

#### *Relevance:*

- GS III- Indian Economy

#### *Dimensions of the Article:*

- 1. About Small Saving Schemes/Instruments
- 2. What are the different saving schemes?

#### *About Small Saving Schemes/Instruments*

- They consist of 12 instruments and are the main source of household savings in India.
- Depositors receive a guaranteed interest rate on their funds.
- They are popular as they provide returns higher than bank fixed deposits, sovereign guarantee and tax benefits.
- The National Small Savings Fund receives payments from all small savings instruments (NSSF).
- Small savings have become a crucial source of funding the government deficit, particularly when the Covid-19 outbreak caused the deficit to inflate and further borrowing became necessary.

#### *Determination of Rates:*

- Interest rates on small savings schemes are reset on a quarterly basis, in line with the movement in benchmark government bonds of similar maturity. The rates are reviewed periodically by the Ministry of Finance.
- The Shyamala Gopinath panel (2010) constituted on the Small Saving Scheme had suggested a market-linked interest rate system for small savings schemes.

#### *What are the different saving schemes?*



- **Small savings instruments can be classified under three heads:**
- **Postal Deposits** (comprising savings account, recurring deposits, time deposits of varying maturities and monthly income scheme). **Savings Certificates:** National Small Savings Certificate (NSC) and Kisan Vikas Patra (KVP).
- **Social Security Schemes:** Sukanya Samridhi Scheme, Public Provident Fund (PPF) and Senior Citizens' Savings Scheme (SCSS).

## 70 million plunged into poverty in 2020: World Bank

### Context:

- According to a new World Bank report, titled "**Poverty and Shared Prosperity 2022: Correcting Course**", the Covid pandemic has been the biggest setback to global poverty alleviation in decades.

### Relevance:

- GS III: Indian Economy

### Dimensions of the Article:

- 1. Highlights of the report
- 2. What about India's poverty levels?
- 3. What are the suggested solutions?

### Highlights of the report:

- The report states that global poverty reduction has been slowing down since 2015 but the **Covid pandemic and the war in Ukraine have completely reversed the outcomes.**
- By 2015, the global extreme-poverty rate had been cut by more than half. Since then, poverty reduction has slowed in tandem with subdued global economic growth.
- As such, the **global goal of ending extreme poverty by 2030 would not be achieved.**
- In 2020 alone, the number of people living below the extreme **poverty line rose by over 70 million; the largest one-year increase since global poverty monitoring began in 1990.**
- As a result, an estimated 719 million people subsisted on less than \$2.15 a day by the end of 2020.
- Inequalities, too, have risen. The poorest people bore the steepest costs of the pandemic: income losses averaged 4 per cent for the poorest 40 per cent, double the losses of the wealthiest 20 per cent of the income distribution.
- **Global inequality rose**, as a result, for the first time in decades.
- **Global median income declined by 4 per cent in 2020**—the first decline since measurements of median income began in 1990.

### What about India's poverty levels?

- Poverty has gone up in India too.
- Previous estimates suggested a poverty headcount rate at the US\$1.90 poverty line of 10.4 percent in 2017.
- The latest estimate based on Sinha Roy and van der Weide (2022) shows that poverty at the US\$1.90 poverty line was 13.6 percent in 2017.
- However, the report uses data from **Centre for Monitoring Indian Economy (CMIE)**, because there are no official estimates of poverty available since 2011.
- It could not have left India out of the poverty estimates simply because India is one of the countries with the biggest poor population.
- It states that given the country's size and importance for global and regional poverty estimates, the CMIE data helps fill an important gap.

### What are the suggested solutions?

- Fiscal policy—prudently used and considering the initial country conditions in terms of fiscal space—does offer opportunities for policy makers in developing economies to step up the fight against poverty and inequality.
- The World Bank has three specific suggestions when it comes to fiscal policy.
- Choose targeted cash transfers instead of broad subsidies.
- Prioritize public spending for long-term growth.
- Mobilize tax revenues without hurting the poor.
- To be sure, the average poverty rate in developing economies would have been 2.4 percentage points higher without a fiscal response.
- Yet government spending proved far more beneficial to poverty reduction in the wealthiest countries, which generally managed to fully offset Covid-19's impact on poverty through fiscal policy and other emergency support measures.
- Developing economies had fewer resources and therefore spent less and achieved less: upper-middle-income economies offset just 50 per cent of the poverty impact, and low- and lower-middle income economies offset barely a quarter of the impact.

### India Post Payments Bank

- Focus: GS III- Indian Economy

#### Why in News?

- India Post Payments Bank (IPPB) and Reserve Bank Innovation Hub (RBIH) have come together to focus their efforts on enhancing the reach of financial solutions to large sections of society across India and enabling frictionless finance to a billion Indians.

#### Details:

- The collaboration between IPPB and RBIH will explore projects which shall have impact on the masses by:
- Leveraging the deep rural reach of IPPB-Department of Posts (DoP) to take Rural Finance to a billion Indians.
- Enabling access to sustainable and secure finance services to every segment of the society, through research and innovation.
- Additionally, IPPB shall be an active participant and partner with RBIH on initiatives of national importance led by RBIH

#### About India Post Payments Bank (IPPB)

- The India Post Payments Bank is a public sector payments bank from India operated by the India Post.
- The India Post Payment Bank (IPPB) was setup under the Department of Post, Ministry of Communication with 100% equity Owned by Government of India.
- The India Post Payments Bank (IPPB) will be like any other banks but its operations will be on a smaller scale without involving any credit risk.
- It will carry out most banking operations like accepting deposits but won't advance loans or issue credit cards.
- Motto: "Every customer is important, every transaction is significant and every deposit is valuable".
- Vision: "Building the most accessible, affordable and trusted bank for the common man".
- Mission: "Spearheading financial inclusion by removing barriers and reducing costs for accessing banking services".
- The IPPB has been integrated with Post Office Savings Bank (POSB).
- The IPPB is the sixth Payments bank, which has become operational after Aditya Birla, Airtel, Fino, Jio and Paytm Payments Banks.

- The freshly-minted payments bank will accept deposits of up to Rs. 1 lakh, offer remittance services, mobile payments/transfers/purchases and other banking services like ATM/debit cards, net banking and third-party fund transfers.
- The Payments bank are licensed under Section 23 of the Banking Regulation Act 1949, and registered as public limited company under the Companies Act, 2013.

## Geographical Indication (GI) tag

### *Context:*

- The Embassy of Japan, New Delhi, has filed an application seeking Geographical Indication (GI) tag for nihonshu/Japanese sake, an alcoholic beverage.
- It is learnt that this is the first time a product from Japan has filed for a tag at the Geographical Indication Registry in Chennai.

### *Relevance:*

- GS III: Indian Economy

### *Dimensions of the Article:*

- 1. About Nihonshu/Japanese sake
- 2. About GI Tag

### *About Nihonshu/Japanese sake:*

- Nihonshu is regarded as a special and valuable beverage made from fermenting rice.
- People traditionally drink nihonshu on special occasions, such as festivals, weddings or funerals, but it is also consumed on a daily basis.
- Thus, it is an integral part of the lifestyle and culture in Japan.
- The sake market (almost all are nihonshu) is the second largest brewed liquor (such as beer) market in Japan.

### *Process:*

- For making nihonshu three main raw materials – rice, koji-kin (a type of fungal spore) and water – are required.
- The production of nihonshu follows an alcoholic fermentation method called parallel multiple fermentation and involves raw material treatment, koji making, starter culture making, mash making, pressing, heat sterilisation and bottling.
- The rice and koji used should originate in Japan.

### *Other details:*

- The Embassy of Japan, in the filing, also mentioned that in the past, the economy of Japan was based around rice, which was used as a sort of quasimoney before the establishment of a monetary economy in the Meiji period (1869-1912).
- As a result, nihonshu production was thoroughly under the government's control.
- As nihonshu's production became more industrialised in the Edo period (1603-1868), those who had special licences began hiring many farmers in the agricultural off-season.
- They gradually won a reputation as craftsmen, which resulted in the establishment of the hierarchical Toii system (Toii is the person responsible for sake brewing), likened to an apprenticeship or guild system.

### *About GI Tag* Geographical Indications of Goods are defined as that aspect of industrial

- property which refer to the geographical indication referring to a country or to a place situated therein as being the country or place of origin of that product.

- Typically, such a name conveys an assurance of quality and distinctiveness which is essentially attributable to the fact of its origin in that defined geographical locality, region or country.
- Geographical Indications are covered as a component of intellectual property rights (IPRs) under the Paris Convention for the Protection of Industrial Property.
- GI is also governed by the **World Trade Organization's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- In India, Geographical Indications registration is administered by the Geographical Indications of Goods (Registration and Protection) Act, 1999 which came into force with effect from September 2003, this tag is issued by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade (DIPIT), Ministry of Commerce and Industry.
- The first product in India to be accorded with GI tag was Darjeeling tea in the year 2004-05.
- The registration of a geographical indication is valid for a period of 10 years.
- It can be renewed from time to time for further period of 10 years each.
- The Geographical Indications Registry would be located at Chennai.
- Any association of persons, producers, organisation or authority established by or under the law can be a registered proprietor.
- Their name should be entered in the Register of Geographical Indication as registered proprietor for the Geographical Indication applied for.
- Karnataka has the highest number of GI tags i.e. 47 products followed by Tamil Nadu (39).

### The HDI Report From Fact Lens

- According to the most recent Human Development Index (HDI) reading released by UNDP, India is ranked 132. The article examines the flaws in the HDI number computation methodology and suggests future corrections.

### Relevance

- **GS Paper 3:** Economy: Human Development

### Mains Question

- Despite consistent high growth, India continues to have the lowest indicators of human development. Investigate the issues that make balanced and inclusive development difficult to achieve. (250 words)

### The latest HDI report's findings (2021)

- The most recent HDI is included in the Human Development Report 2021-2022.
- India's Human Development Index ranking fell from 130 in 2020 to 132 in 2021.
- India's ranking has not improved in the last two decades.
- The country's latest HDI value (index score) of 0.633 places it in the medium human development category, down from 0.645 in the 2020 report.
- It is less than the global average of 0.732.
- The country's performance has declined from its previous level due to a drop in life expectancy from 69.7 years in 2020 to 67.2 years in 2021.
- India's expected schooling years are now 9 years, down from 12.2 years in the 2020 report.
- The average number of years of schooling has increased to 6.7 years from 6.5 years in the new report.
- The per capita Gross National Income (GNI) is \$6,590.

### Global findings

- Switzerland has topped the index.
- In 2020 or 2021, 90% of countries saw a decrease in their HDI value.
- A significant contributor to the HDI's recent decline is a global decline in life expectancy, which has fallen from 72.8 years in 2019 to 71.4 years in 2021.



**Concerning HDI**

- Definition: The HDI is a statistical tool developed by the United Nations Development Programme to assess a country's overall achievement in its social and economic dimensions (UNDP).
- After national income statistics, it is the second most widely used indicator for measuring economic progress (GDP).

HDI has three components, which are as follows:

- Life expectancy at birth as a measure of health;
- Education, as measured by a combination of mean and expected years of schooling; and
- Income as measured by per capita gross national income (at purchasing power parity)
- Calculation: The final score is calculated as the geometric mean of the three categories listed above.

**Calculation error**

- Estimation of life expectancy: Life expectancy at birth refers to the average number of years that a newborn can expect to live.
- From 2019 to 2021, the estimate for India was reduced by 3.67 years (70.9 years to 67.2 years).
- Pandemic induced: The UN agency claims that this cut reflects Covid-related mortality, but three serious flaws in their estimate have been discovered:
- Misconception: It is a conceptual error to reduce life expectancy at birth because, according to overwhelming evidence, the Covid-19 virus only kills adults.
- In effect, the UN stated that Covid-19 will have the same impact on today's newborns in 20 years as it did in 2020-21. However, without any evidence, this is a failed assumption.
- Gathering WHO data: UNDP has adjusted India's mortality rates for "excess deaths" estimated by WHO from Covid-19.
- According to WHO, India had approximately 7 million unreported excess deaths from Covid, accounting for nearly one-third of the global total.
- The Indian government had previously objected to the WHO estimates, citing flaws in their methodology such as the use of media reports and the use of parameters such as test positivity rate, which varied greatly across the country.
- Despite this, UNDP continued to use WHO excess death figures in their HDI calculation.
- "Excess deaths" are defined as the difference between the total number of deaths and the number of deaths that would have been expected if the pandemic had not occurred, i.e. a no-COVID-19 scenario.
- Incorrect picture: Even after accounting for WHO's flawed data, the UNDP's reduction of 3.67 years in India's life expectancy is not justified.
- Excess deaths of 4.7 million were added to the registered numbers, resulting in 375 deaths per lakh population in India.
- This is still lower than in the United States (589), the United Kingdom (505), Italy (570), Brazil (640), and other countries.
- Despite this, life expectancy in the United States is 1.94 years, in the United Kingdom it is 0.98 years, in Italy it is 0.70 years, and in Brazil it is 2.77 years, all of which are significantly lower than in India.
- As a result, a series of "adjustments" skewed the Indian data in the HDI index.

**The burden of proof**

- It should be acknowledged that external agencies are not always to blame.
- Inadequate updating: Government departments frequently fail to update numbers in time for international surveys.
- In the case of HDI, the data for expected school years were not published until after the deadline. As a result, UNDP relied on data from the previous year.

- Anti-India bias: However, the poor quality of Indian data is no excuse for these findings, as similar gaps were discovered in data for most of the countries ranked higher than India, where similar adjustments are not made.

### *The way forward*

- Timely disclosure: As a first step, Indian government departments must publish data for important indices on time.
- While India's fiscal year is three months behind the calendar year, an advance estimate can be published and revised later (same as for GDP).
- Appropriate framework: Second, Indian agencies should go above and beyond simply providing raw data to external agencies by calculating the relevant indicator. This is not difficult because there are standard methodologies available.
- For example, every year, the Registrar General of India should publish an official estimate of life expectancy.
- This reduces the scope for external agency manipulation and shifts the burden of proof to them.
- Ongoing engagements: Because UNDP frequently uses official estimates for most countries, including developing countries, Indian government departments must engage with international indices and surveys proactively, both to provide timely data and to challenge inaccurate estimates where appropriate.

### **Pilot launch of E-Rupee**

- **Context:**
- The Reserve Bank of India (RBI) has indicated that it will soon commence limited pilot launches of e-rupee (e₹), or Central Bank Digital Currency (CBDC) or digital rupee, for specific use cases.

### **Relevance:**

- GS III: Indian Economy

### **Dimensions of the Article:**

- 1. What's RBI's plan?
- 2. What is E-rupee?
- 3. What are the forms of CBDC?
- 4. What's the model for issuance?
- 5. What are the advantages of e-rupee?
- 6. Can e-rupee be transacted in offline mode?

### **What's RBI's plan?**

- The central bank said that the development of CBDC could provide the public a risk-free virtual currency that will give them legitimate benefits without the risks of dealing in private virtual currencies.
- The approach for issuance of CBDC will be governed by two basic considerations —
- To create a digital rupee that is as close as possible to a paper currency
- To manage the process of introducing digital rupee in a seamless manner.

### **What is E-rupee?**

- E-rupee is the same as a fiat currency and is exchangeable one-to-one with the fiat currency.
- Only its form is different. It can be accepted as a medium of payment, legal tender and a safe store of value.
- The digital rupee would appear as liability on a central bank's balance sheet.

### **What are the types of e-rupee?**

- Based on the usage and the functions performed by the digital rupee and considering the different levels of accessibility, CBDC can be demarcated into two broad categories —

***Retail CBDC***

- It is an electronic version of cash primarily meant for retail transactions.
- It will be potentially available for use by all — private sector, non-financial consumers and businesses — and can provide access to safe money for payment and settlement as it is a direct liability of the central bank.
- However, the RBI has not explained how e-rupee can be used in merchant transactions in the retail trade.

***Wholesale CBDC***

- It is designed for restricted access to select financial institutions.
- It has the potential to transform the settlement systems for financial transactions undertaken by banks in the government securities (G-Sec) segment, inter-bank market and capital market more efficiently and securely in terms of operational costs, use of collateral and liquidity management.

***What are the forms of CBDC?***

- The central bank says e-rupee, or CBDC, can be structured as

***Token-based CBDC***

- It would be a bearer instrument like banknotes, meaning whosoever holds the tokens at a given point in time would be presumed to own them.
- In a token-based CBDC, the person receiving a token will verify that his ownership of the token is genuine.
- A token-based CBDC is viewed as a preferred mode for CBDC-R as it would be closer to physical cash.

