# CURRENT AFFAIRS WEEKIN



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World hits its Overtourism Tipping
 Point

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- China's Role in the Global Supply Chain
- Countries on India's interests
- India on USTR's 'Priority Watchlist' for IP Rights
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# DISCLAIMER

he current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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# **MAINS ARTICLES**

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# 1. WORLD HITS ITS OVERTOURISM TIPPING POINT

**Context:** Venice has responded to overtourism by implementing a 5€ fee for day trippers visiting the city, addressing the widespread issue exacerbated by the global pandemic.

#### 1: Dimension-Impact of Overtourism

- Overtourism arises when destinations face an overwhelming influx of tourists, leading to adverse effects on the environment, infrastructure, and local communities.
- India is ranked 10th among 185 countries in terms of travel & tourism's total contribution to GDP in 2019. However, it also brings social, economic, and environmental consequences.
- Challenges include disenchanted locals, degraded tourist experiences, strained infrastructure, and cultural threats.
- ♦ **Social impact**: It can cause difficulties for the locals as mentioned above overtourism affects their quality of life.
- ♦ **Economic issue**: Overcrowding results in congested public spaces, increased real estate prices, reduced residents' purchasing power.
- ♦ Environmental issue: Depletion of local natural resources and species as well as pollution and waste problems. Tourism contributes to more than 5 percent of global greenhouse gas emissions, with transportation accounting for 90 percent of this.

#### **Addressing Overtourism**

- Tourism de-growth has long been posited as a remedy to overtourism.
- De-marketing destinations has been applied with varying degrees of success.
- Introducing entry fees and gates to over-tourist places like Venice is another deterrent.

# Fact Box: Measures taken by other countries to protect tourist spots

- **Italy** banned cruise ships from entering Venice as waves generated by them were causing irreparable damage to the foundations of the flood-prone city.
- Amsterdam and Barcelona have banned new hotel developments in their respective city centres to fight back over-tourism.

# 2. DEVELOPMENT OF ELECTRIC PROPULSION SYSTEM FOR INDIAN WARSHIPS

Context: The recent discussions between the Centre and the UK government regarding the development of an electric propulsion system in India to power domestic warships mark a significant milestone in India's maritime capabilities.

#### 1: Dimension- Significance of the Agreement

- Currently, Indian warships rely on diesel engines, gas turbines, or steam turbines for propulsion. The shift towards electric propulsion, especially for larger warships exceeding 6,000 tonnes displacement, signifies a strategic leap in naval operations.
- Electric propulsion harnesses electrical power to drive propeller blades, offering enhanced efficiency and maneuverability.
- It promises to revolutionize ship navigation, reduce carbon footprint, and augment electric power availability, thereby enhancing overall operational effectiveness.

# 2: Dimension- Impact on Maritime Security and Defense

- Strengthened security posture: The adoption of electric propulsion technology is poised to strengthen India's maritime security posture by equipping its warships with cutting-edge propulsion systems.
- Enhanced maneuverability and operational efficiency offered by electric propulsion will bolster the country's naval capabilities, enabling swift response to evolving threats and challenges in the maritime domain.
- Self-reliance in defense manufacturing: The collaboration with the UK underscores India's commitment to leveraging international partnerships for technological advancement and indigenous defense production, aligning with the broader goal of self-reliance in defense manufacturing.
- Stability: By harnessing innovative technologies and fostering strategic partnerships, India is poised to emerge as a formidable maritime power, capable of safeguarding its maritime interests and contributing to regional stability in the Indo-Pacific region.

#### Fact Box: Key-details of the Agreement:

- **Aim:** to foster collaboration between the Indian and UK navies for the development of electric propulsion capability in India.
- Other aspects of the pact: Training, equipment procurement, and infrastructure development, to ensure a comprehensive approach towards building indigenous electric propulsion capabilities.
- The partnership entails collaboration between UK's GE Power Conversion and India's Bharat Heavy Electricals Ltd (BHEL) for the development of the 'Integrated Full Electric Propulsion System'.
- Notably, the UK Royal Navy's Queen Elizabeth Class aircraft carriers serve as models for integrated full electric propulsion vessels.

# 3. INDIA ON USTR'S 'PRIORITY WATCHLIST' FOR IP RIGHTS

Context: The United States Trade Representative (USTR) has maintained India's position in the 'Priority Watchlist,' highlighting persistent challenges in the protection and enforcement of intellectual property (IP) rights. India has been identified as one of the most challenging countries in this regard.

#### 1: Dimension-Issues/Challenges in India:

- Concerns over Patent Issues: India continues to face scrutiny over patent issues, with the USTR emphasizing the country's challenges in safeguarding IP rights. Despite efforts to modernize its patent system, patent issues remain a significant area of concern, impacting both domestic and international stakeholders.
- Amendments to Patent Rules: The recent adoption of the Patents (Amendments) Rules, 2024 by India aims to address long-standing burdens on patent applicants. These amendments include changes to procedures for pre-grant oppositions, updates to patent working reporting forms, and reduced reporting time for foreign applications. While welcomed by the USTR, the implementation of these reforms will be closely monitored.
- Pharmaceutical Sector Concerns: Stakeholders in the US pharmaceutical industry have raised concerns regarding India's mechanism for resolving potential patent disputes in the pharmaceutical sector. The efficacy of India's approach to balancing IP protection with promoting access to essential technologies remains under scrutiny.

# 2: Dimension- Implications and Recommendations:

India's retention in the USTR's 'Priority Watchlist' underscores the importance of addressing IP-related

- challenges to foster a conducive environment for innovation and economic growth.
- As India strives to balance IP protection with broader developmental goals, continued reforms and proactive measures are essential to address the concerns raised by the USTR and other stakeholders.
- Enhanced collaboration and dialogue between India and the US can facilitate the resolution of IP issues and promote mutual understanding and cooperation in the field of intellectual property rights.

# 4. SUPREME COURT'S VERDICT ON VVPAT COUNT

Context: The recent Supreme Court ruling rejecting pleas for a full count of Voter-Verifiable Paper Audit Trail (VVPAT) slips during electronic voting machine (EVM) elections has sparked debates on the integrity and transparency of India's electoral process.

# 1: Dimension- Supreme Court's views and directions

- The Supreme Court issued directions mandating the sealing of the **Symbol Loading Unit (SLU)** after symbol loading and verification of burnt memory semi-controller in 5% of EVMs per constituency.
- Candidates can request verification of EVMs, with expenses to be borne by the requesting candidate, ensuring transparency and accountability in the electoral process.
- Citizens' Confidence: Writ petitions highlighted the significance of a complete VVPAT count in enhancing citizens' confidence in the electoral process. Despite calls for transparency, the Court's ruling prioritizes maintaining the integrity of the electoral system.

#### 2: Dimension-Role of VVPAT Machines:

- VVPAT machines provide transparency by displaying voters' selections through paper slips, contributing to electoral transparency.
- The Supreme Court's decision underscores the importance of adhering to existing protocols and guidelines established by the Election Commission of India (ECI).

#### 3: Dimension-Concerns over EVMs:

- The Court's caution against releasing the source code for EVMs reflects concerns over potential misuse and tampering.
- This stance raises questions about the robustness of India's electoral infrastructure, despite the ECI's assurances of tamper-proof EVMs.



While the Supreme Court's verdict reaffirms the integrity of India's electoral process, ongoing vigilance and scrutiny are essential to address concerns related to transparency, accountability, and electoral integrity. Ensuring trust and confidence in the electoral system remains paramount for upholding the principles of democracy in India.

#### UPSC PYQ

Q. In the light of recent controversy regarding the use of Electronic Voting Machines (EVM), what are the challenges before the Election Commission of India to ensure the trustworthiness of elections in India? (2018)

#### 5. GLACIAL LAKE EXPANSION

**Context:** The Indian Space Research Organisation (ISRO) recently released a **satellite-data-based analysis** shedding light on the **expansion of glacial lakes** in the catchments of Indian Himalayan river basins. This analysis comes amidst growing concerns about the risks of **glacial lake outburst floods (GLOFs)**.

#### **Insights from ISRO's Analysis:**

- ISRO's analysis, spanning four decades of satellite data from 1984 to 2023, revealed significant expansion in the size of glacial lakes within the Indian Himalayan region.
- Out of the 2,431 lakes larger than 10 hectares identified during 2016-17, 676 glacial lakes had notably expanded since 1984, with 601 lakes more than doubling in size.
- Approximately 130 of these expanded lakes are situated in India, particularly in the Indus, Ganga, and Brahmaputra river basins, a consequence of glaciers retreating due to global warming.

#### 1: Dimension-Risks and Challenges:

- Glacial lakes serve as vital freshwater sources for rivers but also pose risks, particularly GLOFs, which can result in sudden and severe flooding downstream.
- Monitoring these lakes in the rugged Himalayan terrain is challenging, underscoring the importance of satellite remote-sensing technology for comprehensive monitoring and risk assessment.

#### 2: Dimension-Mitigation Strategies:

- The NDMA released guidelines on how to deal with disasters caused by GLOFs.
  - ▶ Identification and mapping of glacial lakes.
  - ➤ Using **Synthetic-Aperture Radar imagery** to automatically detect changes in water bodies, including new lake formations, during the monsoon months.

- ► Methods could be developed to permit remote monitoring of lakes from space.
- ➤ To manage lakes structurally, decreasing the volume of water with methods like **controlled breaching**, **pumping or siphoning out water**, and making a tunnel through the moraine barrier or under an ice dam
- Studies have explored strategies like using long High-Density Polyethylene (HDPE) pipes to syphon off lake water, as demonstrated in initiatives like reducing water levels in Sikkim's South Lhonak Lake.

#### **Fact Box:**

#### **Formation of Glacial Lakes:**

- Glacial lakes are primarily formed by the accumulation of meltwater in depressions created by glacier movement.
- ISRO categorizes glacial lakes into following types based on their formation mechanisms:
  - moraine-dammed
  - ▶ ice-dammed
  - erosion-based, and others

#### **Glacial Lake outburst**

- When the boundary around unstable glacial lake breaks, and huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas.
- This is called glacial lake outburst floods or GLOF.
- **Factors causing GLOF:** earthquakes, extremely heavy rains, landslides and ice avalanches.

#### **South Lhonak Lake**

- South Lhonak Lake is a glacial-moraine-dammed lake, located in Sikkim's far north-western region.
  - ➤ The lake is located at 5,200 m (17,100 ft) above sea level.
  - ➤ It formed due to the melting of the Lhonak glacier.

# 6. DECREASING TREND IN SOLAR RADIATION

Context: As per a recent study published in India Meteorological Department (IMD) journal Mausam, the quantity of solar radiation available that can be economically converted by solar panels to electricity is showing an "alarming decreasing trend" in several locations in India.

#### **Solar Radiation Trends (Key-findings)**

Study base: The study investigates global radiation (GR), diffuse radiation (DR), bright sunshine hours **(BHS)**, and the technical potential of **solar power** (**Solar Photovoltaic potential (SPV))** using **in-situ** data collected by the **India Meteorological Department** from 1985 to 2019.

