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*Justice Rohini Commission.*

*Digital Personal Data Protection Bill , 2023.*

*15th BRICS Summit.*

*Artificial Intelligence and its significance.*

*Constitutional Morality.*

**TOPPER'S RECOMMENDED**

**BEST CHOICE**

## PRELIMS

## POLITY & GOVERNANCE

| Justice Rohini Commission | **Context:** The **Justice Rohini Commission** has submitted its report to President Droupadi Murmu.<br>**Background:-**<br>• **Justice G Rohini**, Retd. Chief Justice, Delhi High Court, is the chairperson of the Commission.<br>• The Commission for Other Backward Classes was appointed to examine the **sub-categorization of Other Backward Classes.**<br>• The Commission had been entrusted with the task to study the various entries in the Central List of OBCs and recommend the correction of any repetitions, ambiguities, inconsistencies and errors of spelling or transcription.<br>**About Justice Rohini Commission:-**<br>• **Formed in 2017.**<br>• **Chairperson: Justice G Rohini, Retd. Chief Justice, Delhi High Court.**<br>• The commission was set up **by the President of India,** under **Article 340** of the Indian Constitution.<br>    o **Article 340:** The President may, by order, appoint a Commission consisting of such persons as he thinks fit to investigate the conditions of **socially and educationally backward classes** within the territory of India<br>• **Mandate of Rohini Commission:** To examine the issues related to the **sub-categorization of Other Backward Classes**. ( OBC Subcategorization)<br>**Need for sub-categorization:-**<br>• The sub-categorization will **ensure those communities that are more backward among the OBC communities can access the benefits of reservation** in educational institutions and government jobs. (OBC Reservations)<br>**Other commissions for OBCs:-**<br>    **Kalelkar Commission**:-<br>• It was set up in 1953.<br>• It was the **first to identify backward classes** other than the Scheduled Castes (SCs) and Scheduled Tribes (STs) at the national level.<br>    **Mandal Commission:-**<br>• It was set up in 1979.<br>• It submitted the report, 1980 estimated the OBC population at 52% and classified 1,257 communities as backward.<br>**Constitutional body for OBCs:-**<br>• **National Commission for Backward Classes (NCBC):** The 102nd Constitution Amendment Act, 2018 provided constitutional status to the **National Commission for Backward Classes (NCBC).**<br>• It was previously a statutory body under the Ministry of Social Justice and Empowerment.<br>**MUST READ: OBC reservation in local bodies**<br>**SOURCE: AIR** |
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| Committee of Parliament on | **Context:** Recently, the Union Home Minister chaired the 38th meeting of the Committee of Parliament on Official Language. |

| Official Language | **About Committee of Parliament on Official Language:** |
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| | • The Committee of Parliament on Official Language was set up in 1976 under Section 4 of **the Official Languages Act, 1963**. |
| | • With the active promotion of Hindi being mandated by **Article 351 of the Constitution**, the **Official Language Committee** was set up to review and promote the use of Hindi in official communications. |
| | ○ The first Report of the Committee was submitted in 1987. |
| | • The **Committee is constituted and chaired by the union home minister**, and has, in accordance with the provisions of the 1963 Act, **30 members (20 MPs from Lok Sabha and 10 MPs from Rajya Sabha).** |
| | • Unlike the other Parliamentary, panels submit its report to Parliament, this panel submits its report to the President, who **"shall [then] cause the report to be laid before each House of Parliament, and sent to all the State Governments".** |
| | • **The purpose of the Committee is** |
| | ○ To review the progress made in the use of Hindi for official purposes, and |
| | ○ To make recommendations to increase the use of Hindi in official communications. |
| | **Constitutional Status of Hindi and other languages:** |
| | • **Schedule 8 of the Indian Constitution** has **22 Official Languages**, including Hindi as well. **( UPSC CSE: Languages of India)** |
| | • **Article 351** states that, it is the duty of the U**nion to encourage the spread of the Hindi language** to make it lingua franca (a shared language of communication used by people who are speakers of different languages) in India without interfering with its genius, style and expressions. |
| | • **Article 348 (2) provides that the Governor of the State** may, with the previous consent of the President, authorize the **use of the Hindi language or any other language used for any official purpose of the State**, in the proceedings of the **High Court having its principal seat** in that State provided that decrees, judgments or orders passed by such High Courts shall be in English. |
| | • As per **Article 343(1)** of the Constitution of India, **Hindi in Devanagari script** shall be the official language of the Union. |
| | • The **Official Language Act, 1963** provides under Section 7 that the use of Hindi or official language of a State in addition to the English language may be authorized, **with the consent of the President of India, by the Governor of the State** for the purpose of judgments, decrees etc. **made by the High Court for that State. (UPSC CSE: Three language formula)** |
| | **Source:** **The Hindu** |
| Renaming Kerala | **Context:** The Kerala Assembly has passed the resolution to rename state as **Keralam.** |
| | **Background:-** |
| | • The resolution, moved by Chief Minister Pinarayi Vijayan, was passed unanimously, with the Congress-led Opposition not suggesting any changes. |
| | **Formation of Kerala:-** |
| | • **1949:** Travancore and Kochi was merged, forming the Travancore-Cochin State. ( Integration of the princely states) |

- **State Reorganization Commission** recommended the creation of Kerala as a state for **Malayalam-speaking people.**
- The state of Kerala came into being on **November 1, 1956.**
- **In Malayalam,** the state was referred to as **Keralam**, while in English it was Kerala.

**Origin of the name:-**

- There are several theories about the origin of the name 'Kerala'.
- **Earliest epigraphic record: Asoka's Rock Edict II of 257 BC.**
- The inscription refers to the local ruler as **Keralaputra (Sanskrit for "son of Kerala"),** and also "**son of Chera**" referring to the Chera dynasty.
- About 'Keralam', scholars believe it could have originated from '**Cheram'.**
- **Significance of the name:** 'Keralam' aligns more closely with the **native pronunciation, historical roots, and cultural identity** of the region's people.

**Process to rename a state in India:-**

- The proposal has to first come from the state government.
- **Ministry of Home Affairs (MHA) Approval**: The Union Ministry of Home Affairs (MHA) then takes over and gives its consent after it receives **No Objection Certificates (NOCs) from several agencies.**
  - These agencies include the **Ministry of Railways, Intelligence Bureau, Department of Posts, Survey of India, and Registrar General of India.**
- **Parliamentary proceedings:** If the MHA finds the proposal acceptable and all the necessary NOCs are obtained, a **Constitutional amendment bill is initiated.**
  - The Bill goes through the usual legislative process in **both the Lok Sabha (Lower House) and the Rajya Sabha (Upper House).**
  - The Bill requires a **simple majority** to be passed in each house.
  - After it is passed by both houses if the President gives his assent, the **Bill becomes law.**
- **Implementation:** With the President's assent, the name change becomes official and the name of the state is changed thereafter.

**Constitutional provisions for renaming a State:-**

- The renaming of **an existing state** requires Parliamentary approval under **Articles 3** of the Constitution.
- **Introduction:** A bill for renaming a state may be introduced in the Parliament on the **recommendation of the President**
- **State assembly consultation:** Before the introduction of the bill, the President shall send the bill to the respective state assembly for expressing their views within a stipulated time.
  - The **views of the state assembly are not binding**, neither on the President nor on the Parliament.
- **Parliamentary approval:** On the expiry of the period, the bill will be sent to the Parliament for deliberation.
  - The bill in order to take the force of **a law must be passed by a simple majority.**
- **Presidential Approval:** The bill is sent for **approval to the President.**
  - After the approval of the said bill, the bill becomes a law and the name of the state stands modified.

**MUST READ: Asymmetrical federalism**
**SOURCE: THE INDIAN EXPRESS**

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| **Selection Panel for Election Commissioners** | **Context:** Recently, a Bill was listed to be introduced in the Rajya Sabha on the **appointment of the Chief Election Commissioner (CEC)** and Election Commissioners (ECs).<br>**Background:-**<br>• The Centre's Bill seeks to establish a committee of,<br>    ○ the Prime Minister,<br>    ○ the Leader of the Opposition in the Lok Sabha,<br>    ○ A Cabinet Minister nominated by the PM for selecting members of the Election Commission of India (ECI).<br>• In March this year, a Constitution Bench of the Supreme Court had ruled that the Election Commissioners should be selected by a committee comprising **the Prime Minister, the Leader of Opposition and the Chief Justice of India.**<br>• The bench led by Justice KM Joseph passed the direction to ensure the independence of the Election Commissioners from the independence. While passing the direction, the bench noted that there is no Parliamentary law at place in terms of Article 324(2) of the Constitution laying down the selection procedure for Election Commissioners.<br>**About Election Commission India:-**<br>• **Establishment: 25th January 1950.**<br>• It is a **constitutional body** responsible for administering Union and State election processes in India.<br>• It administers elections to **Lok Sabha, Rajya Sabha, State Legislative Assemblies, State Legislative Councils, and the offices of the President and Vice President of the country.**<br>**Composition of Election Commission:-**<br>• Originally the commission had **only a Chief Election Commissioner.** [Chief Election Commissioner (CEC)]<br>• It currently consists of the **Chief Election Commissioner and two Election Commissioners**.<br>• **1989:** For the first time, two additional Commissioners were appointed.<br>• **Since 1993** the concept of a **multi-member Commission** has been in operation.<br>**Appointment, Tenure, and Privileges of Commissioners:-**<br><br>• **Appointment Procedure as of now:** Under Article 324(2) the appointment of the CEC and other Election Commissioners shall be **made by the President.**<br>    ○ The Law Minister suggests a pool of suitable candidates to the Prime Minister for consideration.<br>    ○ **The President makes the appointment on the advice of the PM.**<br>• **Tenure:** six years, or up to the age of 65 years, whichever is earlier.<br>• **Salary:** They enjoy the same status and receive salary and perks as available to Judges of the Supreme Court of India.<br>**Removal of Election Commissioners:-**<br>• They can **resign anytime** or can **also be removed** before the expiry of their term.<br>• The CEC can be removed from office only by the **order of the President**, just **like a judge of the Supreme Court.**<br>**The issue in Removal of Other Commissioners:-**<br>• The **Constitution is silent about the procedure** for the removal of the two Election Commissioners.<br>• The Constitution has **not specified the term of the members** of the Election Commission.<br>• The Constitution **has not debarred the retiring election commissioners** from any further appointment by the government. |

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| | **MUST READ: Impartiality of the Election Commission**<br>**SOURCE: THE INDIAN EXPRESS** |
| **Pradhan Mantri Museum and Library (PMML)** | **Context:** The Nehru Memorial Museum & Library (NMML) Society has been renamed to **Pradhan Mantri Museum and Library (PMML) Society.**<br>**About Pradhan Mantri Museum and Library (PMML) S:-**<br><ul><li>**Designed by: Robert Tor Russel.**</li><li>**Ministry: Ministry of Culture, Government of India.**</li><li>**Location: New Delhi.**<ul><li>It is located in the historic **Teen Murti campus** located south of **Rashtrapati Bhavan in New Delhi.**</li></ul></li><li>It is an **autonomous institution.**</li><li>**Objective:** promoting advanced research on Modern and Contemporary India.</li><li>**Administration:** The General Council and the President and Vice-President of the PMML Society are nominated by the Central Government.</li></ul>**Historical Background:-**<br><ul><li>It was built in 1929-30 as part of Edwin Lutyens' imperial capital.</li><li>Teen Murti House was the **official residence of the Commander-in-Chief in India.**</li><li>**1948:** after the departure of the last British Commander-in-Chief, Teen Murti House **became the official residence of independent India's first Prime Minister, Jawaharlal Nehru**, who lived here for sixteen years until his death on May 27, 1964.</li><li>**1964:** On Jawaharlal Nehru's 75th birth anniversary on November 14, 1964, Dr. Sarvapalli Radhakrishnan, President of India, formally dedicated the Teen Murti House to the nation as the **Nehru Memorial Museum.**</li><li>**1966:** On 1 April 1966, the Government set up the Prime Ministers Museum and Library (PMML) Society to manage the institution.</li></ul>**Major Constituents:-**<br>It has four major constituents, namely:-<br><ul><li>Memorial Museum</li><li>Library on modern India</li><li>Centre for Contemporary Studies (Amar Jawan Jyoti, War Memorial merged)</li><li>Nehru Planetarium</li></ul>**MUST READ: Sardar Patel – The Iron Man of India**<br>**SOURCE: THE INDIAN EXPRESS** |
| **National Conference on e-Governance** | **Context:** Recently, the 26th **National Conference on e-Governance** was organized<br>**About the National Conference on e-Governance:-**<br><ul><li>**Venue: Indore, Madhya Pradesh.**</li><li>**Organized by: the** Department of Administrative Reforms and Public Grievances and the Ministry of Electronics and Information Technology in collaboration with the Government of **Madhya Pradesh.**</li><li>**Historical Background:** The Department of Administrative Reforms & Public Grievances (DARPG), Ministry of Personnel, Public Grievances & Pensions, Government of India, and Ministry of Electronics and Information Technology (MeitY), have been jointly organizing it in partnership with one State Government since 1997.</li><li>**Theme: Developed India: Empowering Citizens. (Governance 4.0)**</li></ul> |

- **Participants:** Representatives from 28 states, nine union territories as well and industries will participate in the conclave.
- The conference will focus on **11 subjects** including district-level initiatives, emerging technologies for providing citizen-centric facilities, and data governance.
- **National e-Governance Awards 2023** in 5 categories will also be presented during the conference.