***Account-based system***

- It would require maintenance of record of balances and transactions of all holders of the CBDC and indicate the ownership of the monetary balances.
- In this case, an intermediary will verify the identity of an account holder.
- This system can be considered for CBDC-W.

***What's the model for issuance?***

- There are two models for issuance and management of CBDCs under the RBI's consideration —

***Direct model (single tier model)***

- The central bank will be responsible for managing all aspects of the digital rupee system such as issuance, account-keeping and transaction verification.

***Indirect model (two-tier model).***

- An indirect model would be one where the central bank and other intermediaries (banks and any other service providers), each play their respective role.
- In this model, the central bank will issue CBDC to consumers indirectly through intermediaries and any claim by consumers will be managed by the intermediary.

***What are the advantages of e-rupee?***

- Reduction in operational costs involved in physical cash management,
- It will foster financial inclusion,
- It will bring resilience, efficiency and innovation in the payments system.
- It will add efficiency to the settlement system and boost innovation in crossborder payments space and provide the public with uses that any private virtual currencies can provide, without the associated risks.

***Can e-rupee be transacted in offline mode?***

- The offline functionality as an option will allow CBDC to be transacted without the internet and thus enable access in regions with poor or no internet connectivity.
- It will also create digital footprints of the unbanked population in the financial system, which will facilitate the easy availability of credit to them.
- However, the RBI feels in the offline mode, the risk of 'double-spending' will exist because it will be technically possible to use a CBDC unit more than once without updating the common ledger of CBDC.
- But it can be mitigated to a larger extent by technical solutions and appropriate business rules including monetary limits on offline transactions

## Strategic disinvestment of IDBI Bank

### *Context:*

- The government kicked off the process for the strategic disinvestment of IDBI Bank along with the transfer of management control, by issuing a preliminary information memorandum to invite expressions of interest from prospective buyers.

### *Relevance:*

- GS-III: Indian Economy (Growth and Development of Indian Economy, Fiscal Policy, Inclusive growth and issues therein, Budgeting)

### *Dimensions of the Article:*

- 1. What is Disinvestment?
- 2. What is Strategic Disinvestment?
- 3. Evolution of Disinvestment Policy in India
- 4. Privatization in 2019 and onwards
- 5. Issues related to Disinvestment
- 6. Significance of the disinvestment

### *What is Disinvestment?*

- Disinvestment or divestiture refers to the government selling or liquidating its assets or stakes in PSE (public sector enterprise).

### *What is Strategic Disinvestment?*

- Strategic Disinvestment refers to the sale of a public sector holding/undertaking to a non-government entity and in most cases, to the private sector. It is done so by the government in order to relieve itself the burden of maintaining a nonperforming public enterprise.
- Unlike the simple disinvestment, strategic sale implies a kind of privatization.
- The disinvestment commission defines strategic sale as the sale of a substantial portion of the Government shareholding of a central public sector enterprises (CPSE) of upto 50%, or such higher percentage as the competent authority may determine, along with transfer of management control.
- Strategic disinvestment in India has been guided by the basic economic principle that the government should not be in the business to engage itself in manufacturing/producing goods and services in sectors where competitive markets have come of age.
- The economic potential of such entities may be better discovered in the hands of the strategic investors due to various factors, e.g. infusion of capital, technology up-gradation and efficient management practices etc

### *Main objectives of Strategic Disinvestment in India*

- Meeting budgetary requirements
- Reduce fiscal burden
- Raise funds to finance growth and development projects
- Improve market competitiveness and discipline



- Transfer of commercial risks

### ***Evolution of Disinvestment Policy in India***

- The liberalization reforms undertaken in 1991 ushered in an increased demand for privatization/ disinvestment of PSUs.
- The new economic policy 1991 indicated that PSUs had shown a very negative rate of return on capital employed due to:
  - o Subsidized price policy of public sector undertakings.
  - o Under-utilization of capacity
  - o Problems related to planning and construction of projects.
  - o Problems of labour, personnel and management and lack of autonomy
- In the initial phase, this was done through the sale of a minority stake in bundles through auction. This was followed by a separate sale for each company in the following years, a method popularly adopted till 1999-2000.
- India adopted strategic sale as a policy measure in 1999-2000 with the sale of a substantial portion of government shareholding in identified Central PSEs (CPSEs) up to 50% or more, along with transfer of management control. This was started with the sale of 74 % of the Government's equity in Modern Food Industries Limited (MFIL).
- Thereafter, 12 PSUs (including four subsidiaries of PSUs), and 17 hotels of Indian Tourism Development Corporation (ITDC) were sold to private investors along with transfer of management control by the Government.
- Another major shift in disinvestment policy was made in 2004-05 when it was decided that the government may "dilute its equity and raise resources to meet the social needs of the people", a distinct departure from strategic sales.
- Department of Investment and Public Asset Management (DIPAM) has laid down comprehensive guidelines on "Capital Restructuring of CPSEs" in May 2016 by addressing various aspects, such as payment of dividends, buyback of shares, issues of bonus shares and splitting of shares.

### ***Privatization in 2019 and onwards***

- In November 2019, India launched its biggest privatization drive in more than a decade. An "in-principle" approval was accorded to reduce the government of India's paid-up share capital below 51% in select Central Public Sector Enterprises (CPSEs).
- Among the selected CPSEs, strategic disinvestment of the Government's shareholding of 53.29% in Bharat Petroleum Corporation Ltd (BPCL) was approved which led to an increase in value of shareholders' equity of BPCL by INR 33,000 crore when compared to its peer Hindustan Petroleum Corporation Limited (HPCL) and this reflects an increase in the overall value from anticipated gains from consequent improvements in the efficiency of BPCL when compared to HPCL which will continue to be under Government control.

### ***Issues related to Disinvestment***

- It is against the socialist ideology of equal distribution of resources amongst the population.
- It will lead to monopoly and oligopolistic practices by corporates.
- Proceedings of disinvestment had been used to cater the fiscal deficit of the state which would lead unhealthy fiscal consolidation.
- Private ownership does not guarantee the efficiency (Rangarajan Committee 1993).
- Disinvestment exercise had been done by undervaluation of public assets and favoritism bidding, thereby, leading to loss of public exchequers.
- Private ownership might overlook developmental region disparity in order to cut the cost of operation.

### ***Significance of the disinvestment***

- Trade unionism and political interference often lead to halting of PSUs projects thereby hampering the efficiency in long run.
- Problem of disguised unemployment and outdated skill in PSUs employee are the major cause of inefficiency.
- Private players work out of Red Taping bureaucratic mentality and focus on performance-driven culture and effectiveness (Disinvestment Commission 1996).
- More robust competitive bidding leads to competition in private sectors to participate in PSUs.
- Moreover, it ensuring that product service portfolio remains contemporary by developing/ acquiring technology.

## AGRICULTURE

### Minimum Support Price

#### *Context:*

- The Cabinet Committee on Economic Affairs chaired by Hon'ble Prime Minister has approved the increase in the Minimum Support Prices (MSP) for all mandated Rabi Crops for Marketing Season 2023-24.

#### *Relevance:*

- GS-III: Agriculture (Agriculture Pricing), GS-II: Social Justice (Welfare Schemes)

#### *Dimensions of the Article:*

- 1. What is Minimum Support Price (MSP)?
- 2. Why is there a need for MSP?
- 3. What are the issues related to MSP?

#### *What is Minimum Support Price (MSP)?*

- Minimum Support Price is the price at which government purchases crops from the farmers, whatever may be the price for the crops.
- MSPs have no statutory backing — a farmer cannot demand MSP as a matter of right.
- Commission for Agricultural Costs & Prices (CACP) in the Ministry of Agriculture recommends MSPs for 23 crops.
- CACP consider various factors while recommending the MSP for a commodity like cost of cultivation, supply and demand situation for the commodity; market price trends (domestic and global) and parity vis-à-vis other crops etc.
- MSP seeks to:
- Assured Value: To give guaranteed prices and assured market to the farmers and save them from the price fluctuations (National or International).
- Improving Productivity: By encouraging higher investment and adoption of modern technologies in agricultural activities.
- Consumer Interest: To safeguard the interests of consumers by making available supplies at reasonable prices.

#### *While recommending MSPs, the CACP looks at the following factors:*

- the demand and supply of a commodity;
- its cost of production;
- the market price trends (both domestic and international);
- inter-crop price parity;
- the terms of trade between agriculture and non-agriculture (that is, the ratio of prices of farm inputs and farm outputs);
- a minimum of 50 per cent as the margin over the cost of production; and
- the likely implications of an MSP on consumers of that product.

**Crops covered**

- **Crops covered by MSPs include:**

- 7 types of cereals (paddy, wheat, maize, bajra, jowar, ragi and barley), 5 types of pulses (chana, arhar/tur, urad, moong and masur),
- 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower, nigerseed),
- 4 commercial crops (cotton, sugarcane, copra, raw jute)

**Why is there a need for MSP?**

- The MSP is a minimum price guarantee that acts as a safety net or insurance for farmers when they sell particular crops.
- The guaranteed price and assured market are expected to encourage higher investment and in adoption of modern technologies in agricultural activities.
- With globalization resulting in freer trade in agricultural commodities, it is very important to protect farmers from the unwarranted fluctuation in prices.

**What are the issues related to MSP?**

- Low accessibility and awareness of the MSP regime: A survey highlighted that, 81% of the cultivators were aware of MSP fixed by the Government for different crops and out of them only 10% knew about MSP before the sowing season.
- Arrears in payments: More than 50% of the farmers receive their payments of MSP after one week.
- Poor marketing arrangements: Almost 67% of the farmers sell their produce at MSP rate through their own arrangement and 21% through brokers.
- According to NITI Aayog report on MSP, 21% of the farmers of the sample States expressed their satisfaction about MSP declared by the Government whereas 79% expressed their dissatisfaction due to various reasons. Although, majority of the farmers of the sample States were dissatisfied on MSP rates, still 94% of them desired that the MSP rates should be continued.

## INDUSTRY & INFRASTRUCTURE

**Digital banking brings banks to the poor**

- **Context:**

- Prime Minister Modi used video conferencing to dedicate 75 Digital Banking Units (DBU) across 75 districts to the nation.

**Relevance**

- **GS Paper – 3:** Mobilization of Resources, Growth & Development, Banking Sector & NBFCs, Inclusive Growth

**Mains Question**

- The Pradhan Mantri Jan Dhan Yojana (PMJDY) is required to bring the unbanked into the fold of institutional finance. Do you agree that this is important for the financial inclusion of the poorer segments of Indian society? Make arguments to support your position. (150 words)

**Units of Digital Banking (DBU)**

- A digital banking unit is a specialised fixed point business unit or hub that houses the bare minimum of digital infrastructure for the delivery of digital banking products and services.
- It will also provide existing financial products and services in a self-service mode digitally at any time.
- In other words, DBUs are physical locations that offer a variety of digital banking services to customers. This includes the following:

- Opening a savings account, checking the balance, printing a passbook, transferring funds, investing in fixed deposits, loan applications, paying bills, and so on.
- DBUs strive to provide cost-effective, convenient access to banking products and services, as well as an enhanced digital experience, all year.
- They will be in charge of spreading Digital Financial Literacy, with a special emphasis on customer education on cyber security awareness and safeguards.

#### ***Who will be in charge of establishing these DBUs?***

- DBUs can be opened by commercial banks (other than regional rural banks (RRBs), payment banks, and local area banks) with prior digital banking experience.
- Unless otherwise specified, these banks are permitted to do so without the need for individual permission from the RBI.

#### ***Background: DBUs in the 2022-23 Budget***

- In the Budget for 2022-23, the Finance Minister emphasised the importance of DBUs at a time when digital banking, digital payments, and fintech innovations are expanding rapidly in the country.
- To commemorate India's 75th anniversary of independence, she proposed that Scheduled Commercial Banks establish 75 Digital Banking Units (DBUs) in 75 districts across the country.
- PM Modi dedicated 75 DBUs across 75 districts to the nation, saying the DBUs will increase financial inclusion by bringing banks to the doorsteps of the poor.

#### ***Key Points of the Speech***

- Stressed the significance of the digital economy Today, the digital economy is a major strength of our economy, of our start-up world, of Make-in-India, and of self-reliance in India.
- Adopting a digital economy helps India become self-sufficient while also benefiting the environment by reducing paper consumption.
- The government intends to provide maximum services with minimal infrastructure, and all of this will be done digitally and without the use of paper.
- DBU is a significant step toward making life easier for ordinary citizens.
- Attempts were made to bring the bank closer to the people.
- A significant shift occurred from the days when it was expected that the poor would go to the bank to a scenario in which the banks came to the poor's doorstep.
- The government eliminated not only the physical distance, but also the psychological distance.
- Today, more than 99 percent of Indian villages have a bank branch, banking outlet, or 'banking mitra' within a 5-kilometer radius.
- An extensive Post Office network was also tapped by India Post Banks to meet the banking needs of ordinary citizens.
- Today, India has more branches per one lakh adult citizens than countries such as Germany, China, and South Africa.
- The Prime Minister acknowledged global acclaim for India's digital banking infrastructure.
- India's digital banking infrastructure has been lauded by the IMF.
- UPI has provided India with new opportunities.
- There are currently 70 crore indigenous Rupay cards in use. This convergence of technology and economy improves the dignity and affordability of the poor while also empowering the middle class.
- Fintech is central to India's policies.
- If Jan Dhan accounts were the foundation of financial inclusion in the country, Fintech would be the foundation of the financial revolution.
- He was referring to the government's announcement of the launch of a digital currency based on blockchain technology in this context.

#### **Five Ways to Get It Logistics Right**



**Context**

- India recently unveiled its National Logistics Policy (NLP), with the goal of streamlining shipping, lowering logistics costs, achieving "quick last-mile delivery," and eliminating transportation-related challenges.
- It was first announced in Budget 2020 to ensure faster last-mile connectivity.

**Relevance**

- GS Paper 3: Infrastructure

**Mains Question**

- A modern economy with a complex supply chain requires better logistics. India has one of the world's least efficient logistics systems. How can India's logistics be improved? Discuss. (250 Words)

**About Logistics**

- Logistics Industry Description: The logistics industry encompasses all supply chain activities such as transportation, customer service, inventory management, information flow, and order processing.
- Other supply chain activities include warehousing, material handling, purchasing, packaging, and maintenance.
- Components: Logistics is comprised of five 'R's, which are as follows:
- Getting the right product; o Getting it in the right condition; o Getting it in the right place; o Getting it to the right customer

**Logistics policy is required.**

- Global standing: For decades, India has been held back by logistics costs that far outstrip those of its East and Southeast Asian competitors.
- For example, the World Bank's Logistics Performance Index, 2018 ranks India 44th in the world, trailing other Asian competitors such as China (26), Vietnam, and Thailand.
- Importantly, India's performance was hampered in two critical areas for growing and attracting export industries: logistics infrastructure and clearance process timeliness.
- Reduce future risks: The measures outlined in the NLP will significantly improve the dependability of Indian logistics, which has been demonstrated by the global pandemic to be critical in global supply chains.
- Opportunities to follow: The Indian logistics market is expected to be worth around \$250 billion USD in fiscal year 2021.
- This market is expected to grow to 380 billion dollars by 2025, with a compound annual growth rate (CAGR) of 10 to 12 percent.
- Overcoming obstacles: Previously, exporters had to collect shipping bill numbers, railway consignment numbers, e-way bill numbers, and so on in order to track and trace goods and deal with multiple authorities. However, technology, as the backbone of NLP, aims to simplify this process.

**About National Logistics Policy (NLP)**

- Aim: The National Logistics Policy (NLP) aims to reduce logistics costs to 7.5% of GDP in the next five years, down from 13% now, to levels comparable to industrialised countries such as Singapore and the United States.
- Another major goal is to increase India's ranking in logistics handling parameters from 44 to 25 by 2025.
- As the world's fifth largest economy, India aspires to be among the top ten in the LPI (Logistics Performance Index) by 2030.
- Sector targets: The NLP aims to reduce transportation costs from 6% to 4%, warehousing costs from 3.5% to 2.5%, inventory costs from 2.5% to 1%, and order processing costs from 1% to 0.5%.
- Multimodal Transportation Integration: The new policy will emphasise simplification, technology, and a multimodal strategy that combines train, sea, and air travel.