- ► **GR** is high over the northwest and inland areas of peninsular India, while DR is high over coastal stations and extreme northern parts of the country.
- ➤ **BHS** is more pronounced in northwest India but less in the north, northeast, and southern peninsular regions.
- India's SPV potential ranges from 1800 to 3400 W/m<sup>2</sup>, exhibiting substantial regional variations. High SPV potential is observed in the northwest regions and southern peninsular India.
- However, there's an alarming trend: GR and BHS have a significant decreasing trend across most parts of India. The rate of decrease has weakened in the recent decade.
- The technical potential of solar power has also shown a significant decreasing trend in most selected stations, emphasizing the need for more efficient solar panels to meet energy requirements from solar resources.

#### **Challenges and Solutions:**

- Increased aerosol load (fine particles from carbon emissions, fossil fuel burning, and dust) and clouding contribute to the declining solar radiation.
- Aerosols absorb sunlight and deflect it away from the ground, while dense clouds block sunlight.
- Installing more efficient solar panels can mitigate the impact of reduced solar radiation.

#### **Fact Box**

#### **India's Solar Goals:**

- India aims to source nearly 500 GW (half of its electricity requirement) from non-fossil fuel sources by 2030.
- Achieving this goal necessitates adding at least 280 GW of solar power capacity by 2030, which is a substantial increase from the current 81 GW installed capacity.
- The challenge lies in accelerating solar capacity growth to bridge the gap.

#### **About MAUSAM:**

- MAUSAM, formerly known as the Indian Journal of Meteorology, Hydrology, and Geophysics, has been a premier scientific research journal since its launch in January 1950.
- It focuses on climatology, particularly the troposphere, and covers topics related to monsoons and other atmospheric phenomena.

#### 7. NEW COLLECTIVE QUANTIFIED GOAL (NCQG) ON CLIMATE FINANCE

Context: Setting a new goal for the provision of climate finance to developing countries is poised to be the central topic for 29th Conference of Parties (COP29) to the United Nations Framework Convention on Climate Change (UNFCCC) in Azerbaijan, across this year. The Platform provides a crucial platform for countries to address climate finance and establish the New Collective Quantified Goal (NCQG) to guide financial targets.

#### 1: Dimension-Significance of Climate Finance

- Climate finance is essential for promoting climate action, supporting efforts at adaptation and reduction, and supporting developing countries, small island states, and the world's least developed nations in particular.
- Climate financing is a lifeline for disadvantaged countries facing the negative effects of climate change. The economic effects of climatic disasters disproportionately affect poorer countries, demanding targeted financial support to promote climate justice.
- The NCQG's creation is extremely important for guaranteeing fair access to funding for climate adaptation and mitigation.
- Countries can intensify their efforts to mitigate climate change and protect the most vulnerable populations by establishing explicit budgetary targets.

#### **Fact Box:**

#### **2015 Paris Climate Finance Agreement**

- Developed countries committed to pooling resources to raise USD 100 billion yearly by 2020 for climate action in developing countries at the UNFCCC's 15th Conference of Parties (COP15) in Copenhagen in 2009, provided that substantial mitigation measures are taken and that implementation is transparent.
- The goal was formalized at COP16 in Cancun; in COP21 in Paris, it was reiterated and given an extension until 2025.
- India recently in its latest submission to the UN climate body called for developed countries to provide at least USD 1 trillion per year in climate finance to developing countries from 2025 for actions pertaining to Sustainable Development Goals (SDGs).

### New Climate Finance Collective Quantified Goal (NCQG)

 The post-2025 climate finance objective, or New Collective Quantified objective on Climate Finance (NCQG), will be negotiated with a \$100 billion annual baseline while taking developing nations' needs and priorities into account.



# 8. FOREST FIRE IN INDIA AND PREVENTION

**Context:** The frequency and intensity of forest fires are increasing day by day in India. The most recent victim is **Uttarakhand**, whose forests are witnessing massive fire.

### 1: Dimension- Frequency and Causes of Forest Fires in India

- **Forest Fire Season Duration:** November to June.
- Contributing Factors: Factors such as temperatures, precipitation, vegetation, and moisture contribute to the scale and frequency of these fires.
- Factors contributing to the spread of forest fires: fuel load, oxygen, and temperature.
- Humans' role: Deliberate fires by locals (to promote growth of quality grass), carelessness, farming-related activities, agriculture and unchecked land-use patterns, concealing illegal tree cutting, or facilitating poaching and natural factors.
  - Friction between electricity cables and dry leaves, as well as lightning strikes, are additional triggers for wildfires.
- Extent of Vulnerability: As per Forest Survey of India (FSI) reports, nearly 36 per cent of India's forests are prone to frequent fires.
- Seasonal Variation: Higher incidences of forest fires are typically reported in March, April, and May due to the abundance of dry biomass after winter and during the summer season.
- Regional Vulnerability: Specific forest types, such as dry deciduous forests, are more prone to severe fires compared to evergreen, semi-evergreen, and montane temperate forests.
  - Approximately 4% of the country's forest cover is classified as extremely prone to fire, while 6% is considered very highly fire-prone, according to the India State of Forest Report (ISFR) in 2019.

#### 2: Dimension-Impact on Forest Biodiversity

- Loss and displacement of species: Direct loss of trees and wildlife, displacement and subsequent colonisation of unwanted species.
- Forest fires can meddle with the life cycle of species and push many of the threatened and endemic species closer to extinction. By destroying the leaves and foliage, photosynthetic activity of surviving trees are reduced and thereby affect their growth.
- Impact on recovery rate: The loss of keystone organisms in forest ecosystems, such as invertebrates, pollinators, and decomposers, can significantly slow the recovery rate of the forest.

Forest fires can also interfere with the reproduction and propagation of certain plants and animals.

## 3: Dimension- Management or Prevention of Forest Fire

- Methods Identified by MoEFCC:
  - ➤ **Early Detection:** Construction of watch towers for early detection and deployment of fire watchers.
  - ➤ **Community Involvement**: Engaging local communities in fire prevention and control efforts.
  - ➤ **Creation of Fire Lines**: Establishing and maintaining fire lines to prevent the spread of fires.
- Types of Fire Lines Recognized by National Disaster Management Authority (NDMA):
  - ➤ **Kachha Fire Lines**: These are covered fire lines where undergrowth and shrubs are cleared while retaining trees to reduce fuel load.
  - ➤ **Pucca Fire Lines**: Open fire lines created by clearcutting areas to separate forest compartments or blocks and control potential fire spread.
  - ➤ **Other methods**: Controlled burning, fire terracing, counter fire, rock walls, and others.

# 9. 75 MOST VULNERABLE ECONOMIES

Context: The global economy, despite facing unprecedented shocks, has exhibited remarkable resilience, with inflation waning and economies performing better than anticipated. However, amidst this positive outlook, the plight of the 75 poorest and most vulnerable economies, eligible for grants and low-interest loans from the World Bank's International Development Association (IDA), remains largely unnoticed.

# 1: Dimension- Challenges Faced by IDA Countries:

- Economic Reversal: IDA countries, home to a quarter of humanity, are experiencing a historic economic reversal amidst overlapping crises, pre-pandemic vulnerabilities, and wider issues such as climate change and conflict. By the end of 2024, these countries are expected to have witnessed the weakest half-decade of growth since the early 1990s.
- ♦ Income Convergence Stagnation: Despite global growth trends, income convergence relative to advanced economies has stalled, and one in three IDA countries is now poorer than before the pandemic. Extreme poverty rates are eight times higher in these nations, and half are either in debt distress or at high risk.
- External Challenges: Rising conflict and violence, coupled with escalating investment needs to address climate change vulnerabilities, exacerbate the challenges

facing IDA countries. Stagnant growth projections highlight the risk of prolonged economic stagnation.

# 2: Dimension- Unlocking Potential through Investment:

- Harnessing Demographic Dividends: With growing working-age populations and significant natural resource endowments, IDA countries possess untapped potential. Effective management of resources and investments in healthcare and education are vital to capitalize on demographic dividends.
- Fostering Stability and Growth: Investment growth in IDA countries has been weak, necessitating comprehensive policy reform packages to enhance fiscal stability, macroeconomic resilience, and structural reforms. Both public and private investments, coupled with quality infrastructure, are imperative for sustainable growth.
- International Cooperation: Enhanced international financing and cooperation are essential to complement IDA countries' policy efforts. Addressing global challenges such as climate change, trade, debt restructuring, food insecurity, and conflict resolution is crucial for fostering an enabling environment for IDA countries to thrive.

Investment in IDA countries is not only a matter of economic development but also a global imperative for long-term peace and prosperity. By addressing their economic challenges, harnessing demographic dividends, and fostering international cooperation, these nations can unlock their potential and contribute to global objectives. It is imperative for the global community to prioritize support for IDA countries, ensuring a brighter future for all.

#### **Fact Box: About IDA**

- **Founded in:** 1960
- **About IDA:** The International Development Association (IDA) is a global financial institution that offers assistance to impoverished nations through loans.
- IDA is not only the primary source of concessional financing for these countries, but its funding often catalyzes rapid development.
- IDA Countries: To qualify for IDA assistance, a country must primarily demonstrate its poverty level, determined by its Gross National Income (GNI) per capita falling below a specific threshold, updated yearly (set at USD 1,315 for the fiscal year 2024).
  - ➤ 36 countries have graduated from IDA so far.

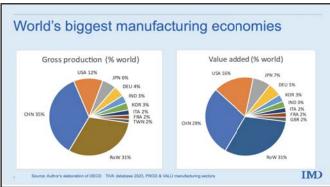
# 10.CHINA'S ROLE IN THE GLOBAL SUPPLY CHAIN

**Context:** Elon Musk, the CEO of Tesla, arrived in Beijing to promote Full Self-Driving (FSD), after cancelling his highly anticipated trip to India, highlighting the significance

of China in the global supply chain for the most valuable electric vehicle manufacturer in the world. Musk was there to promote Full Self-Driving (FSD).

# 1. Dimension: China's hegemony in battery manufacturing

- More than half of all electric vehicle (EV) sales worldwide are made in China, mostly due to the country's nearmonopoly status in battery production, which is essential to the creation of EVs.
  - ➤ Contemporary Amperex Technology Co Limited (CATL), a significant Chinese battery manufacturer produces Two-thirds of the world's batteries, which also supplies Tesla.
- ◆ Tesla's Dependence on China: China is now a key source of development for Tesla, outpacing the US and Europe in the production of electric vehicles.
  - ➤ The largest production plant of the EV behemoth was constructed in Shanghai in 2018 as a result of a new Chinese regulation that allowed foreign automakers to establish wholly-owned subsidiaries in that city.
- China's supply-chain advantage: Advanced material, skill levels, automation, logistics networks, policy-driven investment and commercial spending on research and development (R&D), dominance of certain natural resources and infrastructure to support the manufacturing ecosystem.



# 2. Dimension: Challenges & Opportunities for India:

- India faces challenges in establishing a robust EV supply chain, historically relying on battery imports.
- The Indian government is incentivizing battery production through the PLI scheme for advanced chemistry cell (ACC) battery storage, aiming to capture a significant share of the global battery market by 2030.
- Increased scrutiny of Chinese EV exports in Europe and the US presents opportunities for India to emerge as a competitive player in the global EV market.



#### **Fact Box:**

- Six nations manufacture at least 3% of the world total. China is followed by the United States, Japan, Germany, India, and South Korea.
- Sector dominated by China: Automotive tech, computers, communications and electronic equipment, machinery, medicines, raw-chemical materials and metal products.