**National Awards for e-Governance**:-

- They are **presented every year** for exemplary implementation of e-governance initiatives. (Global Digital Governance)
- **Purpose of Award**
    o Recognize achievements in the area of e-Governance.
    o Disseminate knowledge on effective methods of designing and implementing sustainable e-Governance initiatives.
    o Encourage incremental innovations in successful e-Governance solutions.
    o Promote and exchange experiences in solving problems, mitigating risks, resolving issues, and planning.
- **NAeG 2022-23**
- This year, the categories under the Award Scheme of the National Awards for e-Governance 2022-23 have been revised.
- The **5 award categories are :**
    o Government Process Reengineering for Digital Transformation
    o Application of Emerging Technologies for providing Citizen Centric Service
    o District-level initiative in e-Governance
    o Research on Citizen Centric Services by Academic/Research Institutions
    o Application of Emerging Technologies in Governance by Startups

**MUST READ: E-RUPI & Governance**
**SOURCE: AIR**

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| **Tele-Law- 2.0** | **Context:** Union Law and Justice Minister Arjun Ram Meghwal launched **Tele-Law- 2.0** recently. <br> **About Tele-Law- 2.0:-** <br> • **Ministry: Ministry of Law & Justice.** <br> • It Integrates **Tele-Law and Nyaya Bandhu App.** <br> • **Objective: to further enhance citizen accessibility to legal aid.** <br> • It will enable the common citizen to access legal advice, legal assistance, and legal representation through a **single registration and single gateway of Tele-Law. (Lakhs of people benefit through Tele-Law)** <br> **About the Tele-Law programme:-** <br> • **Ministry/ministries: Ministry of Law and Justice and Ministry of Electronics and Information Technology (MeitY).** <br> • **Objective:** the programme connects the disadvantaged section with a panel of lawyers through an e-interface platform. <br> **Working:-** <br> • It uses **video conferencing facilities and telephone services** to connect lawyers to litigants who need legal advice. <br> • It is to facilitate the delivery of **legal advice through a panel of lawyers** stationed at the State Legal Services Authorities (SALSA) and CSC (Common service centres). <br> **Fee:-** |

|  | • The **service is free** for those who are eligible for free legal Aid under **Section 12 of the Legal Services Authority Act, 1987.**<br>• For all others, **a nominal fee** is charged.<br>**MUST READ: Citizens' Tele-Law Mobile App**<br>**SOURCE: AIR** |
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| **Article 35A** | **Context:** Recently, the Supreme Court observed that abrogated **Article 35A** in Jammu and Kashmir had negative affect on the fundamental rights of the people especially those who were not from Jammu and Kashmir.<br>**Background:-**<br>• The Supreme Court observed this while hearing the matter of the abrogation of Article 370 and the restructuring of J& K into two Union territories.<br>• The Constitution bench was headed by Chief Justice of India Dhananjaya Y Chandrachud.<br>**About Article 35A:-**<br>• Article 35A was part of **Article 370,** which granted special status to Jammu and Kashmir until it was scrapped in 2019.<br>    o **Article 370:** It allowed the state its own constitution, a separate flag, and independence over all matters except foreign affairs, defense, and communications.<br>• Article 35-A deals with empowering the Jammu and Kashmir Constitution to **define "permanent residents"** of the state.<br>• It also empowers the **Jammu and Kashmir Legislature** to confer on **permanent residents or state subjects special rights and privileges**.<br>• These include rights and privileges in **public sector jobs, acquisition of property in the state, scholarships, and other public aid and welfare.**<br>• It disallows **people from outside the state** from:-<br>    o Buying or owning immovable property there<br>    o Settling permanently<br>    o Availing themselves of state-sponsored scholarship schemes.<br>• **Only the Jammu-Kashmir assembly** can change the definition of Permanent Residents through a law **ratified by a two-thirds majority.**<br>**Historical Background:-**<br>• The law came into place during the Dogra times **when Maharaja Hari Singh passed it in 1927**.<br>• It was **enacted to prevent the influx of Punjabis** into the state.<br>• Later, in **1954**, an amended version of the law was added through the **Constitution (Application to Jammu and Kashmir) Order, 1954 issued** by the President of India (Rajendra Prasad) on aid and advice of Jawaharlal Nehru's cabinet.<br>• It **replaced the 1952 Delhi Agreement** between Nehru and the then Prime Minister of J&K Sheikh Abdullah, which extended Indian citizenship to the 'State subjects' of J&K.<br>• Under the Jammu and Kashmir Constitution, which was adopted on November 17, 1956, **a permanent resident** is one **who has been living in the State as of May 14, 1954, or who has been a resident of the state for 10 years,** and has "lawfully acquired immovable property in the state".<br>**Controversy regarding Article 35A:-**<br>• Article 35 A is believed to be **incorporated unconstitutionally, dodging Article 368** which emancipates only the Parliament to amend the constitution.<br>    o **Article 368:** deals with the **powers of Parliament to** amend the Constitution and its procedure. |

- It is considered against the "very spirit of oneness of India" as it created a "**class within a class of Indian citizens**" by treating non-permanent residents of J&K as 'second class' citizens.
- Restricting citizens from other States from getting employment or buying property within J&K is a **violation of fundamental rights** under **Articles 14, 19, and 21** of the Indian Constitution. (Article 19)
- There is also probable **discrimination on the basis of gender** – since it **denies property rights to children of women who marry** those from **outside the state.**

**Current Status:-**

- On **5th of August 2019**, the President of India promulgated the **Constitution (Application to Jammu and Kashmir) Order, 2019.**
- The order **effectively revoked the special status** accorded to Jammu and Kashmir under the provision of Article 370.
- It "**superseded the Constitution (Application to Jammu and Kashmir) Order, 1954**" under which **Article 35A was added** to the Indian Constitution. (Jammu and Kashmir Reorganisation (Adaptation of State Laws) Order, 2020)

**MUST READ: Passport as a fundamental right under Article 21**
**SOURCE: HINDUSTAN TIMES**

## INTERNATIONAL RELATIONS

| Kuril Islands dispute | **Context:** Recently, the dispute over the **Kuril Islands** between **Tokyo and Moscow** came up again in the midst of the Russia -Ukraine war. |
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**Background:-**

As Russia's invasion of Ukraine drags on, Moscow is forced to funnel more and more of its military and economic resources to its western border.

In Tokyo, conservative voices are hinting that the war could give Japan a chance to take control of what the Japanese call the Northern Territories.

**About the Kuril Islands dispute:-**

**Historical Background:** Soviet forces seized the strategically located Kuril Islands in Russia, in the closing days of WWII.

Russia administers all the Kuril Islands.

However, Japan considers them as part of its Northern Territories.

These are **Iturup (Etorofu in Japanese), Kunashir (Kunashiri), Shikotan, and Habomai Islets.**

**No Treaty so far:** Moscow and Tokyo have held talks about these islets several times in the past **but failed to agree on a solution.**

This led to the two sides **never formally signing a peace treaty to end the war.**

**China's interest:** There are speculations that China may have a stake in taking over the Kuril Islands.

The Kuril Islands would give China **access to the Arctic region as well as naval ports** directly in the North Pacific.

**About the Kuril Islands:-**



- The Kuril Islands are a **chain of islands** stretching from the Japanese island of **Hokkaido** to the southern tip of Russia's **Kamchatka Peninsula.**
- The islands separate the **Okhotsk Sea** from the North Pacific Ocean.
- The archipelago comprises **22 major islands, 36 smaller islets**, and several rocks covering.
- The Kuril Islands are part of the **Pacific Ring of Fire**, which is a region in the Pacific Ocean that experiences frequent earthquakes and volcanic eruptions.

**Administration**: Russia administers all the Kuril Islands as part of its easternmost territory.

**Importance of South Kuril Islands:-**

**Natural resources:**

Rich fishing grounds surround the islands.

They are thought to have offshore **reserves of oil and gas.**

**Rare rhenium deposits** have been found on the Kudriavy volcano on Iturup.

**Nickel-based superalloys of rhenium** are used in the combustion chambers, turbine blades, and exhaust nozzles of jet engines.

**Tourism** is also a potential source of income, as the islands have several volcanoes and a variety of birdlife.

**Strategic Importance:**

Russia has deployed **missile systems** in the region. (India – Russia Relations)

Russia also plans a **submarine project** and intends to prevent any American military use of the islands.

**Cultural Importance:**

The Japanese people, especially conservatives in Hokkaido, are emotionally attached to the islands. ( India – Japan Cooperation)

**MUST READ: Perspectives on Russia-Ukraine War**

**SOURCE: THE INDIAN EXPRESS**

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| 15th BRICS Summit | |
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**Context:** During his visit to Johannesburg in South Africa, Prime Minister Narendra Modi will attend the 15th BRICS Summit.

**Background:-**

- Prime Minister Narendra Modi will be on a three-day visit to Johannesburg in South Africa from 22nd to 24th August 2023.

**About the 15th BRICS Summit:-**

**IMAGE SOURCE: IASBABA**



- **Establishment:2009.**
- **Members: Brazil, Russia, India, China, and South Africa.**
- **First BRICS Summit: 2009**, **Russian Federation.**
- **Previous BRICS summit/14th BRICS Summit: 2022, China.**
- **15th BRICS Summit: 2023, South Africa.**
- 'BRICS' is an acronym for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China, and South Africa**. (BRICS)
- **Naming**: the British Economist **Jim O'Neill** coined the term "BRIC" in 2001 to describe the four emerging economies of Brazil, Russia, India, and China.
- **Chairmanship:** rotated annually among the members, in accordance with the acronym B-R-I-C-S.
- Together, BRICS accounts for about 40% of the world's population and about 30% of the GDP (Gross Domestic Product), 16% of the global trade.
- **Initiatives:** New Development Bank (NDB), Contingent Reserve Arrangement, BRICS Payment System Customs Agreements, Remote Sensing Satellite.
- **New Initiative:** BRICS is planning to launch its own "new currency" system, a major step towards de-dollarization.
  - **De-dollarization:** reducing dependence on the US dollar for trade.

**Objectives of BRICS:-**

- To deepen, broaden and intensify **cooperation within the grouping and among the individual countries** for more sustainable, equitable, and mutually beneficial development.
- It takes into consideration **each member's growth, development, and poverty objectives**.

- It is emerging as a new and promising **political-diplomatic entity** with diverse objectives.

**India and BRICS:-**
- India is **a founding member** of BRICS.
- It conducted the **13th BRICS Summit** in 2021 in New Delhi.