- Transportation of critical commodities: The proposed programme focuses on the transportation of critical commodities such as coal, steel, iron ore, food grains, steel, cement, fruits, and vegetables.
- Creating national clusters: Currently, the logistics system is primarily limited to regional clusters.
- Determining the best logistics: The draught also suggests determining the best route of transportation for each of these goods in order to reduce losses during transportation.
- Key features: The National Logistics Policy (NLP) aims for a tech-enabled approach to logistics operations. To accomplish this, the Prime Minister is likely to announce the following four major steps:
- Digital System Integration (IDS) o Unified Logistics Interface Platform (ULIP) o Logistics Ease (ELOG) o System Improvement Group (SIG)

### ***The Advantages of a National Logistics Policy***

- Cost savings: A five percentage point savings in a \$3 trillion economy equates to \$150 billion in efficiency gains, which is the estimated value of India's entire outsourcing industry.
- Increase exports: Exporters will benefit greatly from improved logistics because their goods will be more competitive and can be delivered to buyers in a more timely and predictable manner.
- Promote the MSME sector: This is because transportation costs are much higher for low-value goods than for precious consignments such as gems and jewellery, which can be profitable even when transported by air.
- Higher prices for farmers: Due to their perishable nature and longer transportation time, small farmers have traditionally sold fruits and vegetables at low prices.
- Some estimates claim that 16% of Indian agricultural produce is lost at various points along the supply chain.
- Better logistics allow these commodities to travel longer distances, faster, and to new markets.
- Lower consumer costs: Because logistics costs are an important component in the price of everything produced, manufactured, or constructed, NLP will result in lower consumer costs.
- Job Creation: According to the Economic Survey 2017-18, more than 22 million people in India rely on the logistics industry for a living, and NLP has the potential to increase employment.

### ***Previous Logistics Sector Initiatives***

- Goods and Services Tax (GST): GST has eliminated checkpoints and has accelerated the formalisation of informal logistical arrangements and freight movement across state lines.
- New Logistics Division: The Department of Commerce has established a new Logistics Division to manage integrated sector development through policy changes, improved current procedures, identifying bottlenecks and gaps, and implementing technology-based solutions.
- Integrated Logistic Portal: Its goal is to connect customers, logistics service providers, and government agencies such as customs, port community systems, port terminals, shipping lines, and railways.
- LEADS Index: The Ministry of Commerce also introduced a new Logistics Ease Across Different States Index, which ranks states based on how supportive they are of improving logistics infrastructure within their borders.
- Infrastructure Status: The logistics industry is now included on the Infrastructure Sub Sector Harmonized Master List, allowing access to more affordable, longerterm loans.
- The Multi Modal Logistic Park project involves the construction of cutting-edge large-scale warehousing facilities for various commodities transported via various modes such as rail, road, and inland waterways.

### ***Bringing NLP and infrastructure development together***

- Policy Linking: Because NLP will necessitate massive investments in supporting infrastructure, the PM Gati Shakti master plan will be critical.
- Importance: By coordinating logistics, multimodal investment, and energy supply, businesses can be more confident that their investments will be supported in the long run.

- Complement the GST regime: Because the GST reform package encouraged crossstate trade investments, the NLP could help transform the shipping landscape, boosting domestic supply chains and allowing Indian businesses to access global value chains.

### *Conclusion*

- Following the PM Gati Shakti National Master Plan, the National Logistics Policy would provide a comprehensive roadmap for the growth of the entire logistics ecosystem. It will help to lay the groundwork for decades of economic growth and will assist India in becoming "Atmanirbhar," or self-sufficient.

## **A RENEWABLE ENERGY REVOLUTION WITH AGRICULTURAL ROOTS**

### *Context*

- A private company's first bio-energy plant has recently begun commercial operations in the Punjab district of Sangrur.
- The plant will convert agricultural waste into wealth by producing compressed bio gas (CBG) from paddy straw, indicating the beginnings of a renewable energy revolution rooted in agriculture.

### *Relevance*

- GS Paper 3: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

### *Mains Question*

- Discuss India's renewable energy generation capacity. What would be the most costeffective way to increase India's renewable energy generation capacity? Elaborate. (250 words)

### *Concerning the plant*

- The plant, built by Verbio AG, one of Germany's leading bio-energy companies, will use approximately 2.1 million tonnes of a total of 18.32 million tonnes of paddy straw annually.
- The plant will produce 600-650 tonnes of fermented organic manure per day, which can be used for organic farming. It will also reduce stubble-burning on 40,000-45,000 acres, resulting in a 1.5 lakh tonnes reduction in CO2 emissions per year.
- This project, which uses paddy straw to produce CBG, is replicable across India and has the potential to transform the rural economy.

### *Background*

- Farmers in Punjab, Haryana, and western Uttar Pradesh have made it common practise to burn paddy stubble and biomass to prepare fields for the next crop, which must be sown within three to four weeks.
- Because this practise is spread across millions of hectares, the resulting smoke clouds engulf the entire National Capital Territory of Delhi and neighbouring States for several weeks between October and December.

### *The Effects of Stubble Burning*

- **Pollution:** It emits a large amount of toxic pollutants into the atmosphere, including carcinogenic gases such as methane (CH<sub>4</sub>), carbon monoxide (CO), volatile organic compounds (VOC), and polycyclic aromatic hydrocarbons.
- These pollutants, once dispersed, have a negative impact on human and livestock health by creating a thick blanket of smog.
- **Soil Fertility:** Burning husk on the ground depletes the soil's nutrients, making it less fertile.
- **Heat Penetration:** The heat generated by stubble burning penetrates the soil, causing moisture and beneficial microbes to be lost.
- Stubble burning alters soil properties such as soil temperature, pH, moisture, available phosphorus, and soil organic matter.

*Efforts to reduce stubble burning*

- **Penalties:** Crop residue burning was declared an offence under the Air Act of 1981, the Code of Criminal Procedure of 1973, and other relevant Acts.
- In addition, any farmer who violates the law will face a fine. Administrative officials at the village and block levels are used to enforce the law.
- **Broad plan:** The Commission for Air Quality Management in the National Capital Region and Adjacent Areas (CAQM) had developed a framework and action plan for effective stubble burning prevention and control.
- It includes in-situ management, which is the incorporation of paddy straw and stubble into the soil using heavily subsidised machinery, which is supported by the Ministry of Agriculture and Farmers Welfare's crop residue management (CRM) Scheme.
- **The CRM Scheme:** The Central Sector Scheme aims to address the problem of air pollution caused by stubble burning by subsidising crop residue management machinery.
- **Pusa Decomposer:** A microbial consortium of fungal species (in liquid and capsule forms) developed by the Indian Council of Agricultural Research (ICAR) that has been shown to be effective for rapid in-situ decomposition of paddy straw.
- The Punjab Agricultural University (PAU) Smart Seeder has recently been included in the Crop Residue Management (CRM) subsidy scheme.
- The PAU smart seeder manages paddy residues through incorporation and surface mulching, retaining the advantages of both the Happy Seeder and the Super Seeder in a single machine.
- Regarding the Happy Seeder Machine: It is a tractor-drive machine that cuts and lifts paddy stubble (straw) while also sowing wheat and spreading the cut straw as mulch across fields.
- The Super-seeder machine ploughs standing paddy residue while also sowing seeds for the next wheat crop in a single operation. The machine is more expensive and technologically superior to the Happy Seeder.
- Ex-situ CRM initiatives include using paddy straw for biomass power projects and co-firing in thermal power plants.
- Stubble can also be used as feedstock in 2G ethanol plants, feedstock in CBG plants, fuel in industrial boilers, waste-to-energy (WTE) plants, and packaging materials, among other things.
- Because paddy straw has a high calorific value, it can be used as a fuel in biomass-based power plants.
- **Public Awareness Campaigns:** Information is disseminated through kisan camps, trainings, and workshops, as well as campaigns in various print media, televised shows, and radio broadcasts, informing farmers about alternative crop residue uses and the health effects of crop residue burning.
- **Crop Diversification:** Long-term efforts are being made to diversify cropping techniques by cultivating alternate crops (other than rice/paddy and wheat) that produce less crop residue and have longer gap periods between cropping cycles.
- **SATAT scheme:** The Sustainable Alternative Towards Affordable Transportation scheme invites Expressions of Interest from potential entrepreneurs to set up Compressed Bio-Gas production plants and make them available in the market for use in automotive fuels.
- The Indian Biogas Association has recommended that testing labs be established in all states in order to meet the SATAT target of establishing 5,000 compressed biogas (CBG) plants by 2025.

*A project is currently underway.*

- **Consultation:** In 2019, NITI Aayog approached FAO India about converting paddy straw and stubble into energy and identifying potential ex-situ uses of rice straw to supplement the in-situ programme.
- **Proposal:** Following technical consultations with the public and private sectors, the FAO published a study on developing a crop residue supply chain in Punjab that will allow the collection, storage, and final use of rice straw for other productive services, specifically renewable energy production.
- **Outlay:** According to the findings, it would take approximately 2,201 crore (\$309 million) to collect, transport, and store 30% of the rice straw produced in Punjab in a 20-day period.
- **Environmental impact:** This would reduce GHG emissions by approximately 9.7 million tonnes of CO<sub>2</sub> equivalent and approximately 66,000 tonnes of PM 2.5.



- **Financial impact:** Additionally, depending on market conditions, farmers can expect to earn between 550 and 1,500 per tonne of rice straw sold.

#### *Rice straw's utility in energy technologies*

- **Meet scheme target:** With 30% of rice straw produced in Punjab, the SATAT scheme's 5% CBG production target can be met.
- Paddy straw from one acre of crop can yield energy output (CBG) worth more than 17,000, representing a 30% increase in grain output. It is a prime example of a 'wealth from waste' strategy.
- **Ecological advantages:** The plant's slurry or fermented organic manure (CBG) will be useful as compost to replenish soils depleted of organic matter and reduce reliance on chemical fertilisers.
- Economic benefits include increased local entrepreneurship, increased farmer income, and job opportunities for rural youth in the large value chain, which includes paddy harvest, collection, baling, transport and handling of biomass, and the CBG plant

## SCIENCE & TECHNOLOGY

### Next-Gen Launch Vehicle

- **Context:**
- The Indian Space Research Organisation (ISRO) is developing a Next-Gen Launch Vehicle (NGLV), which will one day replace operational systems like the Polar Satellite Launch Vehicle (PSLV).

#### *Relevance:*

- GS III: Science and Technology

#### *Dimensions of the Article:*

- 1. About Next-Gen Launch Vehicle
- 2. What are the launch vehicles used by ISRO?

#### *About Next-Gen Launch Vehicle*

- In NGLV, ISRO is understood to be looking at a cost-efficient, three-stage, reusable heavy-lift vehicle with a payload capability of 10 tonnes to Geostationary Transfer Orbit.
- NGLV will feature **semi-cryogenic propulsion** (refined kerosene as fuel with liquid oxygen (LOX) as oxidiser) for the booster stages which is cheaper and efficient.
- NGLV will feature a **simple, robust design that allows bulk manufacturing**, modularity in systems, sub-systems and stages and minimal turnaround time.
- Potential uses will be in the areas of **launching communication satellites, deep space missions, future human spaceflight and cargo missions.**

### Polar Satellite Launch Vehicle (PSLV):

- Since its initial launch in 1994, PSLV has served as ISRO's primary rocket. However, compared to those deployed in the 1990s, today's PSLV is significantly more advanced and powerful.
- The PSLV is the most dependable rocket that ISRO has employed to date, with 52 of its 54 flights being successful. It is the first Indian launch vehicle to be fitted with liquid stages.
- It successfully launched two spacecraft that later travelled to the Moon and Mars, namely Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013.
- There are numerous variations of the two launch vehicles that ISRO currently utilises, the PSLV and GSLV (Geosynchronous Satellite Launch Vehicle).
- **Geosynchronous Satellite Launch Vehicle (GSLV):**
- The considerably more potent GSLV rocket is designed to lift heavier satellites farther into space. 18 missions have been completed by GSLV rockets to this point, four of them were unsuccessful.

- Lowering earth orbits may require satellites weighing 10,000 kg.
- The third stage of the GSLV Mk II is the indigenously developed Cryogenic Upper Stage (CUS), and the Mk-III variants have rendered ISRO completely self-sufficient for launching its satellites.
- The European Arienne launch vehicle was previously utilised to carry its heavier satellites into orbit.

#### **Small Satellite Launch Vehicle (SSLV):**

- SSLV is designed to provide affordable launch services for satellites up to 500 kg in response to the growing demand for small and micro-satellites around the world.
- It is intended to launch the indigenous EOS-03 earth observation satellite into orbit.

#### **Chandrayaan-2**

##### ***Context:***

- With the aid of the Chandrayaan-2 mission's CLASS instrument (Chandrayaan-2 large area soft X-ray spectrometer), ISRO scientists have determined the global distribution of sodium on the Moon's surface.
- This is the first attempt to use X-ray fluorescence spectra to obtain a global scale assessment of sodium on the lunar surface.

##### ***Relevance:***

- GS III: Science and technology

##### ***Dimensions of the Article:***

- 1. About Chandrayaan-2
- 2. What is X-Ray Fluorescence?
- 3. How is it related to the history of moon?

##### ***About Chandrayaan-2***

- Chandrayaan-2 is an integrated 3-in-1 spacecraft of around 3,877 kg comprising of an Orbiter of the Moon, Vikram (after Vikram Sarabhai) the lander and Pragyan (wisdom) the rover, all equipped with scientific instruments to study the moon.
- The Orbiter will orbit from 100 km away, while the Lander and Rover modules will separate and make a soft-landing on the surface.
- Lander (Vikram) will remain stationary after touching down, will mainly study the moon's atmosphere.
- It will also look out for seismic activity.
- Rover (Pragyan): Once on the Moon, the Rover, a six-wheeled solar-powered vehicle, will detach itself and slowly crawl on the surface, making observations and collecting data.
- It will study the composition of the surface near the lunar landing site, and determine the abundance of various elements.
- Orbiter: While the Lander and Rover are designed to work for only 14 days (1 lunar day), the Orbiter, a 2,379-kg spacecraft with seven instruments on board, would remain in orbit for a year.
- It is equipped with different kinds of cameras to create high-resolution three-dimensional maps of the surface.
- It will study the mineral composition on the moon and the lunar atmosphere, and also to assess the abundance of water.
- The mission sequence involves meticulous planning of series of Earthbound manoeuvres, trans-lunar injections, series of lunar burns, lander separation, lander descent, and touchdown and subsequent rover rolling out of the lander on the Moon surface.

##### ***What is X-Ray Fluorescence?***

- It is frequently used to non-destructively research the composition of materials.

- When the sun emits solar flares, the moon is exposed to a significant amount of X-ray radiation, which causes X-ray fluorescence.
- The CLASS counts the total amount of X-ray photons arriving from the moon and assesses their energy.
- The intensity is a measurement of how many atoms are present, and the energy of the photons reveals the atom (for example, sodium atoms release X-ray photons of 1.04 keV).

#### *How is it related to the history of moon?*

- Sodium can be used as a tracer of the volatile history of the moon.
- When compared to Earth, the moon is significantly depleted of volatile elements such as sodium.
- The amount of volatiles on the moon today can be used to test formation scenarios of the Earth-Moon system.

### **Nobel Prize 2022 in Medicine/ Physiology**

#### *Context:*

- Recently, the 2022 Nobel Prize for Physiology or Medicine has been awarded to Swedish geneticist Svante Pääbo for his research in the field of genomes of extinct hominins and human evolution.

#### *Relevance:*

- GS III: Science and Technology

#### *Dimensions of the Article:*

- 1. Key Highlights of Svante Paabo's Research
- 2. Relation between evolution and biology
- 3. Challenges in carrying out such research

#### *Key Highlights of Svante Paabo's Research*

- This year, the focus of the committee seems to have been on **human evolution and the role that it has played in shaping our health and biological systems over time**.
- Svante Pääbo's "seminal" discoveries "provide the basis for exploring what makes us uniquely human."
- **Hominins** refer to the now-extinct species of apes that are believed to be related to modern humans, as well as modern humans themselves.
- He also found that gene transfer had occurred from these now extinct hominins to Homo sapiens following the migration out of Africa around 70,000 years ago.
- This ancient flow of genes to present-day humans has physiological relevance today, for example affecting how our immune system reacts to infections.

#### *Relation between evolution and biology*

- Svante Pääbo established an entirely new scientific discipline, called **paleogenomics**, that focuses on studying the DNA and genetic information of extinct hominins through reconstruction,
- His discoveries have established a unique resource, which is utilized extensively by the scientific community to better understand human evolution and migration.

#### *Example:*

- When Pääbo extracted DNA from bone specimens from extinct hominins, from

#### **Neanderthal remains in the Denisova caves of Germany.**

- The bone contained exceptionally well-preserved DNA, which his team sequenced.
- It was found that this DNA sequence was unique when compared to all known sequences from Neanderthals and present-day humans.