#### 11.BALANCED FERTILISATION

Context: An increasingly important policy goal for the government is balanced fertilization, which tries to discourage farmers from using excessive amounts of urea, di-ammonium phosphate (DAP), and muriate of potash (MOP). Optimizing nutrient usage in agriculture is still an issue, despite initiatives like neem coating and nutrient-based subsidy (NBS) schemes.

# 1. Dimension: Implications of uneven fertilization

Fertilizers are essential to modern agriculture since they greatly boost crop yields. But it has detrimental effects on the environment and human health:

- Soil health: Improper or excessive fertilizer application can upset the soil's natural nutrient balance, resulting in nutrient imbalances and poor soil quality.
- Water contamination: Because inorganic fertilizers are soluble, there is a greater chance that they will seep into groundwater. Nitrates, a type of nitrogen, are especially dangerous since they can contaminate supplies of drinking water.
- Greenhouse Gases: Nitrous oxide (N2O) emissions can be caused by inorganic fertilizers, especially those that contain urea or ammonium.

# 2: Dimension-Challenges in controlling excessive usage

- Constant growth: Urea consumption surged to a record 35.8 million tonnes (mt) in the fiscal year ending in March 2024, representing a 16.9% increase from 2013–14 levels. The use of urea is increasing despite interventions like neem coating, raising questions about sustainability.
- Issues with Nutrient-Based Subsidies: The 2010 implementation of the NBS system linked subsidies to nutrient content in an effort to promote balanced fertilization. Despite being successful at first, the removal of urea from NBS reduced its efficacy, which over time caused urea consumption to rise again.
- Issues with Fertilizer Pricing: In recent times, price limitations on fertilizers other than urea have been

imposed, which has made nutrient imbalances in the agriculture sector worse. Price differences, especially for DAP and MOP, have encouraged overapplication, which has a negative impact on crop productivity and health.

#### **Fact Box**

#### Fertilizer consumption in India

- India is among the world's largest buyers of fertiliser, besides China, Brazil, and the US.
- India imports four types of fertilisers:
  - ▶ Urea
  - ➤ Diammonium phosphate (DAP)
  - ➤ Muriate of potash (MOP)
  - ➤ Nitrogen-phosphorous-potassium (NPK)

### All-India Consumption of Fertiliser Products (in lakh tonnes)

| · ·     |        |        |       |        |       |
|---------|--------|--------|-------|--------|-------|
|         | Urea   | DAP    | МОР*  | NPKS   | SSP   |
| 2003-04 | 197.67 | 56.25  | 18.41 | 47.57  | 25.44 |
| 2009-10 | 266.73 | 104.92 | 46.34 | 80.25  | 26.51 |
| 2011-12 | 295.65 | 101.91 | 30.29 | 103.95 | 47.46 |
| 2013-14 | 306.00 | 73.57  | 22.80 | 72.64  | 38.79 |
| 2014-15 | 306.10 | 76.26  | 28.53 | 82.78  | 39.89 |
| 2015-16 | 306.35 | 91.07  | 24.67 | 88.21  | 42.53 |
| 2016-17 | 296.14 | 89.64  | 28.63 | 84.14  | 37.57 |
| 2017-18 | 298.94 | 92.94  | 31.58 | 85.96  | 34.39 |
| 2018-19 | 314.18 | 92.11  | 29.57 | 90.28  | 35.79 |
| 2019-20 | 336.95 | 101.00 | 27.87 | 98.57  | 44.03 |
| 2020-21 | 350.43 | 119.11 | 34.25 | 118.11 | 44.89 |
| 2021-22 | 341.80 | 92.72  | 24.56 | 114.79 | 56.81 |
| 2022-23 | 357.25 | 104.18 | 16.32 | 100.74 | 50.17 |
| 2023-24 | 357.80 | 108.12 | 16.45 | 110.73 | 45.44 |

#### **State-sponsored Projects**

- The National Mission on Soil Health Card aims to encourage the balanced and prudent application of fertilizers based on soil tests.
- Mission Organic Value Chain Development for North East Region (MOVCD-NER) and Parampragat Krishi Vikas Yojana (PKVY) both aim to encourage organic farming.
- For training, Krishi Vigyan Kendras (KVKs)

# 12.MIDDLE EAST CONFLICT & IMPACT ON INDIAN ECONOMY

Context: The escalating discord between Israel and Iran, which has garnered widespread attention due to its potential ramifications on global stability, has multifaceted implications for India.

# 1: Dimension- Impact on Macroeconomic Stability:

- Expensive Oil: India is the world's third-largest consumer of crude oil and depends on imports to meet over 85% of its requirements. Given heavy reliance on crude oil imports, any disruption in the supply chain could significantly escalate inflationary pressures.
  - ➤ **Vulnerable sectors:** Automobiles, transportation, aviation, paints, tyres, cement, and chemicals could take the greatest hit.
- Threatened routes: While India does not import any crude from Iran (due to sanctions imposed by the US in 2019), there is a threat that Iran may close the Straits of Hormuz, the main route of transport for crude oil from the Middle East.
- High transportation cost: Higher oil prices not only pose risks to inflation forecasts but also exert a ripple effect on transportation costs, thereby influencing the prices of goods and services.
- Assessment of Inflation Trajectory: While the Wholesale Price Index (WPI) is more susceptible to fluctuations in crude oil prices, the Consumer Price Index (CPI) experiences a relatively smaller uptick.
- Impact on growth: A sustained surge in crude oil prices could also exert a drag on GDP growth due to curtailed consumption and weaker corporate margins.
- Current Account Deficit and Financial Flows: Even a modest increase in crude oil prices could exacerbate the CAD. Furthermore, the impact on foreign portfolio investments and remittances from Middle Eastern countries underscores the interconnectedness of geopolitical developments with India's economic fundamentals.

# 2: Dimension- Growing proximity between India and the Middle East region

- IMEC Project: The Indian government has been actively engaging with stakeholders in the region advocating for initiatives like the India-Middle East-Europe economic corridor.
- Market for emerging gulf industries: Transition of the Gulf economies away from their dependence on

hydrocarbons. That shift naturally positions **India as an attractive market for the emerging industries** in the Gulf countries.

- Notable in this context is the Gulf countries' investment in India's agriculture sector, which plays a crucial role in ensuring the Gulf's food security.
- Non-oil trade: Exemplifying this shift is the significant boost to non-oil trade between the UAE and India after Joint Comprehensive Economic Partnership Agreement.
- India's ascent as a global economic powerhouse: Western powers are facilitating the deepening of India's relationship with the Middle East. It can be seen through IMEC, Quad, I2U2.

#### **Concluding Assessment**

The Israel-Iran tensions present a formidable test for India's strategic acumen and resilience in navigating geopolitical complexities. By adopting a pragmatic and forward-looking approach, India can not only mitigate immediate risks but also harness emerging opportunities for long-term growth and stability.

#### **Fact Box:**

#### **Middle East**

- The Middle East is a region located at the crossroads of Europe, Africa, and Asia, primarily encompassing Southwest Asia and parts of North Africa.
- It generally includes countries such as Saudi Arabia, Iran, Iraq, Israel, Egypt, Turkey, Jordan, Syria, Lebanon, the United Arab Emirates, Qatar, Kuwait, Bahrain, Oman, Yemen, and Palestine.

#### **Strait of Hormuz**

- The Strait of Hormuz is a narrow waterway that connects the **Persian Gulf and the Gulf of Oman** - the only passage from the oil-rich gulf to the Indian Ocean for maritime traffic.
- The strait separates Iran (north) from the Arabian Peninsula (south).

#### **Trade Numbers**

- Trade between India and the Arab world has seen sustained growth, already surpassing USD 240 billion a year.
- Bilateral trade between India and the United Arab Emirates alone amounted to USD 84 billion as of the end of March 2023, while trade with Saudi Arabia topped USD 53 billion. The region supplies approximately 60% of India's total crude oil imports.



#### Wholesale Price Index vs Consumer Price Index

| Parameters                      | WPI  | СРІ  |  |
|---------------------------------|--|--|--|
| About                           | Measures the average change in the price of goods at a wholesale level or in the w h o l e s a l e market. | Calculates price changes of goods and services that a consumer has to pay for consuming a basket of goods. |  |
| Dominating commodity price      | Manufactured<br>goods  | Food articles  |  |
| Inflation data<br>(compiled by) | Ministry of<br>Statistics and<br>Programme<br>Implementation<br>(MoSPI)                                    | Department for<br>Promotion of<br>Industry and<br>Internal Trade<br>(DPIIT)                                |  |

# Why a change in crude oil prices transmits faster into WPI compared to CPI?

- Fuel items have a significantly lower weight in the CPI (4.2 per cent; including petrol, diesel, LPG and kerosene)
- Fuel items have high weigh in WPI (10.4 per cent; including crude oil, natural gas, and crude derivatives).
- For every 10 per cent increase in crude oil prices, the WPI inflation rises by 80-100 bps, against the 20-30 bps uptick in the CPI inflation

#### UPSC PYQ

Q. "India's relations with Israel have, of late, acquired a depth and diversity, which cannot be rolled back". Discuss. (2018)

# 13.EXAMINING THE DEBATE ON ECONOMIC REDISTRIBUTION IN INDIA

Context: Recent exchanges during the ongoing election campaign have centered on the redistribution of wealth. Additionally, the Supreme Court's establishment of a nine-judge Bench to interpret Directive Principles of State Policy (DPSP) regarding ownership and control of material resources adds complexity to the discourse.

# 1: Dimension - Balance b/w Fundamental Rights and DPSP:

The Constitution, through its Preamble and Parts III and IV, aims to ensure social and economic justice, liberty, and equality for all citizens. While fundamental rights guarantee liberty and equality, DPSP provides principles for achieving social and economic justice. Notably,

- **Article 39(b) and (c)** emphasize the distribution of material resources for the common good and prevention of wealth concentration.
- Originally, the Constitution guaranteed the right to property as a fundamental right. However, amendments were made to accommodate land reforms and public welfare projects, leading to the curtailment of property rights. Landmark judicial decisions, such as Golak Nath and Kesavananda Bharati cases, shaped the balance between fundamental rights and DPSP.

#### 2: Dimension - Evolution of Economic Policies:

- India's economic policies transitioned from a socialistic model to liberalization, globalization, and privatization in the nineties. This shift aimed to empower market forces, improve efficiency, and foster growth. Notable changes included the repeal of estate duty and wealth tax, along with the introduction of market-oriented reforms.
- Impact of Market-driven Economy: While market-driven reforms have lifted many out of poverty, they have also contributed to growing inequality. Reports indicate significant wealth and income disparities, highlighting the need for inclusive economic policies.
- Judicial Scrutiny: The Supreme Court's decision to interpret whether private resources fall under DPSP underscores the need for clarity on economic policies and resource allocation.

**Way Forward:** Addressing inequality requires a balanced approach that ensures economic justice for all. While past policies have faced limitations, future strategies should focus on inclusive growth and equitable distribution of resources, aligning with constitutional principles.