**Importance of BRICS for India:-**
- **Nuclear Supplier Group (NSG) membership**: India is engaged with the other BRICS countries on its NSG membership.
- **Funds for infrastructure**: NDB will help India raise and avail resources for their infrastructure and sustainable development projects.
- **SUMMITS held in India**: India hosted the 13th BRICS summit in 2021.
- **Science and Technology:** An agreement on BRICS Cooperation on **Remote Sensing Satellite** Constellation was signed.

**MUST READ: New Development Bank**
**SOURCE: AIR**

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| **China and Bhutan border dispute** | **Context: China and Bhutan border dispute** talks were held recently, with a focus on a 'three-step road map'. <br><br> **About the China and Bhutan border dispute:-** <br><br> • Bhutan shares an over 400 km-long border with China. <br>     o **In the north** - Pasamlung and Jakarlung valleys. <br>     o **In the west** - Doklam, Dramana, and Shakhatoe, Yak Chu and Charithang Chu, and Sinchulungpa and Langmarpo valleys. <br>     o These places are strategically located in the Bhutan-India-China trijunction, lying precariously close **to India's Siliguri Corridor.** <br> • The dispute involves **territorial claims** between the two countries over parts of Bhutan's territory, particularly **in areas bordering Tibet.** <br> • The disputed regions between China and Bhutan include **Doklam, Gamochen, Batangla, Sinchela, Sakteng, and Amo Chhu Bhutan and China lack formal diplomatic relations.** <br><br> **Boundary Negotiation between Bhutan and China so far:-** <br><br> • Bhutan **does not have a formal diplomatic relationship with China**, but it began its first border negotiations with China in **1984.** <br> • To date, both countries have **held 11 expert group meetings** and 24 rounds of border negotiations. <br> • **2021:** Bhutan and China signed an **MoU on the Three-Step Roadmap** for Expediting the China-Bhutan Boundary Negotiations. <br>     o The three-step roadmap has still **not been made public.** <br><br> **Recent agreement:-** <br><br> • The roadmap "for Expediting the Bhutan-China Boundary Negotiations", is expected to progress on the **Three-Step Roadmap** boundary talks process that has been **delayed for five years.** <br> • It was stalled due to the **Doklam standoff in 2017**, and then by the Covid Pandemic. <br> • A new joint technical team set up by Bhutan and China for delimitation of the disputed border between the two countries held its first meeting in Beijing in August 2023. <br><br> **Implications for India:-** |

- **China controls much of the Doklam**: Since the 2017 stand-off with India, Beijing has already strengthened its de facto control over much of the Doklam plateau, located strategically along the India-China-Bhutan trijunction. (India-Bhutan: Kholongchhu project)
- **Bhutan's support to China on Doklam.**
- **Deadlock at LAC talks:** Its timing is particularly significant New, given that India-China border talks on their 17-month-old standoff at the Line of Actual Control appear to have hit a deadlock.
- **India's strategic risks:** This has big implications for India since the Doklam swap would have given China access to the strategically sensitive "chicken neck" of the **Siliguri corridor.**

**MUST READ: India-China relations, a year after Galwan**
**SOURCE: HINDUSTAN TIMES**

## ECONOMY

| Self Reliant India (SRI) Fund | **Context:** The **Self Reliant India (SRI) Fund** has been set up recently. |
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| | **About Self Reliant India (SRI) Fund:-** |

- **Launched: 2021.**
- **Ministry: Ministry of Micro Small and Medium Enterprises.**
- Self-Reliant India **(SRI) Fund is Rs.10, 000 crore fund** launched by the Indian Government.
- It was registered as a **Category-II Alternative Investment Fund (AIF)** with SEBI. (SEBI)
  - **Category II AIF:** This category includes AIFs which does not fall in Category I AIF and Category III AIF.
  - These include private equity funds or debt funds for which no specific incentives or concessions are given by the government or any other Regulator. (AIF)

**Objectives of Self Reliant India (SRI) Fund:-**
- It will be oriented towards providing funding support to the Daughter Funds for onward provision to MSMEs as growth capital, in the form of equity or quasi-equity, for:
  - **Enhancing equity/equity-like** financing to MSMEs and listing of MSMEs on Stock Exchanges
  - **Supporting faster growth of MSME** Businesses and thereby igniting the economy and creating employment opportunities;
  - **Supporting enterprises which have the potential to graduate beyond the MSME bracket** and become National / International Champions
  - Supporting MSMEs which help **make India self-reliant** by producing relevant technologies, goods and services.

**Structure of SRI Fund:-**
- The Fund is an investment strategy of **holding a portfolio of other investment funds**, rather than investing directly.
  - **Fund of Fund:** In the context of AIFs, a Fund of Fund is an AIF, which invests in another AIF.
- Accordingly, SRI Fund will be a **combination of Mother/Daughter Funds** which will leverage private equity/ other funds
- Mother Fund will provide funds **only to the Daughter Funds** for onward investment as growth capital, while **the investment in MSMEs will be done by the Daughter Funds** under the Fund.
- Both the Mother and Daughter Funds will be **duly registered as Alternate Investment Funds** with SEBI.

**Working of SRI Fund:-**
- It operates via the **mother-fund and daughter-fund (Fund of Funds)** structure.
- **mother-fund and daughter-fund (Fund of Funds)** structure:
- The **mother fund is the SEBI** fund that invests up to 20 per cent of the overall corpus.
  - The **NSIC Venture Capital Fund Limited (NVCFL)** is registered as the Mother Fund under the SRI Fund implementation.
- The **daughter fund (mostly venture capital and private equity funds)** raises the rest of 80 per cent of the capital from outside sources.
- The investment by this fund will be leveraged fivefold, making the total value of the investment capital to MSMEs Rs.50, 000 crore.

| | |
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| | **Tenure of SRI Fund:-** <ul><li>Considering the nature of MSME and the difficulties expected in exiting, a longer fund life of **15 years** might be kept.</li><li>Commitment Period: Up to 6 years from the date of last closing.</li></ul> **MUST READ: [Atma-nirbhar Bharat Abhiyan](#)** <br> **SOURCE: [PIB](#)** |
| **RBI's Digital Payments Index** | **Context**: Recently, **RBI's Digital Payments Index (DPI)** jumped to 395.57 in March 2023 from 377.46 in Sept 2022. <br> **Key highlights of DPI:-** <ul><li>The RBI-DPI index has **increased across all parameters** driven by significant growth in payment infrastructure and payment performance across the country over the period.</li><li>As per the Economic Survey 2022-23, **India has the highest fintech adoption rate of 87 per cent** among the public compared to the global average of 64 per cent.</li><li>India has gained **third place in digital payments**, coming only after US and China.</li><li>UPI (Unified Payments Interface) transactions, **have on average, grown 121 per cent** in terms of value and 115 per cent in terms of volume **between FY19 and FY22.**</li><li>The increase in RBI's Digital Payments Index (RBI-DPI) highlights the remarkable **surge in digital payment adoption in India**, predominantly propelled by the success of UPI.</li><li>With customers **increasingly adopting digital payments, even for small-value transactions**, the index underscores the need for form-factor agnostic accessibility to include the financially underserved within the formal financial system.</li></ul> **About RBI's Digital Payments Index:-** <ul><li>**Launched: 2021.**</li><li>**Base period: MARCH 2018. [(DPI)](#)**</li><li>The RBI introduced the composite Digital Payments Index (RBI-DPI) in January 2021 with March 2018 as the base.</li><li>**Objective:** to capture digitization of payments.</li><li>**Significance:** It is a **measure of the extent of digitization of payments** across the country. [(Central Bank Digital Currency (CBDC): RBI)](#)</li><li>It comprises **five parameters** to measure the deepening and penetration of digital payments over different time periods.</li></ul> **Five Parameters:-** <ul><li>Payment Enablers (weight 25%)</li><li>Payment Infrastructure – Demand-side factors (10%)</li><li>Payment Infrastructure – Supply-side factors (15%)</li><li>Payment Performance (45%) and</li><li>Consumer Centricity (5%).</li></ul> **MUST READ: [UPI and NPCI Regulation](#)** <br> **SOURCE: [BUSINESS LINE](#)** |
| **PM-KUSUM Scheme** | **Context:** Recently, the government has announced that nearly 2.46 lakh farmers have benefitted from the **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM Scheme).** <br> **About (PM-KUSUM Scheme:-** <ul><li>**Launched: 2019.**</li><li>**Ministry: Ministry of New and Renewable Energy (MNRE).**</li></ul> |

**Objectives of PM KUSUM:-**

- **T**o subsidize farmers to **install solar irrigation pumps** for cultivation.
- To ensure **energy security** for farmers in India,
- To honour **India's commitment** to increase the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030 as part of **Intended Nationally Determined Contributions (INDCs).**
    - **Intended Nationally Determined Contributions (INDCs):** these are the intended reductions in greenhouse gas emissions under the United Nations Framework Convention on Climate Change (UNFCCC).
- Each farmer will receive a **60% subsidy** to set up tube wells and pump sets.
- They will also **get 30% of the total cost** as a loan from the Government. ( PM KUSUM)

**Benefits of PM KUSUM:-**
**For Discoms:-**
- Electricity for agriculture is highly subsidized and is often termed as the **main cause of the poor financial position of Discoms. ( State of DISCOMs)**
- This scheme will support the financial health of discoms by **reducing the burden of subsidy** to the agriculture sector.

**For States:-**
- The scheme will **promote decentralized solar power production**, and reduce transmission losses.
- For state governments, this is a potential way to **reduce their subsidy outlay towards irrigation.**
- It will also help States meet the **RPOs (renewable purchase obligation) targets.**

**For Farmers:-**
- If farmers are able to **sell surplus power, they will be incentivized to save power.**
- This will mean the reasonable and efficient use of groundwater.
- It will also **provide water security to farmers**.

**For Environment:-**
- The expansion of the irrigation cover by providing decentralized solar-based irrigation will help in **moving away from polluting diesel.**
- This will also fill the void in solar power production in the intermediate range between rooftops and large parks.

**MUST READ: Solar Energy in India**
**SOURCE: AIR**

| Index of Eight Core Industries (ICI) | **Context:** As per recent reports, the combined **Index of Eight Core Industries (ICI)** increased by 8.2 percent in June this year as compared to the Index of June 2022. <br> **Background:-** <br> • The production of Steel, Coal, Cement, Refinery Products, Natural Gas, Fertilizers, and Electricity increased in June 2023 over the corresponding month of last year. <br> • Final growth rate of the Index of Eight Core Industries for March 2023 is revised to **4.2 percent** from its provisional level of 3.6 percent. <br><br> **About the Index of Eight Core Industries (ICI):-** |
|---|---|
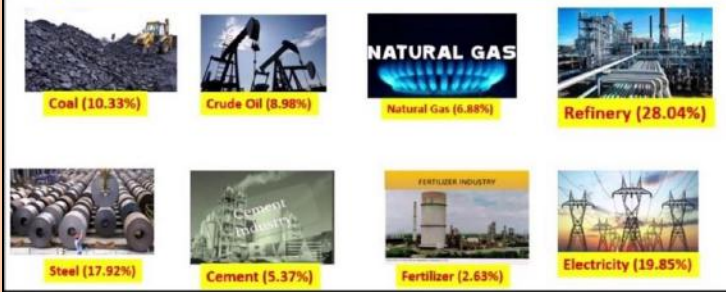
- **Published by: National Statistical Office (NSO).**
- **Time period:** It is compiled and published **monthly.**
- **Base Year for IIP is 2011-2012.**
- **Ministry: Ministry of Statistics and Programme Implementation.** (Index of Industrial Production (IIP))
- ICI measures **combined and individual performance** of the production of **eight core industries**.
  - o These include **Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity.**
  - o These Eight Core Industries **comprise 40.27 percent of the weight of items** included in the Index of Industrial Production (IIP).
  - o The eight core sector industries in decreasing order of their weightage**: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.**
- It is a composite indicator that measures the growth rate of industry groups classified under:-
  - o **Broad sectors:** Mining, Manufacturing, and Electricity.
  - o **Use-based sectors:** Basic Goods, Capital Goods, and Intermediate Goods.
- Details of **annual and monthly indices** and growth rates are provided in **Annex I & II respectively.**

**Significance of IIP:-**
- It is **used by government agencies** including the Ministry of Finance, the Reserve Bank of India, etc., for **policy-making purposes.**
- IP is the **only measure of the physical volume of production.**
- It forms a crucial input for the **compilation of the Gross Value Added (GVA)** of the manufacturing sector in the Gross Domestic Product (GDP) on a quarterly basis.
- IIP remains extremely relevant for the calculation of **quarterly and advanced GDP estimates. ( Provisional GDP)**
- It is also used extensively by **financial intermediaries, policy analysts, and private companies** for various analytical purposes.
- It provides an **advanced indication of the production performance** of industries of a 'core' nature prior to the IIP

**MUST READ: Purchasing Manager's Index**
**SOURCE: AIR**

| National Digital Nagrik Forum | **Context:** The Confederation of All India Traders (CAIT) has announced the creation of the **National Digital Nagrik Forum.**<br>**About National Digital Nagrik Forum:-**<br>• It is an **online platform** that aims to **advance the rights of traders and consumers** and shape policy **to boost the digital trade economy.**<br>• It will conduct **awareness camps, digital** and physical dialogues, and training. |
| --- | --- |

- It will reach out to **stakeholders from the government, private sector, and civil society**, including policymakers and other relevant stakeholders at the state level towards realizing its objectives.