- Pääbo had discovered a previously unknown hominin, which was then given the name **Denisova**.

### *Neanderthals*

- Neanderthals, the closest relatives of the present-day human species, lived in Europe and West Asia – as far as southern Siberia and the Middle East – before they disappeared around 30,000 years ago.

### *Denisova*

- Comparisons with sequences from contemporary humans from different parts of the world showed that gene flow, or mixing of genetic information among a species, had also occurred between Denisova and Homo sapiens – the species of modern-day humans.
- This relationship was first seen in populations in Melanesia (near Australia) and other parts of South East Asia, where individuals carry up to 6% Denisova DNA.
- The Denisovan version of the gene EPAS1 confers an advantage for survival at high altitudes and is **common among present-day Tibetans**.

### *Challenges in carrying out such research*

- There are “extreme technical challenges because with time DNA becomes chemically modified and degrades into short fragments”.
- The main issue is that only trace amounts of DNA are left after thousands of years, and exposure to the natural environment leads to contamination with DNA from bacteria and contemporary humans, making research complex.

### **5G services**

#### *Context:*

- India will get 5G mobile services — almost five years after the country took its first steps towards the launch of the next generation of mobile telephony. Prime Minister will launch 5G in select cities on October 1, while inaugurating the sixth edition of India Mobile Congress in New Delhi.

#### *Relevance:*

- GS III- Science and Technology

#### *Dimensions of the Article:*

- 1. About 5G
- 2. Application of 5G
- 3. What are the key issues?
- 4. What benefits are likely to come with 5G?

#### *About 5G*

- 5G is the next generation of mobile broadband that will eventually replace, or at least augment 4G LTE connection and it offers exponentially faster download and upload speeds.
- 5G will deliver multi-Gbps peak rates, ultra-low latency, massive capacity, and a more uniform user experience.
- This is in contrast to 4G link speeds in averaging 6-7 Megabit per second (Mbps) in India as compared to 25 Mbps in advanced countries.

#### *Application of 5G*

- 5G will help in creating cyber-physical networks which not only interconnect people, but also interconnect and control machines, objects, and devices. It will deliver new levels of performance and efficiency that will empower new user experiences and connect new industries.



- It will act as an enabler for the Industrial Revolution 4.0 and is expected to form the backbone of emerging technologies such as the Internet of Things (IoT) and machine to machine communications.
- 5G can also help make transport infrastructure more efficient by making it smart. It will enable vehicle-to-vehicle and vehicle-to-infrastructure communication, making driverless cars, among other things, a reality.
- Also, the primary applications of 5G will be the implementation of a sensorembodied network that will allow real-time relay of information across fields such as manufacturing, consumer durables and agriculture.

#### *What benefits are likely to come with 5G?*

- 5G is the next generation cellular technology that will **provide faster and more reliable communication** with ultra low latency.
- As per the set standards, with 5G, the peak network speeds are expected to be in the range of 2-20 Gbps as opposed to about 25 Mbps on current 4G networks.
- In India, however, 4G speeds average at around 6-7 Mbps, but are picking up gradually.
- It is expected that with 5G technology, consumers will be able to **download data heavy content such as 8K movies** and games with better graphics in just a few seconds.
- The users will need to update to 5G-enabled devices to access the network, if they are not already using one.
- However, it is likely that the primary use of the technology will go beyond delivery of services on personal mobile devices.
- 5G is expected to form the backbone of emerging technologies such as IoT and machine to machine communications, thereby supporting a much larger range of applications and services, such as tele-surgery and real time data analytics.
- Ultra low latency offered by 5G makes the technology desirable for such use cases.
- Latency is the amount of time data takes to travel between its source and destination.
- As per a report by a government panel on 5G, even after the entry of 5G into the Indian networks, the earlier generation mobile technologies — 2G, 3G and 4G, will continue to remain in use and may take 10 or more years to phase out.
- 5G is expected to create a cumulative economic impact of \$1 trillion in India by 2035, the report added.

#### *Are the operators launching 5G on the same technology?*

- 5G networks are deployed mainly on two modes: standalone and nonstandalone.
- Both architectures have their advantages and disadvantages, and the path chosen by operators primarily reflects their view of the market for the new technology, and the consequent rollout strategy.
- In the standalone mode, which Jio has chosen, the 5G network operates with dedicated equipment, and runs parallel to the existing 4G network, while in the non-standalone mode, the 5G network is supported by the 4G core infrastructure.
- Given that the non-standalone networks are built on existing infrastructure, the initial cost and the time taken to roll out services through this track is significantly less than standalone networks.
- Jio has committed an investment of Rs 2 lakh crore for its standalone 5G network.

#### **Made-in-India attack helicopters inducted into IAF**

##### *Context:*

- The Union Defence Minister formally inducted the indigenously developed Light Combat Helicopter (LCH) "Prachand" into the Indian Air Force, in Jodhpur.
- It is suitable for operating in high-altitude battlefields, and capable of destroying enemy air defence and engaging in counter-insurgency operations.

##### *Relevance:*

- GS-III: Science and Technology

***Dimensions of the Article:***

- 1. Key points
- 2. About Light Combat Helicopter
- 3. Genesis of the Light Combat Helicopter
- 4. Combat Helicopters currently in use:

***Key points:***

- The formal induction of the LCH comes after the Cabinet Committee on Security, chaired by the Prime Minister, approved in March the procurement of 15 LCH Limited Series Production (LSP) for Rs 3,887 crore along with allied infrastructure sanctions worth Rs 377 crore.
- Of the 15 helicopters being procured from the LSP, 10 are for the IAF and five for the Indian Army.
- The helicopter will be called 'Prachand', which means fierce.

***About Light Combat Helicopter:***

- **Features:**
- The LCH is a 5.5-tonne class dedicated combat helicopter designed and developed by Hindustan Aeronautics Ltd (HAL).
- LCH is powered by two French-origin Shakti engines manufactured by the HAL.
- The LCH is the only attack helicopter in the world that can fly and take off at an altitude of 5,000 metres with considerable weapons and fuel load, meeting the specific requirement of armed forces.
- As far as weapons systems are concerned, a 20 mm turret gun, 70 mm rockets and air-to-air missile systems are onboard.
- The helicopter is equipped with the requisite agility, maneuverability, extended range, high-altitude performance and around-the-clock, allweather combat capability to perform Combat Search and Rescue (CSAR), Destruction of Enemy Air Defence (DEAD), Counter Insurgency (CI) operations.
- It can also counter slow-moving aircraft and Remotely Piloted Aircraft (RPAs), and be deployed in high-altitude bunker busting operations and counter insurgency operations in jungle and urban environments

***Combat capabilities:***

- The LCH has the capabilities of combat roles such as destruction of enemy air defence, counter insurgency warfare, combat search and rescue, antitank, and counter surface force operations.

***Significance:***

- The induction marks India becoming the seventh country to make attack helicopters.
- It has stealth features, armour protection, night attack capabilities and crash-worthy landing gear for better survivability.
- Versatility and offensive protection of this platform is at par or better among attack helicopters available globally.

***Genesis of the Light Combat Helicopter:***

- The need for an indigenous Light Combat Helicopter was first felt during the Kargil war in 1999. India needed a lightweight assault helicopter that could hold precision strikes in all Indian battlefield scenarios. This meant a craft that could operate in very hot deserts and also in very cold high altitudes, in counterinsurgency scenarios to full-scale battle conditions.
- The government sanctioned the LCH project in October 2006, and HAL was tasked to develop it.
- Initial operational clearance came in 2017 for the IAF variant and in 2019 for the Army variant.
- In March this year, the Cabinet Committee on Security (CCS) approved procurement of 15 LCH Limited Series Production (LSP) — 10 for IAF and five for Army — at the cost of Rs 3,887 crore along with infrastructure sanctions worth Rs 377 crore.

- The LCH was formally inducted into the Army on September 29 at Bangalore and into the IAF on October 3rd at Jodhpur.

#### ***Combat Helicopters currently in use:***

- India has been operating sub 3 ton category French-origin legacy helicopters, Chetak and Cheetah, made in India by the HAL.
- These single engine machines were, primarily, utility helicopters.
- Indian forces also operate the Lancer, an armed version of Cheetah.
- The Indian Air Force currently operates the Russian origin Mi-17 and its variants Mi-17 IV and Mi-17 V5, with maximum take off weight of 13 tonnes, which are to be phased out starting 2028.

#### **Mangalyaan Mission**

##### ***Context:***

- The Indian Space Research Organization (ISRO) confirmed that the Mars Orbiter craft has lost communication and is non-recoverable and the Mangalyaan mission has attained end-of-life.

##### ***Relevance:***

- GS II: Science and technology

##### ***Dimensions of the Article:***

- 1. About Mars Orbiter Mission
- 2. Objectives

##### ***About Mars Orbiter Mission :***

- The PSLV-C25 rocket carrying the Rs 450 crore Mars Orbiter Mission lifted off on November 5, 2013, and the MOM spacecraft successfully integrated into the Martian orbit on its first attempt in September 2014.
- India's first interplanetary mission was Mangalyaan.
- India became the fourth nation in the world to reach the planet after Roscosmos, NASA (National Aeronautics and Space Administration), and the European Space Agency as a result of the expedition.
- China referred to Mangalyaan as the "Pride of Asia."
- The Mars Orbiter Mission (MOM), a technology demonstrator that was intended to last only six months, has been in orbit around Mars for almost eight years.

##### ***Description:***

- It carried 850 kg of fuel and 5 science payloads including a Mars Color Camera (MCC) which it was using to study the Martian surface and atmosphere since entering orbit successfully.
- The highly elliptical orbit geometry of MOM enabled MCC to take snapshots of the 'Full disc' of Mars at its farthest point and finer details from the closest point.
- The MCC has produced more than 1000 images and published a Mars Atlas.
- Other instruments are: Thermal Infrared Imaging Spectrometer (TIS), Methane Sensor for Mars (MSM), Mars Exospheric Neutral Composition Analyser (MENCA) and Lyman Alpha Photometer (LAP).

##### ***Objectives:***

- It was aimed at studying the Martian atmosphere.
- To explore Martian surface features, mineralogy, morphology and atmosphere using indigenous scientific instruments.
- A crucial objective of MOM was to develop technologies required in planning, designing, management and operations of an interplanetary mission.
- .

## Nobel prize in Physics

### *Context:*

- Three scientists share Physics Nobel for their work on quantum mechanics

### *Relevance:*

- GS-III: Science and Technology

### *Dimensions of the Article:*

- 1. Key points
- 2. What is Quantum teleportation?
- 3. About Quantum Mechanics

### *Key points:*

- The Nobel Prize in physics for 2022 is being awarded to Alain Aspect, John F. Clauser and Anton Zeilinger for their work on quantum mechanics.
- The award is for their groundbreaking experiments using entangled quantum states, where two particles behave like a single unit even when they are separated.

### *Significance:*

- This development has laid the foundation for a new era of quantum technology.
- Being able to manipulate and manage quantum states and all their layers of properties gives us access to tools with unexpected potential.
- The research has demonstrated a phenomenon called quantum teleportation, which makes it possible to transfer a quantum state from one particle to one at a distance.
- Intense research and development are underway to utilise the special properties of individual particle systems to construct quantum computers, improve measurements, build quantum networks and establish secure quantum encrypted communication.

### *What is Quantum teleportation?*

- It is a technique for transferring quantum information from a sender at one location to a receiver some distance away.
- It uses the features of entanglement which can be used to transport information, carried by the object, to another place where the object is then reconstituted.
- Transportation in general means to transfer physical objects from one location to the next, quantum teleportation only transfers quantum information.
- Regardless of the distance, the encoded information shared by the “entangled” pair of particles can be passed between them.
- An interesting note is that the sender knows neither the location of the recipient nor the quantum state that will be transferred.
- So far this can be done on very small particles. It is fundamentally important for transferring information between quantum computer

### *About Quantum Mechanics:*

- Quantum mechanics is a subfield of physics that describes the behavior of particles — atoms, electrons, photons and almost everything in the molecular and submolecular realm.
- It was developed during the first half of the 20th century, the results of quantum mechanics are often extremely strange and counterintuitive.
- The first phase of this revolutionary technology has provided the foundations of understanding of the physical world and led to ubiquitous inventions such as lasers and semiconductor transistors.



- The second revolution is currently underway with the goal of putting properties of quantum mechanics in the realms of computing.

### ISRO's heaviest rocket

#### Context

- The Indian Space Research Organization's (ISRO) heaviest rocket Launch Vehicle Mark 3 (LVM3 or GSLV Mark 3) successfully orbited 36 satellites of OneWeb, based in the United Kingdom.
- It was launched as part of the LVM3-M2 / OneWeb India-1 Mission.
- LVM3-M2 is New Space India Limited's dedicated commercial satellite mission (NSIL).
- NSIL is a Central Public Sector Enterprise under the Government of India's Department of Space.

#### Relevance

- **GS Paper 3:** Achievements of Indians in science & technology

#### Mains Question

- Despite having distinct foundational objectives in their respective fields, the ISRO proved to be more successful than the DRDO. Discuss. (150 words)

#### Rockets from India

- India currently operates three launch vehicles:
  - o Polar Satellite Launch Vehicle, or PSLV; The PSLV has been the most widely used, with up to 53 successful missions since 1993.
  - Only two PSLV flights have failed.
  - Geosynchronous Satellite Launch Vehicle Mk-II; the GSLV Mk-II has been used in 14 missions, four of which have failed.
  - Launch Vehicle Mark-3 or LVM3 The LVM3 has flown five times, including the Chandrayaan 2 mission, and has never let ISRO down (RLV). Unlike other rockets, the RLV would not be destroyed in space.
  - It can be returned and refurbished for multiple uses.

#### About the GSLV MkIII (now known as the Launch Vehicle Mark 3):

- The GSLV MkIII is a three-stage vehicle with two solid strap-on motors, one liquid core stage, and a cryogenic upper stage with high thrust.
- GSLV MkIII Characteristics:
  - GTO performance capability of 4.3 tonne
  - Payload capability ranging from 10 tonne to LEO missions
  - A low Earth orbit (LEO) is an orbit that is relatively close to the Earth's surface, with an altitude ranging from 160 to 2,000 kilometres.
  - Budget-friendly
  - Greater dependability, operability, and redundancy management
  - Future payload growth potential with minimal design changes
  - Later, the GSLV MkIII's payload capability will be increased to 6 tonnes for GTO.
  - A satellite in the GTO orbits the Earth once per day (at an altitude of 37,000 km), keeping the satellite in roughly the same area over the ground.
  - To support Indian Space Programme manned missions (such as the Gaganyaan mission).
  - The Gaganyaan mission will be launched by a human-rated GSLV MkIII.
  - The Gaganyaan programme aims to transport three crew members to Low Earth Orbit (LEO) and safely return them to a predetermined location on Earth.
  - LVM3, India's heaviest rocket, placed 36 broadband satellites for a UK-based customer in precise orbits.

#### Significance

- Validated ISRO's claim as a serious player in the heavy satellite launch market
- The LVM3 rocket carried nearly 6 tonnes of payload into lower-Earth orbit during this launch.
- This was the heaviest payload ever delivered into space by an ISRO mission.
- Only a few countries are capable of launching satellites weighing more than 2 tonnes.
- Re-validated the viability of the LVM3 rocket o The flight's success re-validated the LVM3 rocket's viability for long-awaited missions such as Gaganyaan, Moon landings, and deep space explorations in the near future.
- Atmanirbharata in heavy satellite launch
- Until recently, ISRO relied on Ariane rockets from Europe to launch its heavy satellites.
- The LVM3 rocket, formerly known as the GSLV Mk-III, is intended to end that reliance.
- Entry into the commercial space market o This was the first foray into the commercial space market by any Indian launch vehicle other than ISRO's workhorse PSLV.
- Despite being one of the leading space-faring countries, India currently accounts for only 2% of the market. o With this, India is expected to increase its market share in this sector.

### Nobel for work on quantum science

- Context**
- Recently, three scientists – Frenchman Alain Aspect, American John F Clauser, and Austrian Anton Zeilinger – were awarded the 2022 Nobel Prize in Physics for their work on quantum information science, a field with numerous applications, including encryption.
- They discovered how unseen particles, such as photons, can be linked or entangled with each other even when separated by great distances, a field that alarmed Albert Einstein, who described it as "spooky action at a distance" in a letter.

### Relevance:

- GS-3:** Science and Technology- developments and their applications and effects in everyday life.