#### Fact Box:

# Report: Income and Wealth Inequality in India, 1922-2023: The Rise of the Billionaire Raj

- **Income inequality:** 6% of India's national income in 2022-23 went to the top 1%, the highest proportion in the last 100 years.
- **Wealth inequality:** The share of the top 1% in wealth was as high as 40.1% in 2022-23, also its highest level since 1961.
  - ➤ The share of wealth among the top 10% increased from 45% in 1961 to 65% in 2022-23.
  - ➤ Conversely, the share of the bottom 50% and middle 40% in wealth has declined.
- Wealth concentration: India's wealth inequality is not as extreme as Brazil and South Africa, but its wealth concentration has already increased threefold between 1961 and 2023.
- Additionally, with India's income inequality being the world's highest, higher than South Africa, Brazil and the United States of America, it will only add to wealth inequality in times to come.



#### 14.INDIA'S GAMING INDUSTRY

**Context:** India's gaming industry has exhibited a rise in development in their games and content creation targeted to the local preferences and culture sensibilities of the Indian market.

#### 1: Dimension- Mobile Gaming Dominance:

- India has become a game changer in the global gaming landscape. It recently surpassed China as the primary consumer of mobile games.
- ♦ The Indian gaming market is currently 2.5 times larger than China and three times larger than the United States.
- This surge is attributed to the rising number of youth engaging with games and the widespread availability of affordable mobile data.
- Key drivers of Gaming Industry in India: Smartphone penetration, affordable internet, young demography of India, introduction of new games with a shorter learning curve.

#### 2: Dimension-Impact on economy

- Positive impact on economy: High Revenue generation, boost in start-ups since pandemic, help people to build a professional career and build skills, employment generation, increasing peer-to peer bonds.
- Negative impact on economy: 'Internet Gaming Disorder' due to addiction to online gaming, societal concerns, tax evasions (most apps operate from outside the country), lack of regulations, absence of framework

# 3: Dimension- Measures to shape trajectory of online gaming

- ♦ **Digital India:** The Indian government's vision of "Digital India" has catalyzed the gaming industry.
- Inter-Ministerial Task Force (IMTF): The IMTF aims to recommend universal, national-level legislation for regulating online gaming.
- Affordable Mobile Data: India boasts affordable and decent mobile data compared to other countries.

#### **Fact Box: Market Size and Growth:**

- The **India Gaming Market** is estimated to be USD 3.49 billion in 2024 and is projected to reach USD 7.24 billion by 2029, exhibiting a robust CAGR of 15.68% during the forecast period (2024-2029).
- India's substantial youth population, evolving IT infrastructure, and increased adoption of mobile devices and high-speed internet are driving this growth.
- The integration of cutting-edge technologies like Virtual Reality (VR), Augmented Reality (AR), and the metaverse into console and computer games further propels the industry.

#### **15.THE SPREAD OF NAXALISM**

**Context:** The Naxalite-Maoist insurgency in India is an ongoing conflict between Maoist groups known as Naxalites or Naxals and the Indian government.

#### 1: Dimension- Origin and Ideology:

- Naxalism represents both a socio-economic issue and a law and order problem.
- Naxals are far-left radical communists who support Maoist political sentiment and ideology.
- Their followers primarily include Adivasis, Dalits, and the poorest of the poor—often landless laborers working below India's mandated minimum wages.
- Impacted region: Naxalism is concentrated in Eastern India, particularly an area known as the Red Corridor spread across the states of Chhattisgarh, Odisha, Jharkhand, Bihar, and Andhra Pradesh.
- Some districts of Kerala, Telangana, Uttar Pradesh, etc. are also impacted by Naxalism.

#### 2: Dimension- Causes of Naxalism

- Development deficit: Evasion of land ceiling laws by politically and economically stronger classes, Encroachment and occupation of Government and community lands, Disruption of the age-old tribal-forest relationship
- Social exclusion: Unemployment and Poverty, Infrastructure deficit, Lack of education and Poor health facilities
- Governance deficit: Violation of human rights, Abuse of dignity of life, Disconnect with mainstream society, Discontent against government
- Exploitative Deficit: Incompetent, ill-trained, and poorly motivated public personnel, Mismanagement and corruption, Poor implementation of laws and schemes

#### 3: Dimension- Challenges and Criticisms:

- Inefficient Service Delivery: Naxal-affected areas remain deprived of basic services, justice delivery, and community participation among others.
- Lack of coordination: States have not done satisfactorily in joining hands. This lack of coordination between State police and Central forces results in security voids which are exploited by the Naxals.
- Inability to maintain created infrastructure- It hampers the trust of locals and disrupts channels of communication for security forces.
- Inability to curb sources of financing for Naxals Demonetisation also proved to be insufficient.
- Inadequate use of Technology-The use of drones, ground sensors, smart guns, AI, etc. has been inadequate in Naxal areas.



#### **Fact Box: Government Response:**

- The Indian government has launched several operations to counter Naxalism:
- Operation Prahar (Launched in 2017):
  - ➤ A collaborative mission involving the CRPF and Chattisgarh Police.
  - ▶ Focuses on removing extremists from their hideouts, particularly in the Bastar region of Chhattisgarh.
  - ▶ Reports indicate that over 79 Naxals have been neutralized in different encounters since the start of 2024.
- Other notable operations include **Operation Green Hunt, Operation Hill Vijay, Operation Samadhan-Prahar, and Operation Thunder.**



# section B

# **QUICK BYTES**

- 1. Zero Shadow Day
- 2. Indian Ocean Currents
- 3. Atacama Desert
- 4. Baseflow
- 5. Ikshvaku Period Coin
- 6. Raja Ravi Varma's Indulekha Painting
- 7. Chithirai Festival
- 8. May Day or International Workers' Day
- 9. World Energy Congress
- 10. Sierra Madre
- 11. Indian Arbitration System
- 12. Foreign Contribution Regulation Act
- 13. National Human Rights Commission (NHRC)
- 14. National Panchayati Raj Day
- 15. Dongria Kondh Community
- 16. Bru Community
- 17. Article 31C
- 18. Eggshell Skull Rule
- 19. Re-Polling
- 20. NABARD Initiates Study on Impact of GI Products
- 21. Authorised Economic Operator
- 22. Small Finance Banks (SFBs)
- 23. IREDA gets 'Navratna' Status

- 24. Government Security (G-Sec)
- 25. 30 Years of Marrakesh Agreement
- 26. Electronic Trading Platforms (ETPs)
- 27. Front Running
- 28. Thrombotic Thrombocytopenic Syndrome (TTS)
- 29. Planet K2-18b
- 30. Pakistan's Hangor Class Submarine
- 31. Lunar Occultation
- 32. 'SMART' Anti-Submarine Missile System
- 33. Inflammatory Bowel Disease (IBD)
- 34. Salmonella Contamination
- 35. Rampage Missile
- 36. C-CAMP joins BFI-Biome Virtual Network Program
- 37. Liquid Nitrogen
- 38. Unclassed Forests
- 39. India's biggest Climate Clock
- 40. Nilgiri Tahr (Nilgiritragus hylocrius)
- 41. Srinivasa Ramanujan (1887–1920)



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#### 1. ZERO SHADOW DAY

**Context:** In Bengaluru, an **extraordinary celestial phenomenon** known as "**Zero Shadow Day**" recently captivated observers.

#### **About**

- During this event, the sun's rays create minimal shadows, effectively turning the world into a place without shadows and filling the sky with light.
- ♦ This rare occurrence happens twice a year in regions situated between +23.5 and -23.5 degrees latitude.
- On Zero Shadow Day, the sun stands directly overhead at noon, causing shadows to vanish.
- The Astronomical Society of India (ASI) explains that when the sun is precisely overhead, it does not cast a shadow on any surface.
- It's a fascinating moment when the natural world seems to defy its usual patterns.

#### 2. INDIAN OCEAN CURRENTS

**Context:** Recent research by scientists at the **Indian National Centre for Ocean Information Services (INCOIS)** has revealed the profound influence of **bathymetry** on Indian Ocean currents. Their findings shed light on the intricate dynamics of ocean circulation, offering valuable insights for understanding marine phenomena.

#### **Key Findings:**

- Bathymetric Influences: Bathymetry, the study of underwater depth of ocean floors, has emerged as a key determinant of Indian Ocean currents. By examining the topography of the ocean floor, scientists have identified deep-swirling patterns that exhibit contrasting behaviors to surface current.
- Opposing Currents: The study unveils deep-swirling patterns in the Indian Ocean depths, contrary to surface currents.
  - ➤ These patterns, observed around the Andaman and Nicobar Islands and the Maldives, present a complex interplay between ocean depths and surface flows.
- Influence of Landmasses: The presence of boundary currents along the coast of Andaman and Nicobar Islands and the role of the Maldives Islands in extending the Equatorial Under Current (EUC) underscore the influence of landmasses on regional ocean currents.

#### **Fact Box: Surface Currents and Deep Currents**

#### Ocean Currents are of two main types:

- **Surface currents:** They are driven by global wind systems that are fuelled by energy from the sun. These currents bring heat from the tropics to the polar regions; the **Gulf Stream**, for instance, brings warm water along the eastern coast of the US up to Northern Europe.
- Deep currents, also known as thermohaline circulation, result from differences in water density.
   These currents occur when cold, dense water at the poles sinks. Surface water flows to replace sinking water, causing a conveyor belt-like effect of water circulating around the globe on a 1000-year journey.

#### 3. ATACAMA DESERT

**Context:** Scientists have made a groundbreaking discovery of microbial life thriving 13 feet below the parched surface of **Chile's Atacama Desert**, representing the deepest known microbial community found in the region.

#### **Key Highlights:**

- The newly uncovered microbial world is nestled beneath the arid terrain of the Atacama Desert's Yungay Valley.
- It presents an unprecedented finding and could offer valuable insights into the search for life on Mars.
- Previously, microbial life had been observed at depths of up to 2.6 feet (80 centimeters) in the Atacama Desert. However, the newly discovered biosphere in the Yungay Valley lies entirely isolated from the surface, making it a unique and significant discovery.
- This hidden microbial community occupies soils ranging from 6.6 feet to at least 13 feet deep, predominantly comprising **Actinobacteria**—a diverse group of bacteria known to inhabit extreme environments such as Arctic regions, hot springs, and saline environments.

#### **About Atacama Desert:**

- Situated in the Yungay Valley, the Atacama Desert stands as one of the most arid regions on Earth, located on the Tropic of Capricorn in northern Chile.
- The desert is characterized by its extreme dryness, with only one river from the Andes mountains managing to reach the ocean through this barren landscape.
- ♦ As the driest hot desert globally, the Atacama receives abundant sunshine comparable to that of Venus.
- While its harsh conditions support only a handful of resilient animal species, including **Darwin's leaf-eared mouse** and the **South American gray fox**, certain bacteria thrive in the desert's saline and mineral-rich soils.



#### 4. BASEFLOW

**Context:** A recent study looking into heavy rainfall, baseflow and river floods in Peninsular India has provided new insights into what factors drive flooding in the regions. The study revealed a significant correlation between trends in floods and trends in baseflow in **Peninsular India**.

#### **About Baseflow:**

- Baseflow refers to the portion of streamflow or river discharge that is sustained by groundwater contributions during periods of low precipitation or runoff.
- ♦ It represents the groundwater's slow release into streams, rivers, or other water bodies over time.
- Baseflow is typically characterized by a relatively stable flow rate and temperature compared to surface runoff, which tends to fluctuate more rapidly in response to rainfall events.