**Five Themes of National Digital Nagrik Forum:-**

It will focus **on five core themes.**

- **First:** consumer protection and online safety with a core focus on efficient grievance redressal.
- **Second: pitfalls of digital cartelization** and how a level-playing field is necessary to discourage discriminatory and anti-competitive practices in the online world.
- **Third:** the potential of **Indian digital technologies** to not only transform retail and industrial trade but also boost employment and expand the investment footprint.
- **Fourth**: a **first principles-based taxation policy** that encourages certainty and productivity, especially for sectors with high growth potential, while preventing illegal activities such as tax evasion and money laundering.
- **Fifth:** the forum will study emerging technologies, such as blockchain and artificial intelligence, to assess their impact on retail trade and, at the same time, safeguard consumers' interests.

**About Confederation of All India Traders (CAIT):-**

- **Founded: 1990.**
- **HQ: New Delhi.**
- It is the **apex body of the trading community** in India.
- **Objective:** representing and protecting the interests of traders.
- It has over eight crore members and over 40,000-affiliated trade associations across India.

**MUST READ: New-age digital commerce**

**SOURCE: THE INDIAN EXPRESS**

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**Infrastructure investment trust (InvIT)**

**Context:** The Centre has announced its plans to launch a fresh **infrastructure investment trust (InvIT)** for national highways.

**About Infrastructure investment trust (InvIT):-**

- An Infrastructure Investment Trust (InvITs) is a **Collective Investment Scheme** similar to a mutual fund.
- It enables **direct investment of money from individual and institutional investors in infrastructure projects** to earn a small portion of the income as return. ( FPI and InvITs)
- The InvIT is designed as a **tiered structure** with Sponsor setting up the InvIT which in turn invests into the eligible infrastructure projects either directly or via special purpose vehicles (SPVs).
- **Regulated by: SEBI (Infrastructure Investment Trusts) Regulations, 2014.**
- An InvIT has four parties namely: **Trustee, Sponsor(s) and Investment Manager and Project Manager.**
    - While the **trustee** (certified by Sebi) has the responsibility of **inspecting** the performance of an InvIT, **sponsor(s) are promoters** of the company that set up the InvIT.

**Types of InvITs**

As per current SEBI Regulations InvITs can be divided into 5 key types depending on the **types of infrastructure they own or operate:**

- **Energy** such as power generation and distribution.

- **Transport & Logistics** e.g. operating highways and other toll roads
- **Communications** e.g. optical fiber networks and telecom towers
- **Social and Commercial Infrastructure** e.g. parks
- **Water and Sanitation** e.g. irrigation networks

**From the perspective of the source of funds, InvITs can be of two types:**
**Privately-Held InvITs:-**
- This type of InvIT is **not listed on the stock exchange** and units of this type of infrastructure trust cannot be bought or sold on a stock exchange.
- **All units of this type of unit are held privately** by a very limited number of individuals or institutions**.**

**Public-Listed InvITs:-**
- After an Infrastructure Trust **lists itself on the stock exchange,** it is known as a public-listed InvIT.
- Units of a public-listed InvIT can be **bought and sold on stock exchanges** by retail as well as institutional investors.
- Current SEBI regulations **do not require a mandatory listing of InvITs on stock exchanges.**

**NHAI InvIT:-**
- It is the infrastructure investment trust **sponsored by the National Highways Authority of India (NHAI)** to support the government's **National Monetisation Pipeline (NMP).**
- It is a Trust **established by NHAI. ( National Highway InvIT)**
- It is under the Indian Trusts Act, 1882, and SEBI (Security and Exchange Board of India) regulations.
- The advantages of an InvIT instrument are that it has **stable and predictable cash flows** and experienced professionals manage the InvIT, operate, and maintain the roads.

**MUST READ: Build-Operate-Transfer (BOT) model**
**SOURCE: BUSINESS STANDARD**

| National Mineral Development Corporation (NMDC) | **Context:** Recent reports suggest that the **National Mineral Development Corporation (NMDC)** delivered record performances in Fiscal Year 2023-2024 so far. |
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**Background:-**
- NMDC is paving the way towards becoming a 100 Million Tonnes (MT) mining company.

**About National Mineral Development Corporation (NMDC):-**
- **Establishment: 1958.**
- **Ministry: Ministry of Steel.**
- **HQ: Hyderabad.**
- **Vision:** To emerge as a global Environment-friendly Mining Organization and as a quality Steel producer with a positive thrust on Social Development. . (Iron-Ore Policy 2021)
- It is **India's largest iron ore producer. ( Iron Ore)**
- The company has been categorized by the Department of Public Enterprises as **a "Navratna"** Public Sector Enterprise in 2008.

**Objectives of NMDC:-**
**Macro Objectives**
- To expand the operations in the areas of Mining and Mineral Processing to meet the growing demands from domestic and international Markets.

- Achieve international standards in per capita productivity, value addition, and cost-effectiveness.
- To increase the iron ore production capacity to 67 MTPA by FY 2025.
- Setting up of Steel Plant at Nagarnar.

**Micro Objectives**

- Give thrust to the exploration and exploitation of iron ore and other strategic & critical minerals.
- To maintain environmental protection.
- To conserve mineral resources through scientific mining.
- To maintain a high level of customer satisfaction.
- To improve the quality of life of people in general and the socio-economic environment in and around the mines in particular.

**MUST READ: Report**
**SOURCE: AIR**

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| **Central Board of Direct Taxes (CBDT)** | **Context:** As per the recent reports of the **Central Board of Direct Taxes (CBDT),** a record six crore 77 lakh Income Tax Returns, have been filed for 2023-24. |

**Income Tax Return:-**

- o These are forms used to **declare net tax liabilities, claim tax deductions, and report gross taxable income**.
- o Income Tax Return Forms are **notified by CBDT.**

**About Central Board of Direct Taxes (CBDT):-**

- **Establishment: 1963.**
- **Ministry: Ministry of Finance.**
- **HQ: New Delhi.**
- **Administered by: Department of Revenue.**
- It is a **statutory authority** functioning under the **Central Board of Revenue Act, of 1963.**
- The Central Board of Revenue is the **apex body of the Department of Revenue**.
- It is charged with the **administration of taxes.**
- It came into existence as a result of the Central Board of Revenue Act, of 1924.
- It is India's official **financial action task force unit.**

**Historical Background of CBDT:-**

- Initially the Board was in charge of **both direct and indirect taxes**. Increase in Direct Tax Collections)
- However, when the administration of taxes became too unwieldy for one Board to handle, **the Board was split up into two,** namely the **Central Board of Direct Taxes and Central Board of Excise and Customs** with effect from 1964.

**Functions of CBDT:-**

- Making Policies regarding the discharge of statutory functions of the Board and of the Union Govt. under the **various laws relating to direct taxes. ( CBDT and Income Tax Return Forms)**
- **General Policy relating to:-**
  - o Organization of the set-up and structure of the Income-tax Department.
  - o **Methods and procedures** of work of the Board.
  - o **Measures for disposal of assessments**, collection of taxes, prevention, and detection of tax evasion and tax avoidance.
- **Recruitment, training,** and all other matters relating to service conditions and career prospects of the personnel of the Income-tax Department.

- **Laying down targets** and fixing priorities for disposal of assessments and collection of taxes and other related matters.
- **Write off of tax demands** exceeding Rs. 25 lakhs in each case.
- **Making Policy** regarding grant of rewards and appreciation certificates.
- Any other matter which the Chairman or any Member of the Board, with the approval of the Chairman, may refer for joint consideration of the Board.

**MUST READ: [One nation, One ITR Form](#)**
**SOURCE: [AIR](#)**

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| **Online Dispute Resolution (ODR) System by SEBI** | **In News:** A new **online dispute resolution (ODR) system** involving institutions, conciliators and arbitrators for the capital market is on its way.<br><br>• It will harness online conciliation and online arbitration for the resolution of disputes arising in the securities market.<br><br>**The Dispute Resolution Process**<br>1. At the initial stage, an investor would be required to lodge a complaint with the market participant directly.<br>2. In this regard, listed companies, regulated entities and specified intermediaries in the securities market are referred to as market participants collectively.<br>3. In case the grievance is not satisfactorily redressed, they have the option to raise it to the **SEBI Complaints Redress System (SCORES)** online portal.<br>4. However, if an investor is dissatisfied with the outcome at this level, they will have the option to go in for dispute resolution via the ODR portal.<br>5. The conditions in this regard are:<br>    a. The complaint is not under consideration by the market participants and the SCORES platform.<br>    b. The matter should not be pending before a court, consumer forum, or tribunal.<br><br>**The New System**<br>• Markets Infrastructure Institutions (MIIs), which include stock exchanges, and clearing corporation's depositories, will be required to identify and empanel one or more ODR institutions.<br>• A common ODR portal will be established and operated by MIIs in consultation with their empaneled ODR institutions.<br>• The ODR institution that gets the reference of the complaint will be responsible for appointing qualified conciliators and arbitrators.<br>• **Coverage:** ODR will cover a wide array of intermediaries, including<br>    o Alternate investment funds (AIFs), investment advisors, mutual funds, portfolio managers, research analysts, and more.)<br>    o Disputes arising from different types of cases involving investors or clients, along with listed companies, including their registrar and share transfer agents, could involve the implementation of ODR.<br>    o Applicable to disputes that involve specified intermediaries or regulated entities in the securities market.<br><br>**About SEBI (The Securities and Exchange Board of India (SEBI) :** |

- The Securities and Exchange Board of India was established as a statutory body in the year 1992.
- **Headquarters:** Mumbai, Maharashtra
- **Ministry**: Ministry of Finance
- **Chairperson:** Ms. Madhabi Puri Buch
- The chairman is nominated by the **Union Government of India**.
- **Appointment of other members:**
  - Two members, i.e., Officers from the Union Finance Ministry.
  - One member from the Reserve Bank of India.
  - The remaining five members are nominated by the Union Government of India, out of them at least three shall be whole-time members.

**SOURCE:** Livemint

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## Agricultural and Processed Foods Exports Development Authority (APEDA)

**Context:** Recently, the **Agricultural and Processed Foods Exports Development Authority (APEDA)** stated that India's agricultural produce exports fell 14 percent in value terms during the April-June (2023) quarter as against April-June (2022).

**Key highlights of the report:-**
- Agricultural exports worth $6.321 billion in the April-June quarter (2023), as against $7.397 billion in 2022.
- Basmati shipments, on the other hand, registered a 12 percent growth in dollar terms during the quarter.
- Non-basmati rice, comprising the largest chunk of the export basket, fell 2.69 percent in dollar value.
- Exports of buffalo meat, the main livestock product, fell 4.5 percent.
- Fresh fruits and vegetables registered a 16 percent increase in exports.