### Mains Question

- What exactly is Quantum Technology? Discuss its potential applications as well as the importance of the 'National Mission on Quantum Technologies and Applications' in this regard. (150 Words)

### Quantum technology:

- Two objects cannot occupy the same space at the same time, according to classical physics (based on Newtonian mechanics)
- It was thought until the early twentieth century that this was a fundamental physics law that was followed by everything in nature
- However, scientists began to look into particles like atoms, electrons, and light waves that did not appear to follow these laws.
- The subject of quantum mechanics was founded by Max Planck, Neils Bohr, and Albert Einstein in an attempt to investigate the "quirky" principles that did bind such particles.

### About:

- It is a type of technology (developed in the early twentieth century) that operates on the principles of quantum mechanics - the physics of subatomic particles, such as quantum entanglement and quantum superposition.
- As a result, it is based on phenomena exhibited by microscopic particles (such as photons, electrons, atoms, and so on) that differ significantly from how normal macroscopic objects behave

### The underlying principles of quantum technology are as follows:

- Quantum entanglement (QE):

- Quantum entanglement occurs when two atoms are connected or entangled despite their separation
- If one atom's properties change, the other changes instantly, and quantum mechanics observe these changes in properties
- It improves communication security by using quantum-protected encrypted keys, and entangled atoms can be used to detect whether data transmission has been compromised.

#### **Quantum entanglement:**

- Quantum superposition is the theory that subatomic particles can exist in multiple states at the same time.
- Quantum computers are a practical application of this principle.
- Whereas digital computers store data as bits (binary of 0 and 1), quantum computers use qubits, which can be either a 1 or a 0 at the same time.
- This superposition generates a nearly infinite set of options, allowing for extremely fast calculations.

#### **Applications:**

- Quantum technology promises to improve a wide range of everyday devices, including:
- Improved navigation and timing systems.
- Improved communication security.
- Improved healthcare imaging through quantum sensing (using quantum phenomenon to perform a measurement of a physical quantity).
- Quantum computers provide more powerful computing.
- Improved disaster management through better prediction, computing, and so on.
- To comprehend biological phenomena such as smell and consciousness, as well as the spread of pandemics such as Covid-19, etc.

#### **Nobel Prize-winning scientist's work:**

- Quantum mechanics allows two or more particles to be entangled, resulting in particle coordination. This was initially thought to be due to hidden variables.
- However, in the 1960s, John Stewart Bell discovered that there are no hidden variables at work. When measuring the properties of one of the particles, coordination between entangled particles is a matter of chance
- Bell established a mathematical inequality stating that "if there are hidden variables, the correlation between the results of a large number of measurements will never exceed a certain value."
- However, quantum mechanics shows that this value can be exceeded, resulting in a stronger correlation between the results than is possible when hidden variables are used.
- Exceeding this figure proves that there is no mysterious "spooky action" and that the universe is governed by quantum mechanics.

#### **Concerning this year's work:**

- This year's Nobel laureates have built on Bell's work over several decades.
- To test Bell's inequality, American physicist John Clauser devised a realistic experiment that involved passing entangled photons through polarisation filters (commonly used in sunglasses to block light at specific angles).
- His experiments demonstrated a clear violation of Bell's inequality, confirming that no hidden variables were at work.
- Clauser's experiment, on the other hand, had limitations in that the settings for detecting entangled photons were fixed, which meant that the experimental setup itself might have been unable to detect some particles controlled by hidden factors.
- Alain Aspect, a French physicist, attempted to design an experiment that eliminated this potential bias by changing the measurement settings only after the entangled photons had left their source, ensuring that the setup had no effect on the results.

- Austrian physicist Anton Zeilinger was among the first to investigate quantum systems with more than two entangled particles, which now serve as the foundation for quantum computation and allow entangled particles to be manipulated.
- One of his most well-known achievements was the discovery of quantum teleportation, which allows particles to acquire previously unknown quantum properties from other particles over long distances.

**Significance:**

- The development of transistors and lasers resulted from the first quantum revolution.
- The ability to handle and manipulate entangled particle systems will provide researchers with better tools to build quantum computers, improve measurements, build quantum networks, and establish secure quantum encrypted communication.
- Quantum computers can perform complex calculations that are far beyond the capabilities of traditional computers.
- Quantum computing has already demonstrated promise in chemical and biological engineering, as well as in cybersecurity.
- Computing systems capable of managing massive datasets and running complex simulations will also help areas such as artificial intelligence and Big Data.

**Dirty bomb**

**Context:**

- In Russia's latest advocacy campaign over its invasion of Ukraine, Moscow has focused on accusations that Kyiv might be planning to use a so-called "dirty bomb" – a conventional explosive device laced with toxic nuclear material.

**Relevance:**

- GS III: Science and Technology

**Dimensions of the Article:**

- 1. About Dirty bomb
- 2. Concerns

**About Dirty bomb**

- A "dirty bomb" is a dispersion device containing radioactive material – possibly uranium, but more likely low-grade materials such as caesium-137 or other radioactive materials in common use.
- Dirty bombs do not create city-flattening atomic explosion but are designed to spread toxic waste.
- It is form of terrorist weapon to be used on cities to cause havoc among civilians, rather than as a tactical device for use by warring parties in conflict.

**Concerns:**

- Immediate health impact would probably be limited, since most people in an affected area would be able to escape before experiencing lethal doses of radiation.
- But the economic damage could be massive from having to evacuate urban areas or even abandon whole cities.

**Forest Conservation Rules 2022**

**Context:**

- The National Commission for Scheduled Tribes (NCST) has asked the Centre to put the new Forest Conservation Rules, 2022, on hold.

**Relevance:**



- GS III- Science and Technology

### *Dimensions of the Article:*

- 1. What are the Forest Conservation Rules?
- 2. What do the updated rules say?
- 3. Other Provisions of Forest (Conservation) Rules, 2022
- 4. About National Commission for Scheduled Tribes (NCST)

### *Details:*

- The point of contention flagged by NCST is- the new rules has no word for what happens to tribals and forest-dwelling communities whose land would be hived off for developmental work.
- Prior to the updated rules, state bodies would forward documents to the FAC that would also include information on the status of whether the forest rights of locals in the area were settled.

### *What are the Forest Conservation Rules?*

- The Forest Conservation Rules deal with the **implementation of the Forest Conservation Act (FCA), 1980**.
- They prescribe the procedure to be followed for forest land to be diverted for non-forestry uses such as road construction, highway development, railway lines, and mining.
- The broad aims of the Forest Conservation Act are to protect forest and wildlife, put brakes on State governments' attempts to hive off forest land for commercial projects and striving to increase the area under forests.

### *Forest Advisory Committee (FAC):*

- For forest land beyond five hectares, approval for diverting land must be given by the Central government. This is via a specially constituted committee, called the Forest Advisory Committee (FAC).
- This committee examines whether the user agency, or those who have requested forest land, have made a convincing case for the upheaval of that specific parcel of land, whether they have a plan in place to ensure that the ensuing damage — from felling of trees in that area, denuding the local landscape — will be minimal and the said piece of land doesn't cause damage to wildlife habitat.
- Once the FAC is convinced and approves (or rejects a proposal), it is forwarded to the concerned State government where the land is located, who then has to ensure that provisions of the Forest Right Act, 2006, a separate Act that protects the rights of forest dwellers and tribals over their land, are complied with
- The FAC approval also means that the future users of the land must provide compensatory land for afforestation as well as pay the net present value (ranging between ₹10-15 lakh per hectare.)

### *What do the updated rules say?*

- The rules make a provision **for private parties to cultivate plantations and sell them as land to companies who need to meet compensatory forestation targets**.
- This, according to the government, will help India increase forest cover as well as solve the problems of the States of not finding land within their jurisdiction for compensatory purposes.
- While this has invited its own controversy, the latest point of contention is the absence of wording, in the updated Forest Conservation Rules, of what happens to tribals and forest-dwelling communities whose land would be hived off for developmental work.

### *Prior to the updated rules*

- State bodies would forward documents to the FAC that would also include information on the status of whether the forest rights of locals in the area were settled.
- After 2009, the Environment Ministry passed an order mandating that proposals would not be entertained by the FAC unless there was a letter from the State specifying that the forest rights in the place had been

“settled” and the gram sabha, or the governing body in villages in the area, had given their written consent to the diversion of forest.

- However, there have been a series of orders by the Environment Ministry over the years, and frequently opposed by the Ministry of Tribal Affairs, that have sought to skirt the necessity for consent from the gram sabha.

### ***New Rules***

- It formally codify this and say that a project, once approved by the FAC, will then be passed on to the State authorities who will collect the compensatory fund and land, and process it for final approval.
- Only in passing, is it mentioned that the States will ensure “settlement” of Forest Rights Acts applicable.

### ***Other Provisions of Forest (Conservation) Rules, 2022***

#### **It constituted an**

- Advisory Committee
- Regional empowered committee at each of the integrated regional offices
- Screening committee at State/Union Territory (UT) government-level.

#### **Advisory Committee:**

- The Advisory Committee's role is limited to providing advice or making recommendations regarding the grant of approval under applicable sections with regard to proposals that have been referred to it as well as any matter relating to the conservation of forests that has been referred to it by the Central government.

#### **Project Screening Committee:**

- For an initial examination of plans including the diversion of forest land, the MoEFCC has directed the establishment of project screening committees in each state and the UT. The five-member committee will meet at least twice a month and provide time-bound project advice to the state governments.
- Within 60 days for all non-mining projects with a size of 5 to 40 hectares, and within 75 days for all such mining projects.
- The committee is given greater time for projects covering larger areas: 150 days for mining projects and 120 days for non-mining projects involving more than 100 hectares.

#### **Regional Empowered Committees:**

- All linear projects (roads, highways, etc), projects involving forest land up to 40 hectares and those that have projected a use of forest land having a canopy density up to 0.7 — irrespective of their extent for the purpose of survey — shall be examined in the Integrated Regional Office.

#### **Compensatory Afforestation:**

- The applicants for diverting forest land in a hilly or mountainous state with green cover covering more than two-thirds of its geographical area, or in a state/UT with forest cover covering more than one-third of its geographical area, will be able to take up compensatory afforestation in other states/UTs where the cover is less than 20%.

### ***About National Commission for Scheduled Tribes (NCST)***

- National Commission for Scheduled Tribes (NCST) is an Indian constitutional body that was established through Constitution (89th Amendment) Act, 2003.
- On the 89th Amendment of the Constitution coming into force on 19 February 2003, the National Commission for scheduled Tribes has been set up under Article 338A on bifurcation of erstwhile National Commission for Scheduled Castes and Scheduled Tribes to oversee the implementation of various safeguards provided to Scheduled Tribes under the Constitution.

- With this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was replaced by two separate Commissions namely;-
- The National Commission for Scheduled Castes (NCSC),
- The National Commission for Scheduled Tribes (NCST).

#### ***About NCST Composition***

- The Commission comprises a Chairperson, a Vice-Chairperson and three fulltime Members (including one female Member).
- The term of all the Members of the Commission is 3 years from the date of assumption of charge.

#### ***Functions of NCST***

- To investigate and monitor all matters relating to the safeguards provided for the Scheduled Tribes under the Constitution or under any other law for the time being in force or under any order of the Government and to evaluate the working of such safeguards.
- To inquire into specific complaints with respect to the deprivation of rights and safeguards of the Scheduled Tribes.
- To participate and advise in the planning process of socio-economic development of the Scheduled Tribes and to evaluate the progress of their development under the Union and any State.
- To present to the President, annually and at such other times as the Commission may deem fit, reports upon the working of those safeguards.
- To make in such reports, recommendations as to the measures that should be taken by the Union or any State for effective implementation of those safeguards and other measures for the protection, welfare and socio-economic development of the Scheduled Tribes, and
- To discharge such other functions in relation to the protection, welfare and development and advancement of the Scheduled Tribes as the President may, subject to the provisions of any law made by Parliament, by rule specify.

#### ***Powers of NCST***

- For Investigation and Inquiry, the Commission is vested with powers of a civil court having authority to:-
- Summon and enforce attendance of any person and examine on oath.
- Discovery & production of any documents.
- Receive evidence on affidavits.
- Requisition any public record or copy thereof from any court or office.
- Issue Commissions for examination of witnesses and documents; and
- Any matter which President, by rule, may determine.

#### ***Rustom-2***

##### ***Context:***

- The indigenous medium altitude long endurance (MALE) unmanned aerial vehicle (UAV) Rustom-2 developed by the Defence Research and Development Organisation is expected to complete all user trials by August 2023

***Relevance:***GS III: Science and Technology

##### ***Dimensions of the Article:***

- 1. About Rustom-2
- 2. Features
- 3. Significance

#### ***About Rustom-2***

- It has been designed and developed by the Aeronautical Development Establishment (ADE), Bengaluru with production partners being Hindustan Aeronautics Ltd and Bharat Electronics Limited.
- Medium-Altitude Long-Endurance (MALE) refers to an Unmanned Aerial Vehicle (UAV) that flies at an altitude window of 10,000 to 30,000 feet for extended durations of time, typically 24 to 48 hours.
- It is also known as Tapas-BH (Tactical Airborne Platform for Aerial Surveillance-Beyond Horizon 201).
- The UAV is actually named after Rustom Damania, a former professor at the Indian Institute of Science (IISc), Bengaluru.

#### *Features:*

- It is being developed to carry out surveillance and reconnaissance (ISR) roles and is capable of carrying different combinations of advanced payload and capable of auto-landing among others.
- It is being designed to acquire real-time, high-quality pictures and signal intelligence from fields of concern at medium to long ranges.
- It technologically matches contemporary UAVs available and will also be cheaper than the imported ones.

#### *Significance*

- High endurance UAVs are a priority requirement for the armed forces especially in the standoff with China in Eastern Ladakh.
- The armed forces rely heavily on the Israeli Searcher and Heron drones and need more such UAVs.

### Europe's Digital Services Act

#### *Context:*

- The European Union (EU) has given final approval to online safety-focused legislation called Digital Services Act (DSA), which is an overhaul of the region's social media and ecommerce rules.

**Relevance:** GS III- Cyber Security

#### *Dimensions of the Article:*

- 1. What is the DSA, and to whom will it apply?
- 2. What do the new rules state?

#### *What is the DSA, and to whom will it apply?*

- The DSA will tightly regulate the way intermediaries, especially large platforms such as **Google, Facebook, and YouTube**, function when it comes to moderating user content.
- Instead of letting platforms decide how to deal with abusive or illegal content, the DSA will lay down specific rules and obligations for these companies to follow.
- According to the EU, DSA will apply to a "**large category of online services**, from simple websites to Internet infrastructure services and online platforms."
- The obligations for each of these will differ according to their size and role.
- The legislation brings in its ambit platforms that provide Internet access, domain name registrars, hosting services such as cloud computing and webhosting services.
- But more importantly, **very large online platforms (VLOPs) and very large online search engines (VLOSEs)** will face "more stringent requirements."
- **Any service with more than 45 million monthly** active users in the EU will fall into this category.
- Those with under 45 million monthly active users in the EU will be exempt from certain new obligations.
- Once the DSA becomes law, each EU Member State will have the primary role in enforcing these, along with a new "**European Board for Digital Services**."
- The EU Commission will carry out "enhanced supervision and enforcement" for the VLOPs and VLOSEs.
- Penalties for breaching these rules could be huge — **as high as 6% of the company's global annual turnover**.



*What do the new rules state?***New procedures for faster removal:**

- Online platforms and intermediaries such as Facebook, Google, YouTube, etc will have to add “new procedures for faster removal” of content deemed illegal or harmful.
- This can vary according to the laws of each EU Member State.
- These platforms will have to clearly explain their policy on taking down content; users will be able to challenge these takedowns as well. Platforms will need to have a clear mechanism to help users flag content that is illegal.
- Platforms will have to cooperate with “trusted flaggers”.

**Impose a duty of care:**

- Marketplaces such as Amazon will have to “impose a duty of care” on sellers who are using their platform to sell products online.
- They will have to “collect and display information on the products and services sold in order to ensure that consumers are properly informed.”

**Audit:**

- The DSA adds “an obligation for very large digital platforms and services to analyse systemic risks they create and to carry out risk reduction analysis”
- This audit for platforms like Google and Facebook will need to take place every year.

**Independent vetted researchers:**

- The Act proposes to allow independent vetted researchers to have access to public data from these platforms to carry out studies to understand these risks better.

**Misleading interfaces:**

- The DSA proposes to ban ‘**Dark Patterns**’ or “**misleading interfaces**” that are designed to trick users into doing something that they would not agree to otherwise.
- This includes forcible pop-up pages, giving greater prominence to a particular choice, etc.
- The proposed law requires that customers be offered a choice of a system which does not “**recommend content based on their profiling**”.