#### **Fact Box: Interflow**

- Interflow is where the infiltrated water travels to a stream above the groundwater level (unsaturated zone).
- The response time for interflow is longer than surface runoff.
- Baseflow is where the infiltrated water percolates to a groundwater layer.

#### 5. IKSHVAKU PERIOD COIN

**Context:** A remarkable discovery of a coin hoard has been made in Phanigiri village of Nagaram mandal, located in Suryapet district.

#### **About**

- A hoard of coins, each weighing approximately 2.3 grams, was found buried at a depth of 40 cm beneath the ground surface within the southernmost monastic cell.
- ♦ These coins feature an elephant motif on the obverse side and Ujjain symbol on the reverse.
- Dating back to the **Ikshvaku period**, these coins offer valuable insights into ancient economic and cultural practices.
- Phanigiri village is surrounded by numerous Buddhist sites, including Vardhamanukota, Gajula Banda, Tirumalagiri, Nagaram, Singaram, Aravapalli, Iyyavaripalli, Arlagaddagudem, and Yeleswaram, indicating its historical significance.
- The village has been inhabited since pre/proto-historic times and has witnessed various periods of occupation, ranging from early historic to early medieval and Asaf

Jahi periods, flourishing from 1000 BCE to the 18th century CE.

#### Fact Box: Ikshvaku period

- The **Ikshvaku kingdom** flourished for about one hundred years, from 220 to 320 CE.
- It patronised Buddhism, Brahminism, as well as older folk religions.
- Their capital city, **Vijayapuri**, had at least **18 Brahminical temples**, mostly along the **Krishna riverfront**.

# 6. RAJA RAVI VARMA'S INDULEKHA PAINTING

**Context:** On the occasion of the 176th birth anniversary celebrations of **Raja Ravi Varma**, the first true copy of his **painting Indulekha** has been unveiled at the **Kilimanoor Palace**.

#### About Raja Ravi Varma

- Kilimanoor-born Raja Ravi Varma (1848-1906) is known to be one of the leading figures in the history of modern art in India.
- His depictions of the Hindu gods and goddesses went on to influence their portrayal in art and cinema for years.
- He invented the first oleograph press, which he set up in Ghatkopar in Mumbai. This gave rise to a massive production of prints of oil paintings.
- Raja Ravi Varma was closely related to the royal family of Travancore of present-day Kerala state in India.

#### **Fact Box: The Indulekha Painting:**

- Raja Ravi Varma's famous painting 'Reclining Lady' is believed to have been modelled on Indulekha.
- Indulekha was a character from the first modern novel in Malayalam literature by O. Chandu Menon.
- ♦ The painting portrays Indulekha holding a letter addressed to her lover, Madhavan, dating back to 1892.
- Its emergence in the public domain in 2022 sparked widespread excitement within the art community.
- The 19th-century painting showcases Raja Ravi Varma's mastery in capturing emotions and narratives through his artistry.

#### 7. CHITHIRAI FESTIVAL

Context: The city of Madurai comes alive each year during the vibrant Chithirai Festival, held in the Tamil month of Chithirai (April-May).

#### Historical and Cultural Significance:

- The festival is celebrated during the month of Chitirai which falls in the month of April. The month long festival is one of the longest that the festivities are divided into two.
  - ➤ The first 15 days of the festival are in celebration of **Goddess Meenakshi.**
  - ➤ The remaining 15 days are celebrated for Alagar (A form of lord Mahavishnu).
- The festival commemorates the divine marriage of Lord Sundareswarar (Lord Shiva) and Goddess Meenakshi, the presiding deities of the iconic Meenakshi Amman Temple in Madurai.
- Legend has it that Lord Vishnu himself attended the celestial wedding, bestowing his blessings upon the divine union, making it a momentous occasion in **Hindu** mythology.

# 8. MAY DAY OR INTERNATIONAL WORKERS' DAY

**Context:** Every year on May 1, **International Labour Day** is observed to remember the struggles and sacrifices of the workers and labour movements.

#### **Brief Background**

- On May 1st, 1886, labour unions in the United States initiated a strike advocating for an eight-hour workday. The strike culminated in the tragic events of May 4th, 1886, at Chicago's Haymarket Square, where a peaceful rally turned violent with a bomb explosion.
- Inspired by the Chicago protests, the decision to commemorate May Day annually was made, following a meeting in Paris in 1889
- In India, on May 1st, 1923, the first May Day celebrations were organised in Chennai by the Labour Kisan Party of Hindustan, led by Comrade Singaravelar.

#### 9. WORLD ENERGY CONGRESS

Context: A Ministerial Round Table Conference recently took place during the 26th edition of the World Energy Congress, co-hosted by World Energy Council, in Rotterdam, Netherlands.

#### **About the World Energy Council (WEC):**

- ♦ Founded in: 1923
- The World Energy Council, a not-for-profit organization, is a preeminent member-based network dedicated to advancing the global energy transition.

Objective: to promote sustainable energy supply and utilization.

#### **Fact Box: World Energy Council India:**

- World Energy Council India is a distinguished country member of the World Energy Council (WEC).
- India's membership in the WEC dates back to 1924, making it one of the earliest and most active participants in the organization.
- It operates under the patronage of the Ministry of Power and with support from key ministries such as Coal, New & Renewable Energy, Petroleum & Natural Gas, and External Affairs.

#### 10.SIERRA MADRE

Context: Recent tensions in the South China Sea have drawn attention due to longstanding territorial disputes involving countries like China, the Philippines, Malaysia, Vietnam, and Brunei Darussalam, with Sierra Madre, a World War II-era ship, playing a significant role in the region's geopolitical dynamics.

#### What is the Sierra Madre?

- Constructed During World War II: The Sierra Madre, a 100 ft-long ship, was built in the US during World War II (1939-45) and commissioned in 1944 as a landing ship.
- Deployment to Vietnam: It was later deployed to Vietnam during the US involvement in the Vietnam War (1954-75).
- ◆ Transfer to the Philippines: In 1976, the ship was transferred to the Philippines, a US ally, where it served various purposes.
- Current Situation:
  - ➤ **Position at Second Thomas Shoal:** In 1999, the ship was deliberately grounded on the Second Thomas Shoal, part of the largely uninhabited **Spratly Islands.**
  - ➤ Philippines' Rejection of Removal: China has demanded the removal of the ship, but the Philippines has refused, fearing it would weaken its claims over the islands and allow Chinese presence to establish.

# 11.INDIAN ARBITRATION SYSTEM

**Context:** Vice President (VP) of India **Jagdeep Dhankhar** underlined the need for reforming the Indian arbitration system.

#### What is Alternative Dispute Resolution?

Alternative Dispute Resolution (ADR) includes various methods of settling a dispute without getting into the intricacies of the court.



- ♦ It is a method where parties try to resolve their disputes privately in front of a third-person expert.
- The decision is **binding on the parties** like the decision of the court.
- Type of ADR process: Arbitration, Mediation, negotiation, and conciliation

#### **♦** Arbitration:

- ▶ It is a quasi-judicial proceeding.
- ➤ In this form of dispute resolution, the parties decide the rules of the process and appoint their own judge (referred to as the 'arbitrator'), who decides the matter between the parties
- The decision of the Arbitral Tribunal is referred to as an "Award" and has the same effect as that of an order of the court.
- Arbitration in India is governed by the Arbitration and Conciliation Act, 1996.
- Issues in the system: Complex, an additional tier in the conventional litigation ladder, lack of trust, inefficiency.

#### Arbitration and Conciliation Act, 1996.

- This act gives the provisions for
  - ➤ International Commercial arbitration
  - ▶ domestic arbitration
  - enforcement of foreign Arbitral awards
- It is based on the UN model law so as to equate with the law adopted by the United Nations Commission on International Trade Law (UNCITRAL).
- The Act has been amended in 2015, 2019 and 2021

# 12.FOREIGN CONTRIBUTION REGULATION ACT

**Context:** The **Union Home Ministry** cancelled the registration of various NGOs for alleged violation of various provisions of the **Foreign Contribution Regulation Act**.

#### Regulation of Foreign Funding in India

- In India, it is necessary to register with the FCRA to receive foreign funds. The License is granted by the Union Home Ministry.
- Validity: Five years. NGOs are expected to seek renewal within six months of the registration expiring.
- Cancellation: The government can also cancel the FCRA registration of any NGO if it finds that the NGO is in violation of the Act. Once an NGO's registration is terminated, it is ineligible to re-register for 3 years.

### Fact Box: About Foreign Contribution Regulation Act

- The FCRA was originally enacted in 1976.
- It creates registration requirements and spending restrictions on Indian non-profit organizations receiving foreign donations.
- The most recent 2020 amendments of the FCRA brought in additional restrictions, banning subgranting among FCRA-registered organizations, setting a severe cap on administrative spending, and further centralizing control of FCRA funding with the State Bank of Delhi and the Ministry of Home Affairs.

# 13.NATIONAL HUMAN RIGHTS COMMISSION (NHRC)

Context: The National Human Rights Commission (NHRC) of India faces a critical juncture as its accreditation status at the Global Alliance of National Human Rights Institutions (GANHRI) is under review in Geneva. The decision, expected to be made at a meeting of the Sub-Committee on Accreditation (SCA), will determine whether NHRC retains it's "A status" or faces a downgrade to "B status".

#### **About NHRC**

- **♦ Set up in:** 1993
- Headquarters: Delhi
- ♦ Type: Autonomous bodies (created by an Act of Parliament)
- The National Human Rights Commission (NHRC) of India operates under the Protection of Human Rights Act (PHRA), 1993, which was later amended by the Protection of Human Rights (Amendment) Act, 2006.
- The NHRC follows the Paris Principles, which were established at an international workshop in Paris in October 1991. These principles were endorsed by the United Nations General Assembly in December 1993.
- The NHRC reflects India's commitment to promoting and safeguarding human rights.
- According to Section 2(1)(d) of the PHRA, human rights include the rights related to life, freedom, equality, and dignity of individuals. These rights are protected by the Constitution and international agreements, and they can be enforced by Indian courts.
- Composition: Chairperson, five full-time Members, and seven deemed Members.

#### **♦** Concerns:

➤ NHRC's accreditation status was put on hold in 2023 due to concerns regarding its composition procedure, including the presence of police personnel in human rights investigations, and the lack of gender and minority representation.

#### **Fact Box: About GANHRI**

- In 1993, National Human Rights Institutions (NHRIs) established the International Coordinating Committee of NHRIs (ICC) to coordinate the activities of the NHRI network.
- In 2016, ICC changed its name into Global Alliance of National Human Rights Institutions (GANHRI).
- It is the global alliance of NHRIs, mandated to support in all regions the establishment and strengthening of NHRIs, in line with the **United Nations Paris Principles**.
- The Sub-Committee on Accreditation (SCA) of GANHRI
  has the mandate to review and analyze accreditation
  applications and to make recommendations to the
  GANHRI Bureau on the compliance of applicants with
  the Paris Principles.

# 14.NATIONAL PANCHAYATI RAJ

Context: The Ministry of Panchayati Raj commemorates 24th April of every year as the National Panchayati Raj Day (NPRD).