**About Agricultural and Processed Foods Exports Development Authority (APEDA):-**
- **Establishment:1985.**
- **Ministry: Ministry of Commerce and Industry.**
- **HQ: New Delhi.**
- It is a **statutory body** under the **Agricultural and Processed Food Products Export Development Authority Act of 1985**.
- **Objective:** To develop and promote the export of scheduled products.

**Functions:-**
- Setting the **standards and specifications** for the scheduled products.
- **Registration** of exporters of the scheduled products on payment of required fees.
- Improving **packaging and marketing** of the Scheduled products.
- **Carrying out an inspection** of products to ensure the quality of such products.
- **Training** in various aspects of the industries connected with the scheduled products.
- **Collection of statistics** from the owners of factories or establishments and publication of such statistics.

**MUST READ: Agriculture Infrastructure Fund (AIF)**
**SOURCE: BUSINESS LINE**

| Gabon's debt-for-nature swap deal | **Context:** Recently, **Gabon** announced a $500 million debt-for-nature swap deal for marine conservation.<br>**Background:-**<br>• Gabon on August 15, 2023, announced a $500 million **debt-for-nature swap**.<br>• This is the **world's second-largest deal** signed **under blue bond** to refinance the country's debt and conserve marine resources.<br>    ○ **Blue bonds**: financial instruments that are designed to support sustainable marine and fisheries projects.<br>• In Africa, **it is the largest such deal signed** by any country to refinance its debt and conserve marine resources.<br>• **Debt-for-nature swaps:** allow heavily **indebted developing countries to seek help from financial institutions** in the **developed world** with paying off their debt if they agree to spend on the conservation of natural resources.<br>    ○ Usually banks in developed countries **buy the debts of such counties and replace them with new loans** which mature later.<br>    ○ These have **lower interest rates.**<br>• **May 2023:** the **world's first and largest debt swap** to conserve oceans was signed by **Ecuador.**<br>**About Gabon:-** |



• **Location: Africa.**
• Gabon is a **central African country**.
• **Water Bodies:** It is located on the **Atlantic Ocean**.
• **Bordering countries**: it borders Cameroon, Equatorial Guinea, and the Republic of Congo.
• **Population:** It is **sparsely populated,** with a population of 2.3 million (2021) and forests covering 85% of its territory.

• **Resources:** It is **rich in natural resources.**
    ○ It is the **fourth largest oil producer** in Sub-Saharan Africa. (India-Africa: Challenges & Way Ahead)
    ○ It posted **strong economic growth over the past decade**, driven mainly by oil and **manganese production.**

**India- Gabon Relations:-**
• India and Gabon have traditionally enjoyed warm and friendly relations, which are based on **shared democratic values and vision.**
• The bilateral relationship has further strengthened in the past few years with the opening of the **Gabonese Mission in New Delhi** and the **exchange of high-level visits.**
• **Trade:** The bilateral trade between India and Gabon is **growing** at a healthy rate and has touched **1.12 billion dollars in 2021-22** from 440 million dollars in 2017-18.
    ○ India is now the **second-largest destination** for Gabonese exports.
    ○ Over 50 Indian companies have set up manufacturing units in the **Gabon Special Economic Zone. (Towards a 'healthy' India-Africa partnership)**

**MUST READ: Horn of Africa**

| | SOURCE: DOWN TO EARTH |
|---|---|
| **Advisory Board on Banking and Financial Frauds (ABBFF)** | **Context:** The Central Vigilance Commission has reconstituted the **advisory board on Banking and Financial Frauds (ABBFF).** <br> **Background:-** <br> • The reconstituted APBFF will be **chaired by Suresh N Patel**, former Central Vigilance Commissioner. <br> **Central Vigilance Commission:-** <br> • **Establishment: 1964.** <br> • **HQ: New Delhi, Delhi.** <br> • It was set up by the Government on the recommendations of the Committee on Prevention of Corruption, headed by **K. Santhanam.** <br> • It is a **statutory body** governed by the **Central Vigilance Commission Act 2003.** <br> • **Mandate:** To inquire into offenses that might have been committed under the Prevention of Corruption Act, 1988 by certain categories of public servants. <br> • **Composition:** Central Vigilance Commissioner (Chairperson) and not more than two Vigilance Commissioners (Members). <br><br> **About the Advisory Board on Banking and Financial Frauds (ABBFF):-** <br> • **Constituted by: Central Vigilance Commission(CVC).** <br> • **HQ: New Delhi.** <br> • **Objective:** It conducts the **first level examination of bank frauds** before recommendations or references are made to investigative agencies such as the Central Bureau of Investigation (CBI). <br> **Composition of ABBFF:-** <br> • It consists of the **Chairman** and **four other members.** <br> • **Tenure of the Chairman/ Members**: two years. <br> **Functions of ABBFF:-** <br> • It has been empowered to **examine the role of officials/whole-time directors** (including ex-officials/ex-whole time directors) in public sector banks, public sector insurance companies; and public sector financial institutions in case of frauds amounting to **₹ 3 crores and above. ( Bad Bank)** <br> • To periodically **carry out fraud analysis** in the financial system and give inputs, if any, for policy formulation related to the frauds, to RBI and CVC. (Bad Bank: NARCL & IDRCL) <br> • The **Central Vigilance Commission or the Central Bureau of Investigation (CBI) can also refer** any case or technical matter to the board for its advice, the order stated. <br> • It can **give inputs for policy formulation** related to fraud to the Reserve Bank of India and the Central Vigilance Commission. <br> • It will **tender its advice** as may be requisitioned by ministries, departments, the Central Vigilance Commission, or the CBI. <br> **MUST READ: DHFL SCAM** <br> **SOURCE: BUSINESS LINE** |

## GEOGRAPHY

| Great Nicobar Island Project | **Context:** The Union Ministry of Environment, Forest and Climate Change told the Rajya Sabha that an estimated 964,000 trees would be felled for the **Great Nicobar Island Project.** |
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**About Great Nicobar Island Project:-**

- **Ministry: Ministry of Environment Forest and Climate Change (MoEFCC).**



- **Implementing agency:** Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- It is a ₹72,000-crore mega project piloted **by NITI Aayog. (NITI Aayog's Project for Great Nicobar Island)**
- **Objective:** holistic development of the Great Nicobar Island (GNI).
- The project aims to transform the Great Nicobar Island, in the Bay of Bengal, into a modern, sustainable, and self-sufficient territory. (Development of Great Nicobar)

**Components of the plan:-**

The plan has four components:-

- A ₹35,000 crore transshipment port at Galathea Bay
- A dual-use military-civil international airport
- A power plant, and
- A township

**Benefits of the Projects:-**

**Economic Benefits:-**

- The proposed port will **allow Great Nicobar to participate in the regional and global maritime economy** by becoming a major player in cargo transshipment.
- Great Nicobar is equidistant from Colombo to the southwest and Port Klang and Singapore to the southeast, and positioned close to the East-West international shipping corridor, through which a very large part of the **world's shipping trade passes.**
- It can potentially become a **hub for cargo ships traveling on this route.**

**Strategic Benefits:-**

- **Increasing Chinese assertion in the Indian Ocean** has added great urgency to this imperative in recent years.
- Great Nicobar is equidistant from Colombo to the southwest and Port Klang and Singapore to the southeast, and positioned close to the East-West international shipping corridor, through which a very large part of the **world's shipping trade passes.**

**Feasibility Issues:-**

- **Hinterland Economic Activities:** A successful transshipment hub requires viable hinterland economic activities, which may be wishful thinking in Great Nicobar.
- **Afforestation and Coral Reef Translocation:** The far-field afforestation recommendation and coral reef translocation are questionable compensation methods.
- **Tectonic Instability:** Great Nicobar Island's proximity to the Ring of Fire and its history of earthquakes raise concerns about the feasibility of developing an urban port city.

**About Great Nicobar:-**
- Great Nicobar is the **southernmost island of the Nicobar Islands** Archipelago.
- The **Great Nicobar Biosphere Reserve** harbors a wide spectrum of ecosystems comprising **tropical wet evergreen forests,** mountain ranges reaching a height of 642 m (Mt. Thullier) above sea level, and coastal plains.
- It is situated in the **Bay of Bengal.**
- It is the **largest island** in the Nicobar group of islands.

**MUST READ: Katchal island**
**SOURCE: DOWN TO EARTH**

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| **Project Devika** | **Context:** Recently, it was announced that North India's first River Rejuvenation **Project Devika** is nearing its completion.<br><br>**Background:-**<br>• Built at a cost of over Rs 190 crore on the lines of 'Namami Ganga', the Project was launched by Prime Minister Shri Narendra Modi<br><br>**About Project Devika:-**<br>• **Launched:2019.**<br>○ It was launched under the **National River Conservation Plan (NRCP).**<br>• **Ministry: Ministry of Jal Shakti.**<br>• **Objectives:** Project Devika aims to rejuvenate the **Devika River.**<br>**Salient Features of Project Devika:-**<br>• Under the project, **bathing "ghats" (places) on the banks of the Devika River will be developed**.<br>• Further, the **encroachments will be removed**, and natural water bodies will be restored.<br>• The **catchment areas** will also be developed along with cremation grounds.<br>• The Liquid Waste Management Project involves creating a **network of pipes and manholes** connecting households under the Project. (Cleaning of River Ganga)<br>• A **Solid Waste Management Project** is additionally planned to further enhance the river's restoration.<br>• The project also includes the **construction of three sewage treatment plants**, the development of **two cremation ghats, protection fencing and landscaping,** small hydropower plants, and **three solar power plants.**<br><br>**About River Devika:** |

- Origin: Devika River originates from the hilly Suddha Mahadev temple in the **Udhampur district of Jammu and Kashmir** and flows down towards western Punjab (now in Pakistan) where it merges with the Ravi River.
- The river holds religious significance as it is revered by Hindus, as the sister of the river Ganga.It is believed that Devika River is a manifestation of the Goddess Parwati.

**MUST READ: River Cities Alliance**
**SOURCE: PIB**

| Deepor Beel | **Context:** Recent reports show that locals in Assam are taking initiatives to save the dying **Deepor Beel Lake.** |
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**Background:-**
- Some initiatives, along with bettering the health of the beel, have also provided employment to women from the community.
- One such initiative is - **Simang,** which is a collective initiative by six women from Keotpara has successfully transformed the invasive weed, water hyacinths into beautiful artefacts and yoga mats.

**About Deepor Beel:-**

- **Location: Southwest of Guwahati, Assam.**
- it is the erstwhile water channel of **River Brahmaputra.**
- **Area:** up to **30 sq. km** in summer and about **10 sq. km** in the winter.
    - The **Deepor Beel Wildlife Sanctuary** measures **4.1 sq. km** within this wetland (beel).
- **Name:** 'Deep' is an Assamese term for elephants, while the word deepor comes from the Sanskrit word dipa, which means elephants.
    - Beel means lake in Assamese.
    - Deepor Beel means lake of elephants.
- Deepor Beel is a **permanent freshwater lake. (Deepor Beel)**
- It was **designated a Ramsar site in 2002**.
    - It is the Assam's **only Ramsar site.**
- It has been selected as one of the **Important Bird Area (IBA) sites by Birdlife International.**
- It has also been a patch for the **elephant movement** for ages.

**Significance:-**
- It is considered a **vital aspect of Guwahati tourism**.
- It provides a means of **livelihood f**or a number of local families.
- It constitutes a **unique habitat for aquatic flora and avian fauna.**

**Fauna:-**

- **Birds (Avifauna):** Deepor Beel is the natural habitat of as many as 219 species of birds that also includes over 70 species of migratory birds.
- **Animals:** Wild Asian elephants, barking deer, leopards, elephants, sambar, and Chinese porcupine.
- **Aquatic animals:** it is home to around 12 lizard species, 20 kinds of amphibians, 6 tortoise and turtle species, along with 18 species of snakes.
- **Other animals:** the wetlands and rivers here are called home by more than 50 species of fish.