**Russia-Ukraine conflict:**

- The DSA incorporates a new crisis mechanism clause — it refers to the Russia- Ukraine conflict — which will be “activated by the Commission on the recommendation of the board of national Digital Services Coordinators”.
- However, these special measures will only be in place for three months.

**Protection for minors:**

- The law proposes stronger protection for minors, and aims to ban targeted advertising for them based on their personal data.

**Transparency measures:**

- It also proposes “transparency measures for online platforms on a variety of issues, including on the algorithms used for recommending content or products to users”.

**Submarine Launched Ballistic Missile (SLBM)**

- *Context:*

- The Ministry of Defence (MoD) announced that the indigenous ballistic missile nuclear submarine INS Arihant had successfully launched a nuclear capable Submarine Launched Ballistic Missile (SLBM) in the Bay of Bengal with “very high accuracy”.

**Relevance:**

- GS III: Defence

**Dimensions of the Article:**

- 1. About INS Arihant
- 2. About Submarine Launched Ballistic Missile
- 3. Strategic Significance

**About INS Arihant**

- It was launched in 2009 and Commissioned in 2016, INS Arihant is India’s first indigenous nuclear powered ballistic missile capable submarine built under the secretive Advanced Technology Vessel (ATV) project, which was initiated in the 1990s.
- INS Arihant and its class of submarines are classified as ‘SSBN’, which is the hull classification symbol for nuclear powered ballistic missile carrying submarines.
- While the Navy operates the vessel, the operations of the SLBMs from the SSBN are under the purview of India’s Strategic Forces Command, which is part of India’s Nuclear Command Authority.
- In November 2019, after INS Arihant completed its first deterrence patrol, the government announced the establishment of India’s “survivable nuclear triad” — the capability of launching nuclear strikes from land, air and sea platforms.
- The second submarine in the Arihant class, SSBN Arighat, is reported to have been launched in 2017, and said to be undergoing sea trials at present.

**About Submarine Launched Ballistic Missile**

- The Submarine Launched Ballistic Missiles (SLBMs), sometimes called the ‘K’ family of missiles, have been indigenously developed by Defence Research and Development Organisation (DRDO).
- The family is codenamed after Dr APJ Abdul Kalam, the centre figure in India’s missile and space programmes who also served as the 11th President of India.
- Because these missiles are to be launched from submarines, they are lighter, more compact and stealthier than their land-based counterparts, the Agni series of missiles which are medium and intercontinental range nuclear capable ballistic assets.
- The development of the K family missiles has been done in consonance with the ATV project.
- Part of the K family is the SLBM K-15, which is also called B-05 or Sagarika. It has a range of 750 km.
- INS Arihant can carry a dozen K-15 missiles on board. India has also developed and successfully tested K-4 missiles from the family, which have a range of 3,500 km.

**Strategic significance**

- The capability of being able to launch nuclear weapons submarine platforms has great strategic significance in the context of achieving a nuclear triad, especially in the light of the “No First Use” policy of India.
- The sea-based underwater nuclear capable assets significantly increases the second strike capability, and thus validates the nuclear deterrence.
- These submarines can not only survive a first strike by the adversary, but can also launch a strike in retaliation, thus achieving ‘Credible Nuclear Deterrence’.
- The development of these capabilities is important in the light of India’s relations with China and Pakistan. With China having deployed many of its submarines, including some that are nuclear powered and nuclear capable, India’s capacity building on the nuclear powered submarines and of the nuclear capable missile which can be launched from them, is crucial for nuclear deterrence.

- **Early warning for heatwaves sees huge improvement**
- **Context:**
- Indian scientists have, for the first time, been able to predict heatwaves even one season in advance.

**Relevance:**

- GS III- Environment (Climate change)

**Dimensions of the Article:**

- 1. Details
- 2. About Heat Wave
- 3. Criteria for Heat Waves
- 4. Health Impacts

**Details:**

- In a recent study, the India's Ministry of Earth Sciences have documented for the first time that Indian heatwaves can be predicted even one season in advance.
- They used 37 years (1981-2017) of hindcasts from the Monsoon Mission Coupled Climate Forecast Model (MMCFS).
- It documented the seasonal predictions of frequency and duration of Indian heatwaves during April-June are very useful.

**About Heat Wave**

- A heat wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North- Western and South Central parts of India.
- Heat waves typically occur between March and June, and in some rare cases even extend till July.
- Higher daily peak temperatures and longer, more intense heat waves are becoming increasingly frequent globally due to climate change.

**Criteria for Heat Waves**

- The heat wave is considered when the maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.
- If the normal maximum temperature of a station is less than or equal to 40°C, then an increase of 5°C to 6°C from the normal temperature is considered to be heat wave condition.
- Further, an increase of 7°C or more from the normal temperature is considered as severe heat wave condition.
- If the normal maximum temperature of a station is more than 40°C, then an increase of 4°C to 5°C from the normal temperature is considered to be heat wave condition. Further, an increase of 6°C or more is considered as severe heat wave condition.
- Additionally, if the actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, a heat wave is declared.

**Health Impacts**

- The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke.
- It also causes heat cramps, fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

## Graded Response Action Plan

### • *Context:*

- The Commission for Air Quality Management (CAQM) said that measures under 'Stage-1' of the Graded Response Action Plan (GRAP) will be enforced in the NCR with immediate effect.
- The order came after Delhi's AQI deteriorated to be in the 'poor' category. Other parts of the NCR, including Gurgaon, Noida and Greater Noida, also recorded 'poor' air quality.

### *Relevance:*

- GS III: Environment and Ecology

### *Dimensions of the Article:*

- 1. What is the Graded Response Action Plan?
- 2. How is the GRAP different this year?
- 3. Who will implement and enforce the GRAP?
- 4. What are the measures that will be enforced?

### *What is the Graded Response Action Plan?*

- GRAP is a set of **emergency measures** that kick in to prevent further **deterioration of air quality once it reaches a certain threshold**.
- Stage 1 of GRAP is activated when the AQI is in the 'poor' category (201 to 300), for instance, the AQI in Delhi was 211.
- The second, third and fourth stages will be activated three days ahead of the AQI reaching the 'very poor' category (301 to 400), 'severe' category (401 to 450) and 'severe +' category (above 450) respectively.
- For this, the CAQM is relying on air quality and meteorological forecasts by the **Indian Institute of Tropical Meteorology (IITM) and the India Meteorological Department (IMD)**.
- Measures being imposed under the previous categories will continue even when the subsequent category is activated, that is, if measures under Stage-2 are activated, measures under Stage-1 will continue to remain in place.

### *Other Details:*

- The **CAQM revised the Graded Response Action Plan earlier this year**.
- The GRAP was first notified in January 2017 by the Ministry of Environment, Forest and Climate Change.
- This was based on a plan that was submitted by the Central Pollution Control Board (CPCB) in November 2016. According to the notification, the task of implementing the GRAP fell on the now dissolved Environment Pollution (Prevention and Control) Authority for the NCR.
- From 2021 onwards, the GRAP is being implemented by the CAQM.

### *How is the GRAP different this year?*

- In the version of the GRAP that was notified in 2017, measures kicked in after pollution concentrations reached a certain level.
- This year, measures are pre-emptive and will kick in based on forecasts in an attempt to prevent the AQI from deteriorating further.
- The older version of the GRAP was enforced based only on the concentration of PM2.5 and PM10.
- This year, GRAP is being enforced based on the AQI, which takes other pollutants also into account, such as ozone, sulphur dioxide and oxides of nitrogen.

### *Who will implement and enforce the GRAP?*

- The CAQM has constituted a sub-committee for the operationalization of the GRAP.



- This body includes officials from the CAQM, member secretaries of pollution control boards of Uttar Pradesh, Delhi, Haryana, Rajasthan, the Central Pollution Control Board, a scientist from the IMD and one from the IITM, and Health Advisor, Centre for Occupational and Environmental Health, Maulana Azad Medical College. The sub-committee is required to meet frequently to issue orders to invoke the GRAP.
- The orders and directions of the CAQM will prevail in case of any conflict between directions issued by the State governments and the CAQM.
- Measures under the different categories of the plan are to be enforced by the pollution control boards of the NCR states and the concerned departments and agencies, including the traffic police, the Transport Department and road owning and construction agencies.

***What are the measures that will be enforced?***

- **Stage 1 (AQI 'Poor' – 201 to 300)**
- Stopping all construction and demolition activities with plot size of 500 square metres or more which have not been registered on dust mitigation monitoring portals
- Mechanised sweeping, water sprinkling on roads
- Enforcing guidelines on use of anti-smog guns at construction sites
- Enforcing ban on open burning of waste and PUC (pollution under control norms) for vehicles
- DISCOMs to minimise power supply interruptions in NCR
- Encourage offices to start unified commute for employees to reduce traffic

**Stage 2 (AQI 'Very poor' – 301 to 400)**

- Not allowing coal/firewood in tandoors at hotels
- Stopping use of diesel generator sets except for essential and emergency services (hospitals, railways, metro services, airports, water pumping stations, "projects of national importance")
- Enhance parking fees to discourage private transport augment CNG/ electric bus and metro services by procuring additional fleet and increasing the frequency of service

**Stage 3 (AQI 'Severe' – 401 to 450)**

- Ban on construction and demolition activities except railway, metro, hospitals, sanitation projects etc, linear public projects like highways, roads, flyovers Closure of industries that have PNG supply and are not running on approved fuels. In industrial areas that don't have PNG supply, industries not running on approved fuels will operate only for five days a week
- State governments in NCR may impose restrictions on BS III petrol and BS IV diesel four wheelers

**Stage 4 (AQI 'Severe +' – more than 450)**

- Stop entry of truck traffic into Delhi (except for essentials, CNG and electric trucks)
- Ban on plying of Delhi registered diesel medium and heavy goods vehicles in Delhi, except for essentials
- Ban on plying of 4-wheeler diesel vehicles in Delhi and districts of NCR bordering Delhi, except BS-VI vehicles and vehicles used for essential or emergency services
- State Governments may consider additional emergency measures like closure of schools, plying of vehicles on odd-even basis
- NCR State governments to decide on allowing public, municipal and private offices to work on 50% strength and the rest to work from home
- Ban C&D activities in linear public projects such as highways, roads, flyovers

**Corbett Tiger Reserve**

- **Context:**
- The much-awaited tiger safari project of the Uttarakhand government is under scanner after a Forest Survey of India (FSI) report stated that over 6,000 trees were illegally cut in the Corbett Tiger Reserve (CTR) against the permission for 163 for the Pakhru Tiger Safari.

**Relevance:**

- GS III: Environment and Ecology

**Dimensions of the Article:**

- 1. About Corbett National Park
- 2. About the National Tiger Conservation Authority (NTCA)
- 3. Project Tiger
- 4. Project Tiger Reserves of India

**About Corbett National Park:**

- Jim Corbett National Park is the oldest national park in India and **was established in 1936 as Hailey National Park to protect the endangered Bengal tiger.**
- It is located in Nainital district and Pauri Garhwal district of Uttarakhand and was named after hunter and naturalist Jim Corbett.
- The Park was the first to come under the Project Tiger initiative.
- The Park encompasses the Patli Dun valley formed by the **Ramganga river** Ramganga, Sonanadi, Mandal, Palain and Kosi are the major rivers flowing through the Corbett National Park.
- The national park is a protected area covered by the **World Wide Fund (WWF)** for Nature under their Terai Arc Landscape Program

**About the National Tiger Conservation Authority (NTCA)**

- The National Tiger Conservation Authority (NTCA) was established in December 2005 following a recommendation of the Tiger Task Force, constituted by the Prime Minister of India for reorganised management of Project Tiger and the many Tiger Reserves in India.
- The Wildlife Protection Act of 1972 was amended in 2006 to provide for constituting the National Tiger Conservation Authority responsible for implementation of the Project Tiger plan to protect endangered tigers.
- The National Tiger Conservation Authority is set up under the Chairmanship of the Minister for Environment and Forests.
- The Authority will have eight experts or professionals having qualifications and experience in wildlife conservation and welfare of people including tribals, apart from three Members of Parliament of whom two will be elected by the House of the People and one by the Council of States.
- The Authority, inter alia, would lay down normative standards, guidelines for tiger conservation in the Tiger Reserves, apart from National Parks and Sanctuaries.
- It would provide information on protection measures including future conservation plan, tiger estimation, disease surveillance, mortality survey, patrolling, report on untoward happenings and such other management aspects as it may deem fit, including future plan for conservation.
- The Authority would also facilitate and support tiger reserve management in the States through eco-development and people's participation as per approved management plans, and support similar initiatives in adjoining areas consistent with the Central and state laws.
- The Tiger Conservation Authority would be required to prepare an Annual Report, which would be laid in the Parliament along with the Audit Report.
- Every 4 years the National Tiger Conservation Authority (NTCA) conducts a tiger census across India.

**Project Tiger**

- Project Tiger is a **tiger conservation programme launched in April 1973 by the Government of India.**
- The project aims at ensuring a viable population of Bengal tigers in their natural habitats, protecting them from extinction, and preserving areas of biological importance as a natural heritage forever represented as close as possible the diversity of ecosystems across the distribution of tigers in the country.

- The project's task force visualized these tiger reserves as breeding nuclei, from which surplus animals would migrate to adjacent forests. Funds and commitment were mastered to support the intensive program of habitat protection and rehabilitation under the project.
- The government has set up a Tiger Protection Force to combat poachers and funded relocation of villagers to minimize human-tiger conflicts.

### *Project Tiger Reserves of India*

The Project Tiger Reserves of India is administered by the National Tiger Conservation Authority.

### **Nearly every child will face frequent heatwaves by 2050: UNICEF**

#### *Context:*

- According to a new United Nations Children's Fund (UNICEF) report, nearly all the world's children will be exposed to more frequent and severe heatwaves by 2050.

#### *Relevance:*

- GS III- Environment (Climate change)

#### *Dimensions of the Article:*

- 1. Key Points
- 2. Risks associated with Heatwave
- 3. Way forward

#### *Key points:*

- Currently, some 559 million children are exposed to at least four to five hazardous heatwaves annually, according to The Coldest Year of the Rest of Their Lives report.
- The number will quadruple to over two billion by 2050 — up from 24 per cent of children in 2020. This amounts to an increase of about 1.5 billion children.
- "Virtually every child on earth" will face severe heatwaves even under a low greenhouse gas emission scenario — with an estimated 1.7 degrees celcius of warming in 2050.
- Heatwaves with longer duration pose more risks for children as they spend more time outdoors than adults for — sports and other activities — putting them at greater risk for heat injury.
- One in four children lives in areas where the average heatwave event lasts 4.7 days or longer as of 2020. This percentage will rise to over three in four children under a low-emission scenario by 2050.
- Children in southern, western and south-eastern Asia, eastern and southern Europe and northern Africa experience heatwaves of longer duration.

Children are affected by heat in two broad ways:

- o Risks to health and well-being and
- o Social and educational risks

#### *Risks associated with Heatwave:*

- **Risks to health include** — heat stroke, heat stress, allergy, chronic respiratory conditions, asthma, mosquito-borne disease, cardiovascular disease, undernutrition and diarrhoea.
- High temperatures are linked to increased mental health problems in children and adolescents, including post-traumatic stress disorder and depression.
- **Risks to Education:** Extreme heat affects **children's education** and future livelihoods, said the UNICEF report.
- Heatwaves lead to **poor health and nutrition** among children and are linked to lower academic performance and attendance.

- High temperatures and lower hydration affect children's ability to concentrate.
- **Risks to Livelihood:** Heatwaves also threaten children's safety. Communities are forced to search for and compete over food and water resources as pastures and household income dry up. The resulting migration, displacement and conflict expose children to serious physical harm and violence risks.

#### *Way forward:*

- The UNICEF data stressed on adopting adaptation and mitigation strategies. There is a need to ensure that the vulnerable have the resources to adopt the critical social services required to protect them.
- The report said the countries must:
- Protecting children from climate devastation by encouraging social services
- Preparing children to live in a climate-changed world
- Prioritising children and youth in climate finance and resources

### **National Green Tribunal (NGT)**

#### *Context:*

- The National Green Tribunal (NGT) on Friday told the forest officials of Uttarakhand that it would direct the Union government to form a committee to initiate an investigation into "illegal tree cutting" in Jim Corbett National Park.