#### About the Panchayati Raj Day

- April 24, 1993, marks a pivotal moment in the history of decentralization of power to grassroots levels with the formal establishment of Panchayati Raj.
- On this significant date, the 73rd Constitutional Amendment of 1992 was enacted into law, ushering in a new era of local governance.
- Panchayati Raj, a system of local government in India, operates through three tiers:
  - ➤ **Gram Panchayat:** Serving as the village council, this constitutes the most fundamental level of local governance.
  - ▶ **Block Panchayat**: This council oversees a cluster of villages, providing governance at a broader level.
  - ➤ **Zila Panchayat:** At the apex, the district council governs a larger geographic area, ensuring coordinated administration within a district.

# 15.DONGRIA KONDH COMMUNITY

**Context:** Several members of **Dongria Kondh community**, a Particularly Vulnerable Tribal Group (PVTG), have warned of boycotting the upcoming elections unless 'false' cases registered against them for anti-mining protests and for allegedly having Maoist links are withdrawn.

#### **About the Tribe**

- The Dongria Kondh community, whose name stems from "dongar," meaning 'hill,' refers to themselves as Jharnia, signifying 'protector of streams.'
- ♦ Situated in Odisha, the **Niyamgiri hill range serves** as the ancestral homeland of the **Dongria Kondh tribe.**
- In a remarkable feat likened to a 'David and Goliath' battle, the Dongria Kondh tribe successfully thwarted mining conglomerate Vedanta Resources' attempts to exploit the Niyamgiri Hills.
  - ➤ Empowered by the **Forest Rights Act**, village councils known as Gram Sabhas possess the authority to safeguard protected areas, preventing detrimental practices that could harm the environment, biodiversity, or cultural heritage.
  - Vedanta's endeavors were stymied as they failed to secure proper approval from the community **Gram** Sabhas, as mandated by the Forest Rights Act.
- For the Dongria Kondh, their right to cultivate the slopes of Niyamgiri is divinely bestowed by Niyam Raja, whom they revere as their mountain god and royal ancestor, presiding over the sacred hills, including the revered Niyam Dongar, or the Mountain of the Law.

#### Fact Box: Niyamgiri Hills

- Location: The hill range is located between the Kandhamal district of forests and the forests of Rayagada, Kalahandi and Koraput districts.
- The Niyamgiri Hills are also an important wildlife habitat and home to the **rare lizard**, **the Golden Gecko**.
- It is an important migration corridor for Asian elephants and tigers.
- Other tribe residing on the hills: Kutia Kondh

#### **16.BRU COMMUNITY**

**Context:** In a historic development, members of the Bru community exercised their right to vote in the Tripura Lok Sabha elections for the first time in 2024.

#### Background on the Bru Community:

- The Bru, also known as the Reang community, are indigenous to the Northeast region of India, predominantly residing in Tripura, Mizoram, and Assam.
- Within Tripura, the Bru community holds the status of a Particularly Vulnerable Tribal Group (PVTG), highlighting their socio-economic vulnerability and need for special protection and support.
- Ethnically, the Bru people belong to the Indo-Mongoloid racial stock, with linguistic affiliations to the Austro-Asiatic groups within the Tibeto-Burman language family.



#### 17.ARTICLE 31C

Context: A nine-judge Constitution Bench resumed hearings in the case to determine whether private property falls under the ambit of Article 39(b), a Directive Principle of State Policy. The case also involves the question of the constitutional position of Article 31C.

#### **About**

- Article 31C, a saving clause, was added by the 25th Constitutional Amendment and served two purposes.
  - ➤ To start: It stated that legislation passed in order to implement Article 39(b) and (c) could not be invalidated because they conflict with Articles 14 and 19.
  - ➤ **Secondly**, it prevented a law of that kind from being refused legal standing on the grounds that it failed to "give effect" to the two **DPSPs**.

#### Fact Box: Article 39(b)

 The state is required by Article 39(b) to focus its policies on ensuring that "the ownership and control of the community's material resources are so distributed as best to subserve the common good."

#### 18.EGGSHELL SKULL RULE

**Context:** Emphasizing that the state and central consumer courts misapplied the legal principle known as the "eggshell skull," the Supreme Court reinstated the Rs 5 lakhs in compensation that the district consumer forum had given in a medical negligence case.

#### What is the rule of the "eggshell skull"?

- In civil action, the common law notion known as the "eggshell skull rule" is utilized.
- In essence, this means that the offender would be responsible for any harm that could worsen as a result of the injured party's unique circumstances, which the offender would not have been aware of.
- Simply put, even if the victim had an exceptionally delicate skull or a "eggshell" for a skull, the defendant would still be liable for whatever harm the victim sustained when he struck him on the head.

#### 19.RE-POLLING

Context: The Election Commission of India (ECI) under Sections 58(2) and 58A(2) of the Representation of the People Act, 1951, ordered re-polling at a polling booth in various Lok Sabha Constituency in Karnataka and Manipur.

#### **Constitutional Provision**

- Article 324: Article 324 of the Indian Constitution vests the superintendence, direction, and control of elections in the hands of the Election Commission. The ECI is entrusted with the responsibility of ensuring free and fair elections at all levels of government.
- Representation of the People Act, 1951: The Representation of the People Act, 1951, provides the legal framework for conducting elections in India.
  - ➤ **Section 58 of the Act** empowers the Election Commission to order re-polling in cases where irregularities, booth capturing, or other electoral malpractices are reported.
- Rule 64 of Conduct of Election Rules, 1961: It stipulates that if the presiding officer is satisfied that any irregularity or person's misconduct has affected the result of the poll at a particular polling station, they shall report the same to the returning officer. Based on the presiding officer's report and after due inquiry, the ECI may order re-polling at the affected polling station.

#### Fact Box: Section 58 of the RPA

Under Section **58 of the RPA ('Fresh poll in the case of destruction, etc., of ballot boxes'),** the EC can declare the poll at a polling station to be void if:

- (a) seizure of a polling station, affecting the conduct of elections
- (b) taking possession of a polling station, allowing only his or their supporters to vote
- (c) intimidating or threatening any elector and preventing him from going to the polling station
- (d) seizure of a counting place affecting the counting of votes
- (e) involvement of any person in government service in any of the above activities

# 20.NABARD INITIATES STUDY ON IMPACT OF GI PRODUCTS

**Context:** The National Bank for Agriculture and Rural Development (NABARD) has commissioned a study to evaluate the impact of Geographical Indication (GI) products, with Symbiosis School of Economics chosen as the research partner.

#### **Key-highlights:**

- Objectives of the Study: to assess the benefits accrued to artisans and producers due to the GI tags associated with their products over time.
- Expansion of GI Portfolio: NABARD's support has led to the GI tagging of 144 products to date.

- Notably, the journey began with **Pochampally Ikat** from Telangana (formerly united Andhra Pradesh).
- Diverse Range of GI Products: Artisans across various regions have embraced the GI registration, showcasing the rich cultural diversity of India. Notable examples include Banaras Brocades and Sarees (Uttar Pradesh), Blue Pottery of Jaipur (Rajasthan), Ilkal Saree (Karnataka), Jalna Sweet Orange (Maharashtra), and Nakshi Kantha (West Bengal), among others.
- A geographical indication (GI) serves as a mark of origin for products possessing unique qualities or reputations attributable to their specific geographical location.

#### **Fact Box: About NABARD**

- Founded in: 1982
- NABARD is the main and specific bank of the country for agriculture and rural development.
- It is a **Development Bank** with a mandate for providing and regulating credit for the development of agriculture, small-scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas to promote prosperity of rural areas.
- **Central functions performed by NABARD:** credit functions, financial functions, supervisory functions, and development functions.

# 21.AUTHORISED ECONOMIC OPERATOR

**Context:** With the help of the efforts of Gem & Jewellery Export Promotion Council (GJEPC), the gem and jewellery sector has been granted Authorised Economic Operator (AEO) status by the Finance Ministry.

#### **Understanding AEO Status:**

- The AEO status is a prestigious designation conferred under the World Customs Organisation (WCO) SAFE Framework of Standards.
- Objective: to secure and expedite global trade operations.
- ♦ Introduction: as a pilot project by the Customs department in 2011.
- Alignment with International Commitments: India's AEO Programme aligns with the commitments outlined under Article 7.7 of the World Trade Organization's Trade Facilitation Agreement (TFA).

#### **Fact Box: India's Gems and Jewellery Sector**

- India's gems and jewellery exports reached USD 37.73 billion in 2022-23.
- Government measures

- > 100% FDI under the automatic route
- Comprehensive Economic Partnership Agreement (CEPA) with the United Arab Emirates (UAE) to allow the Indian Gems and Jewellery industry to further boost exports.

# 22.SMALL FINANCE BANKS (SFBS)

Context: The Reserve Bank of India (RBI) recently introduced new rules governing the conversion of Small Finance Banks (SFBs) into Universal Banks, signaling a significant shift in the banking landscape. The "Guidelines for 'on-tap' Licensing of SFBs in Private Sector" provide a transition path for SFBs to become universal banks.

#### **Eligibility Conditions:**

- Under the new guidelines, only listed SFBs meeting specific eligibility criteria are eligible to apply for a universal banking license. These criteria include-
  - ➤ minimum net worth of Rs 1,000 crore
  - scheduled status
  - satisfactory track record of at least five years
- Gross non-performing assets (NPAs): Additionally, aspiring SFBs must demonstrate profitability, maintaining gross non-performing assets (NPAs) of less than 3% and net NPAs of less than 1% in the preceding two financial years.
- Capital adequacy: They are also required to comply with prescribed capital adequacy norms and furnish a comprehensive rationale for their transition.

#### **Fact Box:**

#### **About Small Finance Bank**

- The concept of SFBs was laid down by Raghuram Rajan Committee.
- **Objective:** To provide banking services to small and marginal enterprise farmers, low-income households, and other weaker sections of the society having limited access to basic banking services.
- SFBs are operational under the regulation of the RBI in India, under the purview of the apex bank's Banking Ombudsman Scheme, 2006, as amended from time to time.
- Registered as: Public limited companies under the Companies Act, 2013
- Governed by: Banking Regulations Act, 1949; RBI Act, 1934 and other relevant Statutes and Directives from time to time.
- Services: Savings Accounts, Current Accounts, Fixed Deposits, Recurring Deposits, Loans, etc.



| Comparison Parameter           | Small Finance Bank  | Commercial Bank   |  |
|--------------------------------|---|---|--|
| Target Customer                | Underserved and unbanked segments of the population, like small businesses, MSMEs, and marginal farmers.      | Wider consumer base including large corporates, SMEs, and retail customers.   |  |
| Services Offered               | Savings accounts, fixed deposits, recurring deposits, digital banking, debit cards, and so on.                | Apart from basic banking services, a wide range of financial services are offered including credit cards, wealth management, corporate banking services, etc. |  |
| Minimum Capital<br>Requirement | Rs 200 crores   | Rs 500 crores   |  |
| Loan Products                  | Microfinance loans, small personal loans, micro-business loans, and loans to marginal farmers and industries. | Large corporate loans, housing loans, personal loans, etc.  |  |

#### 23.IREDA GETS 'NAVRATNA' STATUS

**Context:** Indian Renewable Energy Development Agency (IREDA) received the prestigious 'Navratna' status.

# About Classification of India's Central Public Sector Enterprises (CPSEs)

- India's central public sector enterprises (CPSEs) are classified into three major categories - Miniratna, Navratna and Maharatna CPSEs.
- Aim to assign ratna statuses to CPSEs: to give operational freedom and decision-making power to the state-run entities.
- Numbers: There are 57 Miniratna, 17 Navratna and 13 Maharatna companies. IREDA became the 17th Navratna company.