**Issues:-**
- Its **water has become toxic** and it has lost many of its aquatic plants that elephants would feed on.
- It has for decades been **threatened by a railway track** — set to be doubled and electrified.

**MUST READ: Community fishing prohibited in Deepor Beel**
**SOURCE: DOWN TO EARTH**

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| **Tampara Lake** | **Context:** National Green Tribunal (NGT) has asked the Odisha government to stop 'illegal' construction in and around **Tampara Lake.**<br><br>**Background:-**<br>• The National Green Tribunal, Eastern Zone, has directed the Odisha government not to go ahead with 'illegal' construction in and around Tampara Lake, a designated Ramasar site and one of the largest picturesque freshwater lakes of the State. **( NGT)**<br><br>**About Tampara Lake:-**<br>• **Location: Ganjam district, Odisha.**<br>• **Formed: 1766.**<br>• **Formation:** It was formed due to explosives used during a battle.<br>• The depression on the ground gradually filled with rainwater from the catchment flow.<br>• It was called "Tamp" by the British and subsequently termed "Tampra" by the locals<br>• it is connected to **the Rushikulya River.**<br>• It is among the **most prominent freshwater lakes** in Odisha.<br>• The wetland is an **important habitat for vulnerable species** such as Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia).<br>• It was given **Ramsar site status** in 2021.<br>**MUST READ: COP14 of Ramsar Convention on Wetlands**<br>**SOURCE: THE HINDU** |
| **Pong dam** | **Context:** Recently, the **Pong Dam** recorded the highest-ever water inflow since it became operational.<br>**Background:-**<br>• Due to heavy rainfall over the last two days, the Pong dam on the **Beas River in Himachal Pradesh** has recorded the highest-ever inflow.<br>**About Pong Dam:-**<br><br>• **Constructed: 1974.**<br>• **Location: Kangra District, Himachal Pradesh.**<br>• **Objective:** water storage for irrigation and hydroelectric power generation.<br>• It was built across the **Beas River.** |

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| | • It is also called **the Maharana Pratap Sagar.**<br>• **1983:** entire reservoir was declared a Wildlife Sanctuary by the Himachal Pradesh government.<br>• **1994:** Government of India declared it a "Wetland of National Importance". (Wetland Conservation)<br>• **2002:** it was declared a Ramsar Site. (COP14 of Ramsar Convention on Wetlands)<br>• **Vegetation:** tropical and subtropical forests.<br>• **Flora:** Eucalyptus, acacia, jamun, shisham, mango, mulberry, ficus, etc.<br>• **Fauna:** Barking deer, sambar, wild boars, nilgai, leopards, etc.<br>• **Avian-Fauna:** Black-headed gulls, Red-necked grebes, plovers, terns, ducks, etc.<br>**MUST READ: National Dam Safety Authority**<br>**SOURCE: THE INDIAN EXPRESS** |
| **Sulina Channel** | **Context:** Recently, the **Sulina Channel** has provided Ukraine with an alternative trade route for its grain after Russia withdrew from the Black Sea grain deal.<br>**Background:-**<br>• Russia, **targeted ports and grain storage facilities** along **the Danube River** in Ukraine in overnight drone strikes on August 16, 2023.<br>• Russia also withdrew from the **Black Sea grain deal** in July 2023.<br>• Amidst this, the Danube Delta has provided Ukraine with an **alternative passage** in the form of the Sulina Channel to help secure its grain requirements.<br>**About Sulina Channel:-**<br><br>• **Location Southeastern part of Romania.**<br>• **Length: approximately 64 km long**.<br>• It **connects the Danube River**, **with the Black Sea. (Loss of the 'Moskva' & Black Sea)**<br><br>  • It provides a **direct route** for maritime transportation<br>**Historical Background:-**<br>• The construction of the Sulina Channel dates back to the **19th century.**<br>• It was developed to improve the **navigation of large ships and vessels** in and out of the Danube Delta.<br>**Significance:-**<br>• It is a significant **watercourse for shipping and navigation.**<br>• It is a **vital trade route for cargo vessels, commercial ships, and other maritime traffic** entering or leaving the Black Sea region.<br>  ○ **Danube:** second-longest river in Europe, after the Volga (Russia).<br>• Ukrainian grain ships sail from ports like **Izmail and Reni** on the Chilia Channel to Sulina.<br>• Here the cargo is **transferred to larger vessels.**<br>• These vessels proceed to **Constanta, Romania's major seaport.**<br>• **This route falls under NATO's surveillance** and protection. |

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| | • This ensures a degree of **security against Russian aggression.** <br><br> **MUST READ: Russia-Ukraine War** <br> **SOURCE: THE INDIAN EXPRESS** |
| **Flood watch** | **Context:** Recently, the Central Water Commission launched Mobile App '**Floodwatch'.** <br> **About CWC:** <br> • **Establishment:** <br> • **Ministry: Ministry of Jal Shakti.** <br> • **Head:** chairman, with the status of Ex-Officio Secretary to the Government of India. <br> • **Headquarters: New Delhi.** <br> • It is an **attached office of the Ministry of Jal Shakti**, Department of Water Resources, River Development, and Ganga Rejuvenation. <br> • It is entrusted with the general responsibilities of **initiating, coordinating, and furthering in consultation with the State Governments concerned,** schemes for control, conservation, and utilization of water resources throughout the country. <br> • It also undertakes the **investigations, construction, and execution** of any such schemes as required. <br> **About Floodwatch:-** <br> • **Launched: 2023.** <br> • **Launched by: Central Water Commission (CWC).** <br> • **Objectives:** using mobile phones to disseminate information related to the flood situation and forecasts up to 7 days on a real-time basis to the public. <br> **Salient Features of Floodwatch:-** <br> • It provides **essential information regarding flood situations** in the country. (Nature's Warning: Floods) <br> • **Bilingual:** The in-house developed user-friendly app has readable and audio broadcast and all the information is available in **2 languages, viz. English and Hindi.** <br> • **Real-time flood monitoring**: users can **check up-to-date flood situations** throughout the country. <br>   o The app utilizes **near real-time river flow data** from various sources. <br>   o It also **provides flood forecasts** at the nearest location. (Urban Flooding) <br> • **Flood advisory:** users can **check the flood advisory** at the station nearest to them. <br> • **Forecast using an Interactive Map**: users can check the CWC Flood Forecast (up to 24 hours) or Flood Advisory (up to 7 days). <br>   o They can do so either by **directly selecting the station** from the map or can **search for the name of the station** in the search box. <br>   o The **location will be zoomed in on the map** when the name of the station will be selected from the dropdown. <br> • **State-wise/Basin-wise Flood Forecast**: The app provides State-wise/Basin-wise Flood Forecast **(up to 24 hours) or Flood Advisory (up to 7 days).** <br>   o This can be **accessed by selecting specific stations**, state-wise or basin-wise from the dropdown menu. <br> • **Easy access:** The app can be downloaded free of charge from the **Google Play Store.** <br>   o The app will also be available on **Apple iOS soon.** |

- **Advanced technologies**: It utilizes advanced technologies such as **satellite data analysis, mathematical modeling, and real-time monitoring** to deliver accurate and timely flood forecasts.

**MUST READ: Urbanisation and Urban floods**
**SOURCE: PIB**

| Matti banana | **Context:** Recently, the **Matti banana** variety was granted the Geographical Indication (GI) tag. |
|---|---|
| | **About Matti banana:-** |
| | • They are **indigenous to Kanyakumari, Tamil Nadu**. (Dragon Fruit) |
| | • Kanyakumari was then part of Travancore. |
| | • It thrives in the **unique climate and soil**. |
| | • It flourishes mainly in **Kalkulam and Vilavancode taluks**. |
| | • It is known as '**Baby Banana**'. |
| | • Its **low total soluble solids** content (TSSC) makes it suitable as a **baby food.** |
| | • There are **six known types** of the Matti banana:- |
| | ○ **Nal Matti:** a yellowish-orange colour and fine aroma. |
| | ○ **Theyn [honey] Matti's:** pulp tastes like honey. |
| | ○ **Kal Matti gets** its name from the calcium oxalate crystals forming in its pulp and black dots on the skin. |
| | ○ **Nei Matti:** exudes the aroma of ghee. |
| | ○ **Sundari Matti:** a Matti clone, with its elongated fingers, thick peel, and creamy white rind. |
| | |
| | **MUST READ: Crop in news: Jackfruit** |
| | **SOURCE: THE HINDU** |
| Hurricane Hilary | **Context:** Recently, **Hurricane Hilary** caused extensive damage in the United States. |
| | **Background:-** |
| | • Hilary is the first tropical storm to hit Southern California in 84 years. |
| | **About Hurricane Hilary:-** |
| | |
| | **IMAGE SOURCE: dailybreeze.com** |
| |  |
| | • **Location:** near the **west coast of Baja California.** |
| | ○ **Baja California**: The long Mexican peninsula bound by the Gulf of California in the east and the North Pacific Ocean in the west. |
| | **Origin and Trajectory:-** |
| | • It originated as a **Tropical Storm** off the **shores of Mainland Mexico**. |
| | • This weather phenomenon rapidly transformed into a **Category 2 hurricane and then** into a **Category 3 storm** category. |
| | • Soon, it was officially designated as a **Category 4 hurricane,** nearly a day before its projected timeline. |

- This rapid intensification **is anticipated to continue**, leaving open the possibility of **a Category 5 upgrade** before eventual weakening. ( Cyclones forecast)

**Categories of Hurricanes:-**
- Hurricanes are categorized on the **Saffir-Simpson Hurricane Wind Scale** based on their **maximum sustained wind speeds**.
- The **scale ranges** from **Category 1 (weakest) to Category 5 (strongest)**.
- Each category represents a **higher wind speed** and **potential for damage.**

**Possible Factors behind its intensification:-**
Scientists expected **climate change** to not only spike the occurrence of such hurricanes but also make them more intense due to the following implications:-
- **Rise of the surface temperatures of the oceans:** global mean sea surface temperature has **gone up by close to 0.9 degree Celsius since 1850** and around 0**.6 degrees Celsius over the last four decades.**
- **Higher sea surface temperatures:** it causes marine heat waves, an extreme weather event, which can also make storms like hurricanes and tropical cyclones more intense.
  - **Marine heatwaves**: they are extended periods of anomalously warm sea surface temperatures in the ocean.
- **El Nino:** The situation has been worsened by **El Nino**, developing for the **first time in seven years**.
- This has weakened the vertical wind shear in the eastern Pacific, allowing more hurricanes in the region.
  - **El Nino**: a weather pattern that refers to an abnormal warming of surface waters in the equatorial Pacific Ocean.

**Risk or Threat:-**
- Unlike hurricane-prone states on the Gulf of Mexico, California and Mexico's west coast **lack experience in dealing** with such events. (Bomb Cyclone)
- Its expected landfall in the Baja peninsula of Mexico poses risks of **landslides, flooding, and extensive damage** due to the region's geographical features and population density.

**About Hurricane:-**
- Hurricanes are **tropical storms that form in the Atlantic Ocean.**
- **Wind speeds:** at least 119 kilometers (74 miles) per hour.
- Hurricanes derive their energy from the **heat released when moist air rises and condenses** into clouds and rain.

**Key characteristics of hurricanes:-**
- Hurricanes form over **warm ocean waters** when the sea surface temperature is typically **above 26 degrees Celsius (79 degrees Fahrenheit).**
- **Low-Pressure Centre:** Hurricanes have a well-defined centre of low atmospheric pressure, known as the **eye.**
- **Strong Winds:** winds can reach sustained speeds of at least **74 miles per hour (119 kilometers per hour) or higher.**
- Heavy Rainfall.

**MUST READ: Hurricane Ida**
**SOURCE: HINDUSTAN TIMES**

| Likaru-Mig La-Fukche road | **Context:** The construction of the world's new highest motorable **Likaru-Mig La-Fukche road** began in Ladakh recently. |
| --- | --- |

**Background:-**
- The Border Roads Organization (BRO) is working on constructing the 'Likaru-Mig La-Fukche' road in Ladakh, which will be the new highest motorable road in the world.