#### *Relevance:*

- GS-III: Environment and Ecology

#### *Dimensions of the Article:*

- 1. National Green Tribunal (NGT)
- 2. Structure of National Green Tribunal
- 3. Powers of NGT
- 4. Challenges related to the NGT
- 5. About Corbett National Park

### **National Green Tribunal (NGT)**

- The NGT was established on October 18, 2010 under the National Green Tribunal Act 2010, passed by the Central Government.
- National Green Tribunal Act, 2010 is an Act of the Parliament of India which enables creation of a special tribunal to handle the expeditious disposal of the cases pertaining to environmental issues.
- NGT Act draws inspiration from the India's constitutional provision of (Constitution of India/Part III) Article 21 Protection of life and personal liberty, which assures the citizens of India the right to a healthy environment.
- The stated objective of the Central Government was to provide a specialized forum for effective and speedy disposal of cases pertaining to environment protection, conservation of forests and for seeking compensation for damages caused to people or property due to violation of environmental laws or conditions specified while granting permissions.

#### *Structure of National Green Tribunal*

- Following the enactment of the said law, the Principal Bench of the NGT has been established in the National Capital – New Delhi, with regional benches in Pune (Western Zone Bench), Bhopal (Central Zone Bench), Chennai (Southern Bench) and Kolkata (Eastern Bench). Each Bench has a specified geographical jurisdiction covering several States in a region.
- The Chairperson of the NGT is a retired Judge of the Supreme Court, Head Quartered in Delhi.
- Other Judicial members are retired Judges of High Courts. Each bench of the NGT will comprise of at least one Judicial Member and one Expert Member.



- Expert members should have a professional qualification and a minimum of 15 years' experience in the field of environment/forest conservation and related subjects.

### ***Powers of NGT***

- The NGT has the power to hear all civil cases relating to environmental issues and questions that are linked to the implementation of laws listed in Schedule I of the NGT Act.

These include the following:

- The Water (Prevention and Control of Pollution) Act, 1974;
- The Water (Prevention and Control of Pollution) Cess Act, 1977;
- The Forest (Conservation) Act, 1980;
- The Air (Prevention and Control of Pollution) Act, 1981;
- The Environment (Protection) Act, 1986;
- The Public Liability Insurance Act, 1991;
- The Biological Diversity Act, 2002.
- This means that any violations pertaining ONLY to these laws, or any order / decision taken by the Government under these laws can be challenged before the NGT.
- Importantly, the NGT has NOT been vested with powers to hear any matter relating to the Wildlife (Protection) Act, 1972, the Indian Forest Act, 1927 and various laws enacted by States relating to forests, tree preservation etc.

### ***Challenges related to the NGT***

- Two important acts – Wildlife (Protection) Act, 1972 and Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 have been kept out of NGT's jurisdiction. This restricts the jurisdiction area of NGT and at times hampers its functioning as crucial forest rights issue is linked directly to environment
- Decisions of NGT have also been criticised and challenged due to their repercussions on economic growth and development.
- The absence of a formula-based mechanism in determining the compensation has also brought criticism to the tribunal.
- The lack of human and financial resources has led to high pendency of cases – which undermines NGT's very objective of disposal of appeals within 6 months.

### ***About Corbett National Park:***

- Jim Corbett National Park is the oldest national park in India and **was established in 1936 as Hailey National Park to protect the endangered Bengal tiger.**
- It is located in Nainital district and Pauri Garhwal district of Uttarakhand and was named after hunter and naturalist Jim Corbett.
- The Park was the first to come under the Project Tiger initiative.
- The Park encompasses the Patli Dun valley formed by the **Ramganga river.**
- Ramganga, Sonanadi, Mandal, Palain and Kosi are the major rivers flowing through the Corbett National Park.
- The national park is a protected area covered by the **World Wide Fund (WWF)** for Nature under their Terai Arc Landscape Program.

### **Great Indian Bustard**

- **Context:**
- The recent sighting of three Great Indian Bustards (GIBs) deep in Pakistan's Cholistan desert has given rise to speculation that the endangered birds might have flown across the international border from India's Desert National Park (DNP)

**Relevance:**

- Prelims, GS-III: Environment and Ecology (Species in News, Conservation of Biodiversity)

**Dimensions of the Article:**

- 1. About the Great Indian Bustard
- 2. About the Habitat of Great Indian Bustard
- 3. On the brink of extinction
- 4. SC's recent hearing on Power Lines threatening the GIB

**About the Great Indian Bustard**

- The Great Indian Bustard is one of the heaviest flying birds in the world often found associated in the same habitat as blackbuck.
- GIBs are the largest among the four bustard species found in India, the other three being MacQueen's bustard, lesser florican and the Bengal florican.
- The GIB is Critically Endangered on the IUCN Red List, and comes under the Appendix I of CITES, and Schedule I of the Indian Wildlife (Protection) Act, 1972.
- Threats to the GIB include widespread hunting for sport and food, and activities such as mining, stone quarrying, excess use of pesticides, grassland conversion and power projects along with the expansion of roads and infrastructures such as wind-turbines and power cables.

**About the Habitat of Great Indian Bustard**

- The Great Indian Bustard's habitat includes Arid and semi-arid grasslands with scattered short scrub, bushes and low intensity cultivation in flat or gently undulating terrain. It avoids irrigated areas.
- GIBs' historic range included much of the Indian sub-continent but it has now shrunk to just 10 per cent of it.
- Among the heaviest birds with flight, GIBs prefer grasslands as their habitats. Being terrestrial birds, they spend most of their time on the ground with occasional flights to go from one part of their habitat to the other.
- GIBs are considered the flagship bird species of grassland and hence barometers of the health of grassland ecosystems.
- They feed on insects, lizards, grass seeds etc.

**On the brink of extinction**

- In 2020, the Central government had told the 13th Conference of Parties to the United Nations Convention on Migratory Species of Wild Animals (CMS) held in Gandhinagar, that the GIB population in India had fallen to just 150.
- Of the 150 birds in 2020, over 120 birds were in Rajasthan, some were in Kutch district of Gujarat and a few in Maharashtra, Karnataka and Andhra Pradesh.
- Pakistan is also believed to host a few GIBs.
- Due to the species' smaller population size, the International Union for Conservation of Nature (IUCN) has categorised GIBs as critically endangered, thus on the brink of extinction from the wild.
- Scientists of Wildlife Institute of India (WII) have been pointing out overhead power transmission lines as the biggest threat to the GIBs.

**SC's recent hearing on Power Lines threatening the GIB**

- A bench of the Supreme Court will examine on a priority basis whether overhead power cables can be replaced with underground ones to save one of the heaviest flying birds on the planet.
- The CJI suggested that: wherever there is high voltage power lines, they can use flight bird divertors even if the recurring costs are high, and wherever there are overhead low voltage lines, these lines can be placed underground.

- The SC was informed that only low voltage lines can go underground but not the high voltage ones.
- The court found further that an alternative mechanism — to install flight bird divertors — to guide the birds away from the power lines would be expensive. In fact, the court discovered that the divertors, with their recurring costs, would end costing more than installing and maintaining underground lines.

### Single use plastic

- **Focus:** GS III- Environment and Ecology

### Why in News?

- The Ministry of Environment, Forest & Climate Change (MoEF&CC) issued notification banning production, sale, stocking & distribution, import and usage of identified Single Use Plastic (SUP) items including cutlery items, thin packaging films, candy & ice-cream sticks.

### About Single use plastic

- Single-use plastics, often also referred to as disposable plastics, are commonly used for plastic packaging and include items intended to be used only once before they are thrown away or recycled.
- These include, among other items, grocery bags, food packaging, bottles, straws, containers, stirrers, styrofoam cups or plates etc.

### Impacts of Single Use Plastic (SUP)

- **Environmental pollution:** A staggering total of it remains uncollected causing choking of drainage and river systems, littering of the marine ecosystem, soil and water pollution, ingestion by stray animals, and open air burning leading to adverse impact on environment.
- **Disposal issue:** They do not biodegrade instead they slowly break down into smaller pieces of plastic called microplastics which again causes more issues. It can take up to thousands of years for plastic bags and Styrofoam containers to decompose.
- **Human health:** The toxins, poisons and persistent pollutants present in some of these plastic products leach and enter human bodies where they cause several diseases, including cancer and can damage nervous systems, lungs and reproductive organs. Humans may be consuming anywhere from 39,000 to 52,000 microplastic particles a year through fish (contaminated with microplastics) alone.
- **Marine life & climate change:** Plastic waste is at epidemic proportions in the world's oceans with an estimated 100 million tonnes dumped there to date.
- Plastic kills an estimated 1 million sea birds every year and affects around 700 species which get infected by ingesting plastics. Single-use plastics make up on average 49% of beach litter.
- **Increasing Carbon dioxide:** If the production, disposal and incineration of plastic continues on its present-day growth trajectory, by 2030 these global emissions could reach 1.34 gigatonne per year — equivalent to more than 295 coal-based power plants of 500-MW capacity.
- **More impact on developing countries:** The ubiquitous plastic seems to be a curse for the third world countries, because poor countries, especially in Asia, not only have their own plastic dump to deal with but also the plastic trash that lands on their shores from developed countries.

### Challenges with banning single use plastic

- **No immediate alternatives:** It is difficult to ban the product which is of immense use to the public, without thinking of a sustainable and equally utilitarian alternative product.
- For e.g. Single-use plastic helps keep medical equipment sterile and safe to use.
- There is no alternative to plastic yet and sectors like pharmaceuticals, hardware, toys, food processing, food delivery will be in total chaos.
- While there is increased awareness in urban area, the challenge will be to find a suitable cost effective alternatives in tier II and tier III towns and remote locations.

- **Impact on packaging industry:** It impacts most industries since SUP forms part of packaging and hence is linked to all industries directly or indirectly.
- If plastic sachets made from multi-layered packaging are banned, it can disrupt supplies of key products such as biscuits, salt and milk etc which has made life easier for the poor in terms of affordable small packs and convenience.
- Ban will increase the price of most FMCG products as manufacturers would try and shift to alternative packaging (which can be costlier).
- **Loss of jobs and revenue:** Ban can lead to loss of revenue as well as job loss in the plastic manufacturing industry.
- India's plastic industry officially employs around 4 million people across 30,000 processing units, out of which 90% are small to medium-sized businesses.
- Plastics also support thousands employed informally such as ragpickers as well as street food and market vendors who are reliant on single-use plastic.
- **Attitudinal change:** It is difficult as no one takes the responsibility for the single use plastic thrown by them and behaviour change towards the shift from non-using of single use plastic is difficult.

#### *Measures taken so far in India*

- Plastic Waste Management Rules, 2016 state that every local body has to be responsible for setting up infrastructure for segregation, collection, processing, and disposal of plastic waste.
- Plastic Waste Management (Amendment) Rules 2018 introduced the concept of Extended Producer Responsibility (EPR).
- Ban on Single-Use Plastics in a bid to free India of single-use plastics by 2022.
- World Environment Day, 2018 hosted in India, the world leaders vowed to "Beat Plastic Pollution" & eliminate its use completely.

#### **Mission LiFE (Lifestyle For Environment)**

- **Context:**
- Prime Minister, in the presence of U.N. Secretary-General Antonio Guterres, launched 'Mission LiFE' (Lifestyle For Environment), a new initiative for sustainable and healthy lifestyle at the Statue of Unity in Gujarat.

#### *Relevance:*

- GS III: Environment and Ecology

#### *Dimensions of the Article:*

- 1. Details
- 2. About LiFE-Movement
- 3. Vision and Mission of LiFE
- 4. What can be done to fulfil the vision of LiFE?

#### *Details:*

- "LiFE – Lifestyle for the Environment", PM Modi had proposed the one-word mass movement "LiFE" at the 26th session of the Conference of the Parties to the UN Framework Convention on Climate Change at Glasgow last November.
- "LiFE", a global initiative launched by Prime Minister Narendra Modi, will be the theme of the India pavilion at the upcoming COP27 at Sharm-El-Sheikh in Egypt.

#### *About LiFE-Movement*

- The idea promotes an environmentally conscious lifestyle that focuses on 'mindful and deliberate utilisation' instead of 'mindless and wasteful consumption'.



***Aim of LiFE:***

- The LiFE Movement aims to utilise the power of collective action and nudge individuals across the world to undertake simple climate-friendly actions in their daily lives.
- The LiFE movement, additionally, also seeks to leverage the strength of social networks to influence social norms surrounding climate.

***Pro-Planet People:***

- The Mission plans to create and nurture a global network of individuals, namely 'Pro-Planet People' (P3), who will have a shared commitment to adopt and promote environmentally friendly lifestyles.
- Through the P3 community, the Mission seeks to create an ecosystem that will reinforce and enable environmentally friendly behaviours to be self-sustainable.
- LIFE recognizes that small individual actions can tip the balance in the planet's favour.

***Vision and Mission of LiFE:***

- **Vision of LiFE:**
- The vision of 'LiFE' is to live a lifestyle that is in tune with our planet and does not harm it. The people who live such a lifestyle can be called "Pro-Planet people."

**Mission LiFE for India:**

- Mission LiFE borrows from the past, operates in the present and focuses on the future.
- Reduce, Reuse and Recycle are the concepts woven into our life. The Circular Economy has been an integral part of our culture and lifestyle.

***What can be done to fulfil the vision of LiFE?*****Fostering a sense of personal accountability beginning at home:**

- This spirit is embodied in behaviours like saving energy at home,
- Cycling and taking public transportation instead of driving, which are mindful choices fostered by LiFE.
- Consuming more plant-based foods while reducing waste;
- Using our influence as consumers and workers to demand climate-friendly products.

**Utilizing nudging strategies to promote constructive behaviour**

- By using "nudges," or gentle persuasion strategies to encourage positive behaviour, many of LiFE's objectives can be met.
- The UN Environment Programme (UNEP) uses tried-and-true nudging strategies, such as serving smaller plates in cafeterias to discourage food waste;
- Boosting recycling by enhancing the aesthetics of bin lids;

**Changing to more environmentally friendly consumption patterns:**

- The UNEP estimates that household consumption and lifestyles are responsible for more than two-thirds of greenhouse gas emissions.
- Only the widespread adoption of environmentally friendly consumer practices will result in the urgent reductions in global emissions we need.

**Green crackers*****Context:***

- According to the National Green Tribunal (NGT), green crackers are permitted only in cities and towns where air quality is moderate or poor.
- **Relevance:**

- GS III: Environment and Ecology

### *Dimensions of the Article:*

- 1. What are Green Crackers?
- 2. What are the toxic metals that traditional crackers release?
- 3. Health Impact:
- 4. SC on Firecrackers in the past

### *What are Green Crackers?*

- Green crackers do not contain harmful chemicals and reduce air pollution.
- They are eco-friendly, i.e., green crackers are less harmful as compared to conventional firecrackers and reduces air pollution.
- In green crackers, the commonly used polluting chemicals like aluminium, barium, potassium nitrate and carbon have either been removed or sharply reduced to slow down the emissions by 15 to 30%.

### *About the development of Green Crackers*

- These green crackers have been developed by the **National Environmental and Engineering Research Institute (NEERI)**, a CSIR lab.
- At the first phase of producing green crackers focus was on reducing pollutants and then further strategies will cover to remove pollutants from the compositions.
- CSIR-NEERI have developed potential sound-emitting functional prototypes that do not emit sulphur dioxide.
- The crackers have been named as **Safe Water Releaser (SWAS)**, **Safe Thermite Cracker (STAR)** and **Safe Minimal Aluminium (SAFAL)**.
- The particulate matter will be **reduced by 30-35 per cent in SWAS and 35 to 40 per cent in SAFAL and STAR**.
- According to the researchers, these crackers have the unique property of releasing water vapour, air as a dust suppressant and diluents for gaseous emissions that match with the performance in sound with traditional conventional crackers.
- Basically, green crackers don't contain barium substance which is used in the firecrackers to add green colour, as barium can cause burns, poisoning and deaths.
- Green crackers will reduce at least 30 percent emissions using particulate matter Potassium Nitrate as an oxidant.

### *About SWAS and STAR*

- The reduce particulate matter including sulphur dioxide and nitrogen oxide by at least 30 percent and also eliminate the use of potassium nitrate and sulphur.
- The two types have matching sound intensity with commercial crackers, that is, in the range of 105-110 dBA.

### *About SAFAL*

- Minimum use of aluminium that results in at least 35 percent reduction in a particulate matter as compared to commercial crackers.
- Its sound intensity matches with commercial crackers in the 110-115 DbA range.
- Product category consists of Chinese crackers, maroons, atom bombs, flowerpots, pencils and sparkles.

### *What are the toxic metals that traditional crackers release?*

- Crackers release several toxic metals that can be harmful for health.
- The white color emitted through crackers is aluminium, magnesium and titanium, while the orange colour is carbon or iron.