#### **Miniratna Status**

- There are two sub-categories under the Miniratna status
   Miniratna-I and Miniratna II.
  - ➤ Miniratna Category-I: CPSEs which reported profits in three consecutive years, have a pre-tax profit of Rs 30 crore or more in at least one of the three years, and have a positive net worth.
  - ➤ **Miniratna Category-II:** PSUs with a profit for the last three successive years and have a positive net worth.

#### Other requirements:

- ➤ A CPSE should have not defaulted on repayment of loans or interest due to the government.
- Miniratna entities need not depend upon budgetary support or government guarantees.

#### Navratna status

Eligibility: PSUs that have a Miniratna-I status and have obtained an "Excellent" or "Very Good" MoU rating in three out of the last five years and have a composite score of 60 or more in six selected performance indicators (including net profit to net worth, manpower cost to total cost of production, etc).

♦ Important PSUs: IREDA, BEL, CONCOR, Hindustan Aeronautics, NALCO, NBCC, NMDC, PFC

#### Maharatna status

#### **Eligibility:**

- ➤ Should have a "Navratna" status
- ➤ Should be listed on the Indian stock exchanges
- ► Should be compliant with minimum shareholding norms
- ➤ Average annual turnover of more than Rs 25,000 crore and average annual net worth of over Rs 15,000 crore in the last three years
- ➤ Average annual net profit of over Rs 5,000 crore in the last three years along with significant global presence.
- Important PSUs: BHEL, BPCL, Coal India, GAIL, HPCL, Indian Oil, NTPC, ONGC

#### **Fact Box: About IREDA**

- Established in: 1987
- Type: Non-banking financial institution
- Ministry: Ministry of New and Renewable Energy
- Objective: Promoting, developing and extending financial assistance for setting up projects related to new and renewable sources of energy.

# 24.GOVERNMENT SECURITY (G-SEC)

**Context:** The Reserve Bank of India has announced the auction for the sale of Government Securities worth Rs 32,000 crore.

#### **About Government Security (G-Sec)**

- ♦ G-Sec, a **tradable instrument**, serves as acknowledgment of the Government's debt obligation.
- Issued by the Central Government or State Governments, G-Secs come in various forms:
  - Treasury bills and bonds or dated securities, issued by the Central Government.
  - ▶ Bonds or dated securities, known as State Development Loans (SDLs), issued by State Governments.
- G-Secs are categorized into:
  - ➤ **Short-term instruments**, commonly referred to as treasury bills, with original maturities of less than one year.
  - ➤ **Long-term instruments,** often termed Government bonds or dated securities, featuring original maturities of one year or more.
- Safety: G-Secs are esteemed for their safety, as they entail minimal risk of default, earning them the moniker of risk-free gilt-edged instruments.

# 25.30 YEARS OF MARRAKESH AGREEMENT

**Context:** The World Trade Organization (WTO) commemorates the 30th anniversary of the Marrakesh Agreement, a pivotal moment in global trade history.

#### **About Marrakesh Agreement**

- Formally established by the Final Act of the Uruguay Round of Multilateral Trade Negotiations, the Marrakesh Agreement laid the foundation for the creation of the WTO.
- ♦ On April 15, 1994, the Marrakesh Agreement was signed by 123 countries, paving the way for the establishment of the WTO on January 1, 1995.
- Over the past three decades, the WTO has played a crucial role in facilitating a significant expansion in global trade, aiming to enhance living standards, bolster employment opportunities, and foster sustainable development.

#### **Fact Box: About WTO**

• Founded: 1 January 1995

Headquarters: Geneva, Switzerland

• **Total members:** 164 member countries

- ➤ The World Trade Organization (WTO) is the referee in global trade disputes.
- ➤ It is a forum for governments to negotiate trade agreements and to settle trade disputes.

# 26.ELECTRONIC TRADING PLATFORMS (ETPS)

**Context:** The Reserve Bank of India (RBI) released a draft **Master Direction for Electronic Trading Platforms** (ETPs) in the wake of increased integration of the onshore forex market with offshore markets.

Key Highlights of the Draft Master Direction - RBI (Electronic Trading Platform Directions, 2024)

**Need for Regulation:** The RBI's move comes in response to concerns raised about **unauthorized entities offering forex trading facilities with promises of high returns.** 

- Minimum Net-Worth Requirement: Entities applying for authorization as Electronic Trading Platform (ETP) operators must maintain a minimum net worth of Rs 5 crore. This requirement is to be upheld continuously to ensure financial stability and resilience.
- Incorporation in India: The entity seeking authorization as an ETP operator must be a company incorporated in India.
- Shareholding Compliance: Any shareholding by nonresidents in the entity must comply with all relevant laws and regulations, including the Foreign Exchange Management Act, 1999.
- Technology Infrastructure: ETP operators are required to maintain robust technology infrastructure characterized by high reliability, availability, scalability, and security.

#### **Fact Box: About ETPs**

- In 2018, the RBI had introduced a framework for the authorisation of Electronic Trading Platforms to facilitate transactions in financial market instruments under its regulation.
- ETPs, distinct from recognised stock exchanges, are electronic systems enabling the trading of eligible instruments such as securities, money market instruments, foreign exchange instruments, derivatives, etc.

#### **27.FRONT RUNNING**

**Context:** In an effort to create an institutional framework that will prevent front-running and fraudulent transactions in asset management firms (AMCs), **SEBI** has approved changes to its mutual fund laws.

#### **About Front Running**

Other terms for front-running include tailgating and forward-trading.



Trading stocks or any other financial asset while possessing intimate knowledge of a forthcoming transaction is known as front-running.

### Fact Box: About asset management company (AMC):

- A financial organization that administers and supervises the activities of mutual funds and other investment vehicles is known as an asset management company (AMC).
- These businesses are essential to the investing sector because they develop and manage a range of fund solutions that cater to investors' different financial objectives.

# 28.THROMBOTIC THROMBOCYTOPENIC SYNDROME (TTS)

Context: UK's pharmaceutical giant, has admitted its Covid vaccine, sold under the brand name of Covishield in India, in 'very rare cases' can cause a blood clot-related side effect.

#### **About**

- Thrombotic Thrombocytopenic Syndrome (TTS) is a rare but serious condition.
- TTS is a condition where blood clots (thrombosis) are formed in the brain (cerebral venous sinus thrombosis) or abdomen combined with low levels of platelets (thrombocytopenia), which are necessary for blood clotting.
- Early symptoms: Severe or persistent headaches, blurred vision, shortness of breath, chest pain, swelling in the legs, abdominal pain, easy bruising or tiny blood spots under the skin.

#### **29.PLANET K2-18B**

Context: A recent study, by analysing data from the European Southern Observatory (ESO), shows that a little-known planet about 110 light years away, called K2-18b, might resemble a larger version of Earth.

#### About K2-18B:

- Location: Approximately 110 light-years away from
- **Potential habitability:** It orbits its star at a distance where liquid water could exist on its surface.
- K2-18b is very different from Earth. Its dimension is around 2.37 times larger and it has a mass that is approximately 8.92 times greater than our planet.

 K2-18b orbits a red dwarf star, which is smaller and dimmer than our sun. It completes one orbit in 32.9 days.

# 30.PAKISTAN'S HANGOR CLASS SUBMARINE

**Context:** China recently launched the inaugural **Hangor** class submarine for Pakistan, marking the commencement of a significant naval endeavor. This event signals the beginning of Pakistan's acquisition of eight submarines of this class by 2028.

#### **About**

- ♦ The Hangor class submarine is an export variant derived from the **Chinese Type 039A Yuan class.**
- Diesel-Electric Attack Submarine: Characterized by its diesel-electric propulsion system, the Hangor class submarine is designed as an effective platform for conducting offensive operations.
- It is named after the now decommissioned PNS Hangor, which famously sank Indian frigate INS Khukri during the 1971 war.
- Technical Specifications: The Hangor class submarine is equipped with four diesel engines and features an air independent propulsion (AIP) system.
- Counterpart to India's Kalavari Class: Positioned as a direct counterpart to India's Kalavari class submarines, which are based on the French Scorpene-class, the Hangor class underscores Pakistan's strategic focus on maritime defense.
  - ➤ While both the Hangor and Kalavari class submarines utilize **diesel-electric propulsion**, a notable distinction lies in the inclusion of an AIP system in the former. This feature grants the Hangor class enhanced operational flexibility and endurance.

#### Kalavari class submarines

- India's naval fleet currently includes six Kalavari class submarines, with plans to induct three more by the early 2030s.
- INS Kalvari is a diesel-electric attack submarine. The submarine was built under Project 75 of the Indian Navy.
  - ➤ It is a program to build six Scorpene-class submarines in India.
- Advanced technology: SUBTICS combat system, Thales sonar suite, and Exocet missiles, ensuring formidable underwater prowess
- However, unlike their Pakistani counterparts, these submarines do not feature built-in AIP systems.

#### **31.LUNAR OCCULTATION**

**Context:** The moon recently crossed in front of the well-known red star **Antares**, as captured by the **Indian Institute of Astrophysics (IIA) in Bengaluru**.

#### What is Lunar Occulation?

- In astronomy, a lunar occultation is when the Moon blocks out another celestial object, like a star, planet, or asteroid.
- Because of the Moon's close vicinity, this phenomena, like an eclipse, can only be seen from particular points on Earth.

#### **About Antares:**

- Known by many by the name Jyeshtha, Antares is the brightest star in the **Scorpius constellation.**
- It is located about 550 light-years from Earth and is classified as an **M1 red supergiant star**,
- The M1 designation indicates that Antares is reddish in color and much cooler than many other stars.

# 32.'SMART' ANTI-SUBMARINE MISSILE SYSTEM

**Context:** The supersonic missile assisted release of torpedo (SMART) test was successfully carried out in flight by the Defence Research and Development Organization (DRDO).

#### What is SMART?

- A lightweight torpedo delivery system based on nextgeneration missiles is called SMART (Supersonic Missile Assisted Release of Torpedo).
- The missile system consists of: o a lightweight torpedo with a 20 km range; o a long-range supersonic missile carrier with a maximum speed of 643 kph; and o a payload of a 50 kg high explosive warhead.
- The missile has a two-stage solid propulsion system, precise inertial navigation, electromechanical actuators, and a datalink for torpedo terminal homing and midcourse upgrades.

# 33.INFLAMMATORY BOWEL DISEASE (IBD)

**Context:** The rising incidence of **Inflammatory Bowel Disease (IBD)** across the globe has become a concern for doctors.

#### **About Inflammatory bowel disease (IBD)**

- Inflammatory bowel disease (IBD) encompasses chronic inflammation of tissues within the digestive tract, presenting enduring disorders.
- **♦** Two primary forms of IBD exist:
  - ➤ **Ulcerative colitis:** Involving inflammation and ulceration along the colon and rectum's lining.
  - ➤ **Crohn's disease:** Characterized by inflammation of the digestive tract lining, potentially extending to deeper layers.
- Symptoms typically associated with both types of IBD include diarrhea, rectal bleeding, abdominal discomfort, fatigue, and weight loss.