**About Likaru-Mig La-Fukche road:-**

- **Location: Ladakh, India. (Operation Sadbhavana)**
- It lies close to **Hanle in Eastern Ladakh.**
- **Length:64-km.**
- **Altitude: about 19,400 feet.**
- It is the **highest motorable road** in the world.
- It will surpass the **Umling La Pass.**
  - **Umling La Pass:** located at an altitude of 19,300ft, is the highest motorable road in the world currently.
- It will connect **Likaru to Fukche**, situated 3 km from the **Line of Actual Control (LAC).**
  - **LAC:** the demarcation that separates Indian-controlled territory from Chinese-controlled territory. ( India-China LAC standoff)

**Significance:-**
- It would also provide an **alternate land connectivity route** to the Fukche advanced landing pad.
- It is the **first project in India** to be carried out **entirely by an All Woman Road Construction Company**.
- It is led by a five-member **All Woman Border Road Task Force.**
- With this project, the **BRO will break its own record** of the highest motorable road.

**MUST READ: India's first-ever night sky sanctuary in Ladakh**
**SOURCE: HINDUSTAN TIMES**

| Paravanar River | **Context:** Recently, Neyveli Lignite Corporation India Limited (NLCIL) completed the Permanent Diversion of **Paravanar River** Course. |
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**Background of the issue:-**
- The temporary alignment of the Paravanar River course is just 60 meters away from the Mine.
- This Paravanar **river has to handle stormwater from the catchment area** of more than 100 sq. kms from the northwest and southern areas.
- As **several villages are in this area,** and it has become of paramount importance **to safeguard the habitats** as well as **agricultural fields** from inundation during incessant and heavy rains.
- Taking accountability and responsibility NLCIL took up the critical **task of providing an adequate and permanent waterway** through the work of permanent diversion of Paravanar.
- The long pending and vital work of permanent diversion of the Paravanar River course has been completed by NLCIL on 21st August 2023.

**About Paravanar River:-**
- **Location: Tamil Nadu.**
- Paravanar River Basin which is a **leaf-shaped river basin**.

- It is the **second smallest river basin** of Tamil Nadu.
- It lies within the **Cuddalore District of Tamil Nadu.**
- The Paravanar River is **not a mature river**.
- It is a **seasonal and ephemeral river.**
    - **Ephemeral:** lasting or used for only a short period of time.

**About NLCIL:-**

- **Establishment:1956.**
- **Ministry: Ministry of Coal. (Coal economy)**
- **HQ: Tamil Nadu, India.**
- **Core Business:** Mining & Power Generation.
- **Present Mining Capacity:** 52.1 MTPA
    - Lignite 32.1 MTPA
    - Coal: 20.0 MTPA
- **Present Power Generation Capacity (including JVs)**: 6061.06 MW
    - Lignite: 3640MW
    - Coal: 1000 MW
    - Solar: 1370.06 MW
    - Wind: 51 MW
- NLCIL is **a Navratna company** Central Public Sector Undertaking.
- It is under the administrative control of the **Ministry of Coal. (India's Transition away from Coal)**

**MUST READ: River Cities Alliance**
**SOURCE: PIB**

| Magic rice | **Context:** Recently, **Magic Rice** got Geographical Indication (GI) tag. |
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**About Magic Rice:-**

- Magic rice also known as **Chokuwa rice.**
- It is a part of **Assam's culinary heritage**.
- This unique rice has been a staple of the troops of the mighty **Ahom dynasty.**
- It is cultivated **around the Brahmaputra area.**
- It is a **semi-glutinous winter rice**, known as Sali rice.
- The sticky and glutinous variety is categorized as Bora and Chokuwa based on their **amylose concentration.**
- The **low amylose Chokuwa rice variants** are used to make soft rice, which is known as Komal Chaul or soft rice.
- This rice variety is widely consumed for its convenience of preparation and **nutritional value.**

**MUST READ: GI tag for Narasinghapettai nagaswaram**
**SOURCE: ECONOMIC TIMES**
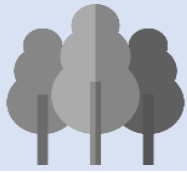
## ENVIRONMENT & ECOLOGY

| Great Barrier Reef | **Context:** Recently, UNESCO has removed Australia's **Great Barrier Reef** from its "in danger" list. |
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**Background:-**

- Off late, Australia's Great Barrier was under "serious threat" from pollution, warming of oceans, and constant coral bleaching events. Therefore, the UNESCO committee put the reef on the danger list.
- However, UNESCO removed the Reef from its "in danger" list, due to the **Australian government's efforts and commitments towards keeping the reef clean.**

**About Great Barrier Reef:-**

- **Location:  Coral Sea (North-East Coast), off the coast of Queensland, Australia.**



*Where is the Great Barrier Reef Located?*

- It is the **world's most coral reef ecosystem** composed of over 2,900 individual reefs and 900 islands.
- This reef structure is composed of and built by billions of tiny organisms, known as **coral polyps**, form the structure of coral reefs.
  - **Coral polyps:** tiny, soft-bodied organisms and their base which is a hard, protective limestone skeleton called a calicle.
  - These polyps have microscopic algae called **zooxanthellae** living within their tissues.
  - The corals and algae have a **mutualistic (symbiotic) relationship.**
  - **Mutualism:** a long-term relationship between individuals of different species where both individuals benefit.
- It is the **largest aggregation of coral reefs in the world. ( Third mass bleaching of Great Barrier Reef recorded)**
- It was selected as a **World Heritage Site in 1981. (Great Barrier Reef recommended to be added to a list of "in danger" World Heritage Sites)**

**Threats to Coral Reefs:-**

- **Anthropogenic activities:** such as coastal development, destructive fishing methods, and pollution from domestic and industrial sewage.
- Due to **increased sedimentation**, **over-exploitation, and recurring cyclones.**
- **Coral diseases**: such as black band and white band due to infectious microorganisms introduced by the human population that lives in the coastal regions.
- Ocean Acidification.
- Overfishing and overharvesting of corals.
- Coral bleaching.

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|  | - Sunscreen chemicals.<br>- Many corals are threatened by the **illegal harvesting for jewelry.**<br>**Coral Reef Areas in India:-**<br>- Gulf of Mannar.<br>- Andaman and Nicobar Islands.<br>- Lakshadweep islands.<br>- Gulf of Kutch.<br>**MUST READ: New species of black corals**<br>**SOURCE: TIMES OF INDIA** |
| **National Disaster Management Authority (NDMA)** | **Context:** The **National Disaster Management Authority (NDMA)** recently informed that several states and Union territories (UTs) are yet to implement the **Incident Response System (IRS),** which is crucial for disaster response.<br>**About Incident Response System (IRS):**<br>- IRS is a combination of facilities, equipment, personnel, procedure and communications operating within a common organizational structure, with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.<br>**Functions of IRS:**<br>- In line with **administrative structure and DM Act 2005, Responsible Officer (RO)** is designated at the State and District level as overall in charge of the incident response management.<br>- RO may delegate responsibilities to the **Incident Commander (IC),** who in turn will lead/manage the incident through Incident Response Teams (IRTs).<br>- IRS functions through **Incident Response Teams (IRTs)** in the field. An IRT is a team comprising all positions of IRS organization; headed by Incident Commander (IC).<br>    o On receipt of Early Warning, RO activates IRTs.<br>- In case of a disaster without any warning, local IRT will respond and contact RO for further support, if required.<br>- IRTs pre-designated at all levels, i.e. State, District, Sub-Division and Tehsil/Block.<br>- IRT's lowest administrative unit (Sub-Division / Tehsil / Block) will be the 'first responder'.<br>- If the incident becomes complex and beyond the control of local IRT, higher level IRT will be informed / take over the response management.<br>    o In such cases the lower level IRT will merge with the higher level IRT.<br>- When lower level of IRT merges with a higher level, IC of lower level may play the role of Deputy IC or Operations Sections Chief (OSC) or any other duty that the IC of higher authority assigns.<br>**Source:**         **Hindustan Times** |
| **Vaquita porpoise** | **Context:** The International Whaling Commission (IWC) has issued its first **'extinction alert'** on the **vaquita porpoise**.<br>**Background:-** |

- The International Whaling Commission (IWC) issued its first 'extinction alert' on August 7, 2023, on the vaquita porpoise, of which only 10 individuals survive in the **Gulf of California or Sea of Cortez in Mexico.**
    - **International Whaling Commission (IWC):** an international body charged with the conservation of whales and the management of whaling.
    - It was set up under **International Convention for the Regulation of Whaling (ICRW).**
    - **ICRW** governs the commercial, scientific, and aboriginal subsistence whaling practices of the member nations.
    - It was signed **in 1946.**
    - **HQ: Impington, near Cambridge, England.**

**About Vaquita porpoise:-**

- **SCIENTIFIC NAME: Phocoena sinus**
- **Length: Up to 5 feet**
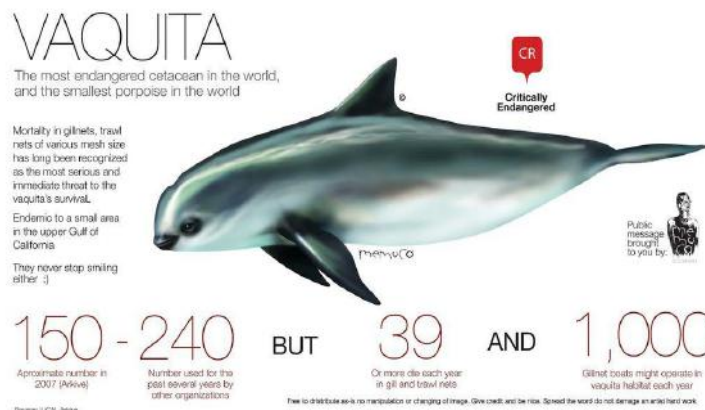


- **WEIGHT: Up to 120 pounds**
- **HABITATS: Marine.**
    - The vaquita is **only found** in the northernmost part of the **Gulf of California, Mexico.**
    - It is most commonly seen in **shallow waters up to 50 meters deep.**
- **POPULATION: About 10 individuals.**
    - It is on the **edge of extinction.**
- Vaquita, the **world's rarest marine mammal**.
- Its name means **"little cow" in Spanish.**
- The vaquita has a **large dark ring around its eyes** and dark patches on its lips that form a thin line from the mouth to the pectoral fins.
- It is unique among the porpoises as it is the **only species of that family found in warm waters**.
- The size of the dorsal fin is believed to be an adaptation to that, **allowing for extra body heat to dissipate.**

**Threats for Vaquita porpoise:-**

- **Illegal fishing** with gill nets for the vulnerable totoaba, a large fish sought after for its swim bladder.
- The small animal frequently gets caught in fixed fishing nets (gill nets), as by-catch.