- Similarly, yellow agents are sodium compounds while blue and red are copper compounds and strontium carbonates.
- The green agent is barium mono chloride salts or barium nitrate or barium chlorate.

#### ***Health Impact:***

- **Lead** in crackers impact the nervous system while copper triggers respiratory tract irritation, sodium causes skin issues and magnesium leads to mental fume fever.
- **Cadmium** not just causes anemia but also damages the kidney while nitrate is the most harmful that causes mental impairment.
- The presence of nitrite causes **irritation in mucous membrane, eyes and skin.**
- The most vulnerable population though are infants, children, pregnant women, elderly and people with underlying medical conditions.

#### ***SC on Firecrackers in the past***

- In 2017, the SC had banned the use and sale of toxic crackers on the basis of a petition filed by two infants who pleaded for their right to life.
- The court had said the sale of green and improved crackers would be only through licensed traders. It dismissed arguments that bursting crackers was a fundamental right and an essential practice during religious festivals like Diwali.
- The Court's endeavour was to strive at balancing of two rights, namely, right of the petitioners under Article 21 and right of the manufacturers and traders under Article 19(1)(g) of the Constitution
- The SC said it felt that Article 25 [right to religion] is subject to Article 21 [right to life].
- If a particular religious practice is threatening the health and lives of people, such practice is not to entitled to protection under Article 25.

#### ***About the SC probe and the issues found with Firecrackers***

- In 2017, the Supreme court had banned the use and sale of toxic crackers during the celebration owing to diwali, Christmas, etc., on the basis of a petition filed by two infants.
- In March 2020, the court ordered the CBI Joint Director in Chennai to conduct detailed probe into allegations of violation of the court ban in 2018.
- A chemical analysis of the samples of finished and semi-finished firecrackers and raw materials taken from the manufacturers showed barium content.
- Firecracker covers did not show the manufacture or expiry dates.
- Many firecracker manufacturers continued to use toxic ingredients fully knowing that the court had banned them.
- Children are employed in these factories and are exposed to the poison.
- The toxic ingredients end up poisoning the air and deteriorating the air quality.

#### ***Living Planet Report 2022***

- **Context:**
- According to the **World Wide Fund for Nature's Living Planet Report 2022**, there has been a 69% drop in the number of mammals, birds, amphibians, reptiles, and fish worldwide over the past 50 years (WWF).
- Every two years, this report is made available.

**Relevance:** GS III: Environment and Ecology

#### ***Dimensions of the Article:***

- 1. Key findings of the Report
- 2. What is the Living Planet Index?
- 3. About WWF
- 4. Recommendations of the Report

**Key findings of the Report**

- The region of **Latin America and the Caribbean** experienced the greatest drop in wildlife numbers (94%).
- **Populations of freshwater species** have decreased by 83% worldwide.
- About half of the hazards to the migratory fish species under observation were caused by habitat loss and obstructions to migration pathways.
- The **Living Planet Index (LPI)** revealed that the world's tropical regions are experiencing a particularly alarming rate of decline in vertebrate animal populations.
- At a rate of 0.13% each year, **mangroves** are still being lost to aquaculture, agriculture, and coastal development.
- In addition to natural stressors like storms and coastal erosion, many mangroves are also harmed by overuse and pollution.
- WWF identified **six key threats to biodiversity** to highlight 'threat hotspots' for terrestrial vertebrates:
  - Agriculture
  - Hunting
  - Logging
  - Pollution
  - Invasive Species
  - Climate Change

**What is the Living Planet Index?**

- It works as an indicator of biodiversity health. It measures the state of the world's biological diversity based on the population trends of vertebrate species.
- **UN Convention on Biological Diversity (CBD)** has adopted LPI as the indicator of progress towards the convention's 2011-12 target to take actions to halt biodiversity loss.
- **Institute of Zoology (ZSL)** manages the Living Planet Index.

**What does the Living Planet Index not monitor?**

- The numbers of species lost or extinct
- Percentage of species declining
- Percentage of populations or individuals lost

**About WWF:**

- It is an international non-governmental organization
- It is the world's largest conservation organization
- Founded in 1961
- **Headquarter** — Gland (Switzerland).
- **Aim** : Wilderness preservation & the reduction of human impact on the environment

**Objectives:**

- Conserving the world's biological diversity
- Ensuring that the use of renewable natural resources is sustainable
- Promoting the reduction of pollution and wasteful consumption

**Recommendations of the Report**

- The planet is experiencing double emergencies of human-induced climate change and biodiversity loss, threatening the well-being of current and future generations. Biodiversity loss and climate crisis should be dealt with as one instead of two different issues as they are intertwined.
- A nature-positive future needs transformative, game-changing shifts in how we produce, how we consume, how we govern and what we finance.



- An all-inclusive collective approach towards a more sustainable path must be adopted. It will ensure that the costs and benefits from our actions are socially just and equitably shared.

## GM mustard

- **Context:**
- Recently, the Genetic Engineering Appraisal Committee (GEAC) under the Union Ministry of Environment, Forest and Climate Change recommended the “environmental release” of the transgenic hybrid mustard DMH-11 for seed production and conduct of field demonstration studies with respect to its effects, if any, on honey bees and other pollinating insects.
- **Relevance:** GS II: Environment and Ecology

### *Dimensions of the Article:*

- 1. What exactly is hybrid mustard?
- 2. What are GM Crops?
- 3. Regulating Bodies concerned with GM Crops

### *Genetic modification (GM) of Mustard:*

- Scientists at Delhi University’s Centre for Genetic Manipulation of Crop Plants (CGMCP) have developed the hybrid mustard DMH-11 containing two alien genes isolated from a soil bacterium called *Bacillus amyloliquefaciens*.
- The first gene (‘barnase’) codes for a protein that impairs pollen production and renders the plant into which it is incorporated male-sterile.
- This plant is then crossed with a fertile parental line containing, in turn, the second ‘barstar’ gene that blocks the action of the barnase gene.
- The resultant F1 progeny is both high-yielding and also capable of producing seed/ grain, thanks to the barstar gene in the second fertile line.
- The CGMCP scientists have deployed the barnase-barstar GM technology to create what they say is a robust and viable hybridisation system in mustard.
- This system was used to develop DMH-11 by crossing a popular Indian mustard variety ‘Varuna’ (the barnase line) with an East European ‘Early Heera-2’ mutant (barstar).
- DMH-11 is claimed to have shown an average 28% yield increase over Varuna in contained field trials carried out by the Indian Council of Agricultural Research (ICAR).

### *What are GM Crops?*

- Genetically modified crops (GM crops) are plants used in agriculture, the DNA of which has been modified using genetic engineering techniques. More than 10% of the world’s crop lands are planted with GM crops.
- In most cases, the aim is to introduce a new trait to the plant which does not occur naturally in the species like resistance to certain pests, diseases, environmental conditions, herbicides etc.
- Genetic Modification is also done to increase nutritional value, bioremediation and for other purposes like production of pharmaceutical agents, biofuels etc.

### *Regulating Bodies concerned with GM Crops*

- **GEAC**
- The top biotech regulator in India is Genetic Engineering Appraisal Committee (GEAC).
- The committee functions as a statutory body under the Environment Protection Act 1986 of the Ministry of Environment & Forests (MoEF).
- GEAC is responsible for granting permits to conduct experimental and largescale open field trials and also grant approval for commercial release of biotech crops.
- The Rules of 1989 also define five competent authorities for handling of various aspects of the rules:
- The Institutional Biosafety Committees (IBSC),

- Review Committee of Genetic Manipulation (RCGM),
- Genetic Engineering Approval Committee (GEAC),
- State Biotechnology Coordination Committee (SBCC) and
- District Level Committee (DLC)

### Cartagena Protocol

- The Cartagena Protocol on Biosafety to the Convention on Biological Diversity is an international agreement on biosafety as a supplement to the Convention on Biological Diversity effective since 2003.
- The Biosafety Protocol seeks to protect biological diversity from the potential risks posed by genetically modified organisms resulting from modern biotechnology.

### Blue Flag certification

- **Context:**
- Recently, the Blue Flag certification has been accorded to two new beaches – Minicoy Thundi Beach and Kadmat Beach- both in Lakshadweep.
- This takes the number of beaches certified under the Blue Flag certification to 12.
- **Relevance:** GS III- Environment

### *Dimensions of the Article:*

- 1. About Blue flag programme
- 2. Other 10 Beaches which have Received the Certification:
- 3. About BEAMS

### *About Blue flag programme*

- Blue Flag beaches are considered the cleanest beaches of the world.
- The recommendations are done by an independent National Jury composed of eminent environmentalists & scientists
- The Blue Flag Programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education).
- The main objective of the Blue Flag Programme are to improve understanding of the coastal environment and to promote the incorporation of environmental issues in the decision-making processes of local authorities and their partners.
- There are nearly 33 criteria that must be met to qualify for a Blue Flag certification, such as the water meeting certain quality standards, having waste disposal facilities, being disabled- friendly, have first aid equipment, and no access to pets in the main areas of the beach. Some criteria are voluntary and some compulsory.
- It started in France in 1985 and has been implemented in Europe since 1987, and in areas outside Europe since 2001, when South Africa joined.
- Japan and South Korea are the only countries in South and South-Eastern Asia to have Blue Flag beaches.
- Spain tops the list with 566 such beaches; Greece and France follow with 515 and 395, respectively.

### *Other 10 Beaches which have Received the Certification:*

- 1. Shivrajpur (Gujarat)
- 2. Ghoghla (Daman & Diu)
- 3. Kasarkod (Karnataka)
- 4. Padubidri beach (Karnataka)
- 5. Kappad (Kerala)
- 6. Rushikonda (Andhra Pradesh)
- 7. Golden beach (Odisha)
- 8. Radhanagar beach (Andaman and Nicobar)

- 9. Kovalam (Tamil Nadu)
- 10. Eden (Puducherry)

### About BEAMS

- SICOM, MoEFCC in pursuit of promoting its policies for sustainable development in coastal regions have embarked upon a highly acclaimed program “BEAMS” (Beach Environment & Aesthetics Management Services) under its ICZM (Integrated Coastal Zone Management) project.
- The objective of BEAMS program is to abate pollution in coastal waters, promote sustainable development of beach facilities, protect & conserve coastal ecosystems & natural resources, and seriously challenge local authorities & stakeholders to strive and maintain high standards of cleanliness, hygiene & safety for beachgoers in accordance with coastal environment & regulations.
- This program promotes beach recreation in absolute harmony with nature.

## INTERNAL SECURITY:

### Exercise SIMBEX

- **Focus:** Security challenges

### Why in News?

- The Indian Navy is hosting the 29th edition of the Singapore-India Maritime Bilateral Exercise (SIMBEX) from at Visakhapatnam.

### About Exercise SIMBEX:

- SIMBEX-2022 is being conducted in two phases – Harbour Phase at Visakhapatnam followed by the Sea Phase in Bay of Bengal.
- The Harbour Phase witnessed extensive professional and sporting interactions between the two navies including cross deck visits, Subject Matter Expert Exchanges (SMEE) and planning meetings.
- SIMBEX series of exercises began in 1994 and were initially known as Exercise Lion King.
- The scope and complexity of the exercise has risen substantially over the past two decades to include advanced naval drills covering a wide spectrum of maritime operations.
- The exercise exemplifies the high level of cooperation between India and Singapore in the maritime domain.
- It also highlights the commitment and contribution of the two nations towards enhancing maritime security in the Indian Ocean Region.

### Exercise 'Garuda VII'

- **Focus:** Security challenges

### Why in News?

- Indian Air Force (IAF) and French Air and Space Force (FASF) are participating in a bilateral exercise, named 'Garuda Vil at Air Force Station Jodhpur.

### About Exercise 'Garuda VII'

- This joint exercise will provide a platform for both the countries to enhance operational capability and interoperability, while also sharing best practices.
- This is the seventh edition of the bilateral exercise. The first, third and fifth editions were conducted in India in 2003, 2006 and 2014 at Air Force Stations Gwalior, Kalaikunda and Jodhpur, respectively.
- The second, fourth and sixth editions were conducted in France in 2005, 2010 and 2019.

- Participation of the IAF and FASF in this exercise will promote professional interaction, exchange of experiences and enhancement of operational knowledge, besides strengthening bilateral relations between the two countries.

## IBSAMAR VII

**Focus:** GS III: Security challenges

### **Why in News?**

- INS Tarkash reached Port Gqeberha (also known as Port Elizabeth), South Africa to participate in the seventh edition of India-Brazil-South Africa Maritime (IBSAMAR) i.e., IBSAMAR VII.

### **What is IBSAMAR VII?**

- IBSAMAR is an important part of IBSA trilateral defence cooperation.
- It is a joint Multinational Maritime Exercise between the Indian, Brazilian and South African Navies currently being held in South Africa from 10-12 October, 2022.
- The previous edition of IBSAMAR (IBSAMAR VI) was conducted in Simons Town, South Africa in 2018.
- The Indian Navy is represented by the Teg class guided missile frigate, INS Tarkash, a Chetak helicopter and the personnel from the Marine Commando Force (MARCOS).
- The harbour phase of IBSAMAR VII includes professional exchanges such as damage control and fire-fighting drills, Visit, Board, Search, and Seizure (VBSS)/cross boarding lectures and interaction among special forces.
- The Joint Maritime Exercise will strengthen maritime security, joint operational training, sharing of best practices and building interoperability to address common maritime threats.

## Interpol

### **Context:**

- The Interpol has rejected a second request by India to issue a Red Corner Notice against **Gurpatwant Singh Pannun**, the Canada-based founder and legal advisor of the pro-Khalistan outfit Sikhs for Justice (SFJ), whom the Union Ministry of Home Affairs has listed as a “terrorist” under the Unlawful Activities (Prevention) Act (UAPA).
- **Relevance:** GS III: Security challenges

### **Dimensions of the Article:**

1. About Interpol
2. What is a Red Notice?
3. Is an RN a warrant of arrest?

### **About Interpol**

- The International Criminal Police Organization (ICPO), commonly known as INTERPOL, is an international organization that facilitates worldwide police cooperation and crime control.
- Headquartered in **Lyon**, it has seven regional bureaux worldwide and a National Central Bureau in all 194 member states, making it the **world’s largest police organization**.
- INTERPOL provides investigative support, expertise, and training to law enforcement worldwide, focusing on three major areas of transnational crime: terrorism, cybercrime, and organized crime.
- Its broad mandate covers virtually every kind of crime, including crimes against humanity, child pornography, drug trafficking and production, political corruption, copyright infringement, and white-collar crime.
- The agency also facilitates co-operation among national law enforcement institutions through criminal databases and communications networks.
- **Contrary to popular belief, INTERPOL is itself not a law enforcement agency.**
- INTERPOL is mostly funded by annual contributions by member police forces in 181 countries.



- It is governed by a General Assembly, composed of all member countries, which elects the Executive Committee and the President.
- Pursuant to its charter, INTERPOL seeks to remain politically neutral in fulfilling its mandate, as it is barred from interventions or activities of a political, military, religious, or racial nature or involving itself in disputes over such matters.
- The agency operates in four languages: Arabic, English, French, and Spanish.
- **The Central Bureau of Investigation (CBI) is the nodal agency in the INTERPOL for India.**

#### *What is a Red Notice?*

- Criminals or suspects often flee to other countries to evade facing justice.
- A Red Corner Notice, or Red Notice (RN) alerts police forces across the world about fugitives who are wanted internationally.
- RNs contain information that helps identify wanted persons, such as their names, dates of birth, nationality, and physical attributes such as the colour of their hair and eyes, as well as pictures and biometric data such as fingerprints, if they are available. RNs also mention the crime(s) they are wanted for.
- An RN is published by Interpol at the request of a member country.
- The fugitives may be wanted for prosecution or to serve a sentence.
- The country issuing the request need not be the home country of the fugitive; Interpol acts on the request of a country where the alleged crime has been committed.
- These RNs are restricted for use by law enforcement authorities only.
- An RN is published on Interpol's website only in cases where the help of the public is needed to locate an individual, or if those individuals pose a threat to public safety.

#### *Is an RN a warrant of arrest?*

- An RN is only an international wanted persons' notice; it is not an international arrest warrant.
- Interpol itself does not want individuals; they are wanted by a country or an international tribunal.
- This means the Interpol cannot compel law enforcement authorities in any country to arrest the subject of an RN.
- It is up to individual member countries to decide what legal value to give to an RN, and the authority of their national law enforcement officers to make arrests.
- Every Red Notice request is checked by a specialised task force to ensure it is compliant with (Interpol) rules.
- The Interpol argues that an RN is issued only after a competent court has taken cognisance of a chargesheet against the fugitive.