# 34.SALMONELLA CONTAMINATION

**Context:** The **United States** has reportedly refused almost a third of shipments from MDH since October 2023 due to salmonella contamination.

#### **About Salmonella**

- Salmonella is a group of bacteria that can cause gastrointestinal illness and fever called salmonellosis.
- Spread: Salmonella naturally lives in animals' intestines and can be found in their feces. The bacteria then spread to humans if they come in contact with salmonellainfected animals or items in their environment.
- Symptoms: Diarrhea, fever, and stomach cramps.

#### 35.RAMPAGE MISSILE

Context: The Indian Air Force (IAF) has inducted Rampage long-range supersonic air-to-ground missiles.

#### About

- **♦ Type**: Long-range air to ground missile
- ◆ Range: 250 km
- The missile, also known as ROCKS or Crystal Maze 2, is originated from Israel.
- The Israeli missiles have been inducted into the IAF's Su-30, MiG-29 and Jaguar fighter aircraft, while the Navy is using them on the MiG-29K fighter jets.
- ♦ The IAF is planning to mass produce the Rampage missiles in India under the **Make in India initiative.**



# 36.C-CAMP JOINS BFI-BIOME VIRTUAL NETWORK PROGRAM

Context: In a significant move for India's biosciences research and innovation ecosystem, the Centre for Cellular and Molecular Platforms (C-CAMP) has entered into a Memorandum of Understanding (MoU) with Blockchain for Impact (BFI), to join its BFI-Biome Virtual Network Programme.

#### **Key-highlights:**

- The BFI-Biome Virtual Network Programme is a pioneer initiative uniting incubators and research institutes under a single umbrella.
- Aim: This collaboration aims to enhance the impact of transformative scientific advances on key healthcare challenges in India by joining the BFI-Biome Virtual Network.
- The collaboration between C-CAMP and BFI signifies a concerted effort to revolutionize healthcare delivery in India and the global south.
- Over the course of three years, BFI will allocate over USD 200,000 to develop essential programmes for healthcarebased startups, leveraging C-CAMP's expertise in deep science research and innovation.

#### **Fact Box: About C-CAMP**

- C-CAMP is an initiative of the Department of Biotechnology, Ministry of Science, Technology and Earth Sciences.
- It is a prominent Bengaluru-based research hub, boasts a robust pipeline of biomedical innovations across various critical areas, including infectious disease diagnostics, antimicrobial resistance, and digital health technologies.

#### **37.LIQUID NITROGEN**

**Context:** The Food Department in Tamil Nadu has appealed to the denizens not to consume nitrogen-based smoke biscuits or smoke paan or other related products.

#### **About Liquid Nitrogen**

- Liquid nitrogen is essentially nitrogen in a liquid state, achieved by cooling it to an extremely low temperature of -196°C.
- It finds various uses: Coolant for Computers, Medical Applications, Cryogenics Research
- Hazards and Safety Measures:
  - ➤ Frostbite and Cryogenic Burns: Liquid nitrogen is intensely cold and can cause frostbite or cryogenic burns if not handled properly.

➤ **Asphyxiation Risk**: In confined spaces, using or spilling liquid nitrogen can lead to asphyxiation. It's colorless, odorless, and tasteless.

#### **38.UNCLASSED FORESTS**

Context: The Ministry of Environment, Forests and Climate Change (MoEFCC) recently uploaded various State Expert Committee (SEC) reports on its website in compliance with a Supreme Court order. This interim order was issued in response to a public interest litigation challenging the constitutionality of the Forest (Conservation) Act Amendment (FCAA) 2023, which raised concerns about the protection of unclassed forests.

#### **About Unclassed Forests:**

- Unclassed forests, also known as deemed forests, lack formal notification but hold legal protection under the T.N. Godavarman Thirumalpad judgement.
- These forests may belong to various government entities, communities, or private owners but remain unnotified.

# 39.INDIA'S BIGGEST CLIMATE CLOCK

Context: Council of Scientific & Industrial Research (CSIR), as a part of the Earth Day Celebrations, installed and activated India's biggest Climate Clock on the CSIR Headquarters Building in New Delhi.

#### **About Climate Clock**

- The Climate Clock shows how much time is left before continued CO2 emissions lock in at least 1.5 degrees of global warming, a key threshold for global climate goals under the Paris agreement.
- ♦ Today, the planet is about 1.1 degrees Celsius hotter than it was before the **Industrial Revolution** due to carbon dioxide emissions from burning fossil fuels.

#### **Fact Box: About CSIR**

- CSIR, a premier national R&D organisation, is among the world's largest publicly funded R&D organisation.
- CSIR's pioneering sustained contribution to S&T human resource development is acclaimed nationally.

# 40.NILGIRI TAHR (NILGIRITRAGUS HYLOCRIUS)

**Context:** The three-day synchronised Nilgiri tahr survey began recently, with the focus on identifying small isolated populations, which are on the verge of **local extinction**.

#### About

- The Nilgiri tahr is the only mountain ungulate in southern India amongst the 12 species present in India. It is also the state animal of Tamil Nadu.
- Habitat: A few scattered habitat patches within Tamil Nadu and Kerala. Historically they were present in much of the Western Ghats.
  - ➤ The Eravikulam National Park in Anamalai hills, Kerala, is home to the largest population of the species.
- Conservation Status: Endangered in the IUCN Red List of Threatened Species. It is protected under Schedule I of the Wildlife (Protection) Act of India, 1972.

#### 41.SRINIVASA RAMANUJAN (1887–1920)

Context: This year marks the 104th death anniversary of Indian mathematical genius, Srinivasa Ramanujan.

#### **About**

Early Life and Background: Srinivasa Ramanujan was born on December 22, 1887, in Erode, India, to a Tamil Brahmin lyengar family.

- Mathematical Genius: Ramanujan is renowned for his contributions to the analytical theory of numbers, elliptic functions, continued fractions, and infinite series.
- Contributions to Mathematics: Ramanujan explored diverse mathematical concepts, including Riemann series, elliptic integrals, hypergeometric series, and functional equations of the zeta function.
  - ► He formulated his own theory of divergent series, known as **Ramanujan summation**, and made significant advances in the partition of numbers.
- Recognition and Achievements: Ramanujan was elected as a Fellow of the Royal Society of London in 1918 for his groundbreaking work in elliptic functions and the Theory of Numbers.
  - ➤ He became the first Indian to be elected a Fellow of Trinity College, Cambridge, in October 1918, further solidifying his academic stature.
- Legacy and Mathematical Contributions: Ramanujan's legacy includes numerous mathematical concepts and theorems named after him, such as the Landau– Ramanujan constant, Ramanujan prime, and Mock theta functions.
- National Mathematics Day is observed on December 22nd annually in India to commemorate Srinivasa Ramanujan's birth anniversary.





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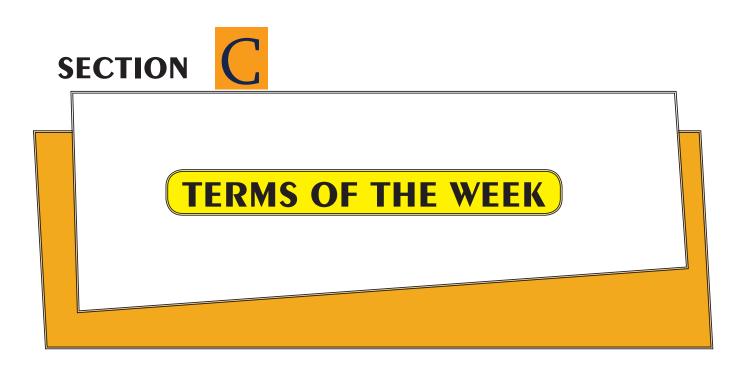
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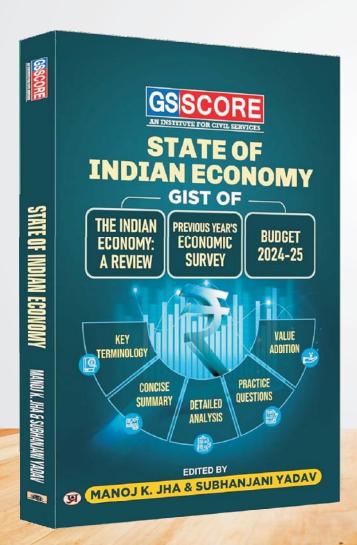
| S.NO. | TERM  | ABOUT   |
|-------|---|---|
| 1     | Air Independent Propulsion<br>(AIP) System                        | The AIP has a force multiplier effect on lethality of a diesel electric submarine as it enhances the submerged endurance by several folds.  |
| 2     | Air-to-surface missile<br>(ASM) or air-to-ground<br>missile (AGM) | <ul> <li>An air-to-surface missile (ASM) or air-to-ground missile (AGM) is a<br/>missile designed to be launched from military aircraft at targets on<br/>land or sea.</li> </ul>                       |
| 3     | Balanced fertilization  | <ul> <li>It is the use of right ratio of nutrients as per soil or crop requirement.</li> <li>The requirement of nutrients such as Nitrogen, Phosphate and Potash are soil and crop specific.</li> </ul> |
| 4     | Climate Finance   | It generally refers to finance for activities aiming to mitigate or adapt to the impacts of climate change.   |
| 5     | Consumer Price Index  | This price index calculates price changes of goods and services that a consumer has to pay for consuming a basket of goods.   |
| 6     | Exclusive Economic Zone (EEZ)                                     | An exclusive economic zone (EEZ) is an area of the ocean extending 200 nautical miles (370 km) beyond a nation's territorial sea (12 nautical miles or 12 miles from the coast).                        |
| 7     | Front-running   | Trading stocks or any other financial asset while possessing intimate knowledge of a forthcoming transaction.   |
| 8     | Foreign portfolio<br>investment (FPI)                             | Foreign portfolio investment (FPI) is securities and other assets passively held by foreign investors, allowing individuals to invest overseas.   |
| 9     | Glacial lake outburst<br>floods or GLOF                           | When the boundary around unstable glacial lake breaks, and huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas.                               |
| 10    | Intellectual property rights (IPR)                                | Intellectual property rights (IPR) refers to the legal rights given to the inventor or creator to protect his invention or creation for a certain period of time.                                       |
| 11    | Money laundering  | Money laundering involves disguising financial assets so they can be used without detection of the illegal activity that produced them.   |
| 12    | Overtourism   | Overtourism results from tourist demand exceeding the carrying capacity of host communities in a destination.   |
| 13    | Ocean currents  | Ocean currents are the continuous, predictable, directional movement of seawater driven by gravity, wind (Coriolis Effect), and water density.  |
| 14    | Organic fertilizers   | They are fertilizers that are naturally produced. The main organic fertilizers are, peat, animal wastes, plant wastes from agriculture, and treated sewage sludge.                                      |
| 15    | On-tap bank licensing   | On-tap bank licensing facility, introduced in 2016, enables a window<br>for making applications for bank licenses at the RBI throughout the<br>year.  |
| 16    | Treasury bills  | Treasury bills are money market instruments issued by the Government of India as a promissory note with guaranteed repayment at a later date.   |
| 17    | Universal Banks   | Universal Banks are financial entities like commercial banks, financial institutions, NBFCs, etc. that undertake multiple financial transactions.   |
| 18    | Wholesale Price Index   | It is a measure of the average change in the price of goods at a wholesale level or in the wholesale market.  |





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