**Conservation Status Vaquita porpoise:-**

- **IUCN Red List:** Critically Endangered.
- **CITES:** Appendix I

**MUST READ: Zebrafish**
**SOURCE: DOWN TO EARTH**

| Zoological Survey of India (ZSI) | **Context:** A recent publication by the **Zoological Survey of India (ZSI)** points out that about 5% of birds found in India are endemic.<br>**Key highlights of the report:-**<br><ul><li>The publication, titled **75 Endemic Birds of India**, was recently released on the 108th foundation day of the ZSI.</li><li>India is home to **1,353 bird species**, which represents approximately 12.40% of global bird diversity.</li><li>Of these 1,353 bird species, **78 (5%) are endemic** to the country.</li><li>Of the 78 species, three species have not been recorded in the last few decades.</li><li>They are the **Manipur Bush Quail** listed as 'Endangered' by the IUCN Red List with its last recorded sighting in 1907; **the Himalayan Quail** listed as '**Critically Endangered'** with its last recorded sighting in 1876; and the **Jerdon's Courser** listed as **'Critically Endangered'** with its last confirmed sighting in 2009.</li><li>Of the 78 endemic species, **25 are classified as 'Threatened' by the IUCN.**</li><li>The highest number of endemic species have been recorded in **the Western Ghats,** with 28 bird species.</li><li>**25 bird species are endemic to the Andaman and Nicobar Islands.**</li></ul>**About the Zoological Survey of India (ZSI):-**<br><ul><li>**Establishment:1916.**</li><li>**Ministry: Ministry of Environment and Forests.**</li><li>**HQ: Kolkata**</li><li>The Zoological Survey of India (ZSI), **a subordinate organization** of the Ministry of Environment and Forests.</li><li>**Objective:** It was established as a **national center for a faunistic survey and exploration** of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.</li></ul>**Functions of ZSI:-**<br><ul><li>**Identification & Advisory** Services.</li><li>**Training & Extension Services** in the field of animal taxonomy and faunistic surveys.</li><li>**Library** facilities.</li><li>Presentation & **Publication of Research work** in journals and books.</li><li>**Study of**:-<ul><li>Fauna of states.</li><li>Fauna of conservation areas.</li><li>Fauna of important ecosystems.</li><li>Status survey of endangered species.</li><li>Fauna of India</li><li>Ecological Studies & Environmental impact assessments.</li></ul></li></ul>**MUST READ: Kerala Bird Atlas (KBA)**<br>**SOURCE: THE HINDU** |
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| Amazon Cooperation Treaty | **Context:** Recently, the members of the **Amazon Cooperation Treaty Organization (ACTO),** met in Brazil to come up with a roadmap to protect tropical rainforests.<br>**Background:-** |

| Organization (ACTO) | • Leaders and Ministers from eight Amazon nations signed a declaration on August 8, 2023, in **Belem, Brazil.** <br> • **Belem Declaration** laid out **plans to drive economic development** in their countries **while preventing Amazon's ongoing demise** from reaching a point of no return. <br> • The summit aimed to address **sustainable development in the Amazon Basin** but fell short of achieving consensus on crucial environmental targets. <br> **About Amazon Cooperation Treaty Organization (ACTO):-** <br><br>  <br> • **Establishment: 1978.** <br> • **HQ: Brasilia, Brazil.** <br> • **Official languages: Dutch, English, Portuguese, and Spanish.** <br> • **Members: Eight countries-Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela.** <br> • ACTO is an **intergovernmental organization** formed by the **eight Amazonian countries** which signed the Amazon Cooperation Treaty (ACT). <br>     o **ACT:** it was signed in 1978, and gave rise to the ACTO. <br> • It is the **only socio-environmental block in Latin America.** <br> • The **Directorate of the Permanent Secretariat** and the coordination of the projects plan and execute their activities. <br> **Objective of ATCO:-** <br> • Promote the **harmonious development of the Amazonian territories** <br> • **Sustainable development** of the Amazon Region. ( Deforestation in Amazon Basin) <br> **MUST READ: India and Brazil: Bilateral Investment Treaty** <br> **SOURCE: THE HINDU** |
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| Turtle Survival Alliance (TSA) | **Context:** The Pilibhit Tiger Reserve and **Turtle Survival Alliance (TSA)** has joined hands for turtles and tortoises conservation. <br> **Background:-** <br> • Pilibhit Tiger Reserve, formulated its inaugural 'five-year plan' to safeguard turtles, conduct species identification and estimate their populations both within and outside the reserve. <br> **About Turtle Survival Alliance (TSA):-** <br> • **Formed: 2001.** <br> • **HQ: USA.** <br> • **Objective:** it is a global partnership committed to achieving zero turtle extinctions in the 21st century. <br> • It was initially designated a **Task Force of the IUCN** Tortoise and Freshwater Turtle Specialist Group**. (Indian Tent Turtles)** <br> **Activities of TSA:-** <br> • Captive breeding and reintroduction programs. <br> • In and ex-situ conservation programs. |

- Research and surveys.

**Pilibhit Tiger Reserve:-**
- **Location: Pilibhit and Shahjahanpur district of Uttar Pradesh.**
- It forms the part of **Terai Arc Landscape** in the **upper Gangetic Plain.**
  - **Terai Arc Landscape (TAL)**: an 810 km stretch between the river Yamuna in the west and the river Bhagmati in the east.
- It is one of the finest examples of the exceedingly **diverse and productive Terai ecosystems.**
- The northern edge of the reserve **lies along the Indo-Nepal border** while the southern boundary is marked by the river Sharada and Khakra.
- **2014:** It was notified as **Tiger Reserve.**
- **2020:** it bagged the international award TX2 for doubling up the number of tigers in the past four years.
- **Flora:** It has high sal forests, plantations, and grasslands with several water bodies.
- **Fauna:** Wild animals include tiger, swamp deer, Bengal florican, leopard, etc.

**Turtle And Tortoise:-**
- They are the **reptiles of the order Testudines**.
- They are characterized by a **special bony or cartilaginous shell** developed from their ribs and acting as a shield.
- **Habitat: freshwater or saltwater.**
- Turtles are cold-blooded species.
- **Tortoises** are **land dwelling**.

**Conservation status of turtles found in India:-**
- **Olive Ridley** – Vulnerable
- **Green turtle** – Endangered
- **Loggerhead** – Vulnerable
- **Hawksbill** – Critically Endangered
- **Leather back** – Vulnerable
- **Indian Wildlife Protection Act of 1972:** Schedule I.
- They are also protected under the **Biodiversity Conservation and Ganga Rejuvenation programme.**

**MUST READ: Pilibhit Tiger Reserve bags international award TX2**
**SOURCE: TIMES OF INDIA**

| Geological Survey of India (GSI) | **Context:** Recently, the **Geological Survey of India (GSI)** has discovered the oldest fossil remains of a long-necked, plant-eating dicraeosaurid dinosaur in Jaisalmer, Rajasthan.<br>**About the Study:-**<br>• The scientists from **IIT-Roorkee and the Geological Survey of India (GSI)** conducted this research.<br>**Findings:-**<br>• The **remains are 167 million years old.**<br>• They belong to **a new species unknown to scientists thus far.**<br>• It has been named '**Tharosaurus indicus'**. |
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o   The first name refers to the '**Thar desert'** where fossils were found.
o   The **second name is after its country of origin.**
- The **fossils of dicraeosaurid dinosaurs** have been found **previously in North and South Americas, Africa, and China**, but such fossils were **not known from India.**
- The rocks in which the fossils were found are dated to be around **167 million years old.**
- It makes this **new Indian sauropod not only the oldest known dicraeosaurid** but also **globally the oldest diplodocoid.**
o   **Diplodocoid:** a broader group that includes dicraeosaurids and other closely related sauropods.
- Theories so far had suggested that the **oldest dicraeosaurid** was from **China (about 166-164 million years old).**

**About the Geological Survey of India:-**
- **Establishment: 1851.**
- **Ministry: Ministry of Mines.**
- **HQ: Kolkata. ( GSI)**
o   It has six Regional offices located at Lucknow, Jaipur, Nagpur, Hyderabad, Shillong, and Kolkata.
- The Geological Survey of India (GSI) is **a scientific agency.**
- It is one of the **oldest of such organizations** in the world and the **second oldest survey in India** after Survey of India (founded in 1767). ( Survey of India)
- It **uses the latest computer-based technologies** for the dissemination of geoscientific information and spatial data, through cooperation and collaboration with other stakeholders in the Geo-informatics sector.

**Role of GSI:-**
- **Conducting geological surveys** and studies of India.
- Prime provider of **basic earth science information** to government, industry, and the general public.
- conduct multidisciplinary as well as fundamental **geological research and studies**.
- **Coordinate geoscientific activities** with stakeholders in all areas related to geosciences.
- Actively participate in **international collaborative projects** to improve our understanding of the Earth and its ecosystems and its geology.
- Maintain a **leadership role in the geological field** and develop partnerships with central, state, and other institutions.

**MUST READ: Abnormal' dinosaur egg in India**
**SOURCE: TIMES OF INIDIA**

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| **Green Hydrogen Standard** | **Context:** The Government has notified the **Green Hydrogen Standard** for India for the progress of the **National Green Hydrogen Mission.**<br>**About Green Hydrogen Standard:-**<br>• **Issued in 2023.**<br>• **Issued by: Ministry of New and Renewable Energy**<br>• **Objectives:** progress of the **National Green Hydrogen Mission (NGHM).** |

- o **NGHM:** It is a part of the National Hydrogen Mission (NHM) which was announced by the finance minister in the Union Budget 2021-22.
  - o Its objective was to make India a global hub for the production and export of green hydrogen and fulfill India's Nationally Determined Contributions (NDCs).
- The Ministry of New & Renewable Energy has **defined Green Hydrogen** through these standards.
- The standard, **outlines the emission thresholds** that must be met in order for hydrogen produced to be classified as Green.
- **Definition:** Green Hydrogen is defined as having a well-to-gate emission including **water treatment, electrolysis, gas purification, drying, and compression of hydrogen** of not more than 2 kg CO2 equivalent/kg H2.
  - o The definition encompasses **both electrolysis-based and biomass-based hydrogen** production methodology.
  - o **Electrolysis:** a chemical process that involves using an electric current to drive a non-spontaneous chemical reaction.
- **Methodology:** A detailed methodology for measurement, reporting, monitoring, on-site verification, and certification of green hydrogen and its derivatives shall be specified by the Ministry of New and Renewable Energy.
- **Bureau of Energy Efficiency, Ministry of Power**: it shall be the **Nodal Authority for accreditation of agencies** for the monitoring, verification, and certification of Green Hydrogen production projects.

**Significance:-**
- The Green Hydrogen Standard **bring a lot of clarity to the Green Hydrogen community in India** and was widely awaited.
- With this, **India became one of the first few countries** in the world **to announce a definition of Green Hydrogen.**

**Green hydrogen:-**
- Hydrogen is a **chemical element** with the symbol H and **atomic number 1. (Hydrogen Fuel Cell for Vehicles)**
- It exists **only** in **combination with other elements**.
  - o Thus, it **has to be extracted from natural compounds**, like water.
- Based on the extraction process, Hydrogen is categorized into:-
  - o **Grey hydrogen:** produced from fossil fuels.
  - o **Blue hydrogen:** produced from fossil fuels with carbon capture and storage.
  - o **Green Hydrogen:** produced entirely from renewable power sources. ( Green Hydrogen).

**Advantages of Green Hydrogen:-**
- Environment Friendly.
- Reduced Dependence on Rare Minerals.
- Reduces Import Bill.
- Efficient utilization of Renewable Energy.

**MUST READ: India's first pure green hydrogen plant commissioned**
**SOURCE: AIR**

| Tachymenoides harrisonfordi | **Context:** Recently, a new snake species '**Tachymenoides harrisonfordi**' has been named after Hollywood actor Harrison Ford. |

**Background:-**
- Researchers from Germany, the United States, and Peru have named a recently discovered species of snake after actor Harrison Ford.

**About Tachymenoides harrisonfordi:-**
- **Naming:** It was named in honour of the **actor Harrison Ford.**
  - This is the **third animal species** to be named after Ford.
  - Earlier, **an ant (Pheidole harrisonfordi) and a spider (Calponia harrisonfordi)** were named after him.
- **Appearance**: it measures approximately 16 inches (40.6 centimeters).
  - It has a **yellowish-brown colour** with scattered black blotches.
- **Distinctive Features:** The snake boasts a **black belly**, a vertical streak above its copper-coloured eye, and unique markings that contribute to its identity.

**MUST READ: Saltwater crocodile**
**SOURCE: THE INDIAN EXPRESS**

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| **Hangul** | **Context:** The **Hangul** population in J&K has seen an increasing trend in recent times. <br> **About Hangul:-** <br> • It is the **state animal of Jammu & Kashmir.** <br> • The hangul is also called as **Kashmir stag.** <br> • Hangul, or cervus ellaphus hanglu, a **sub-specie of the European red deer.** <br> • It is known to be **existing only in Kashmir.** <br> **Habitat and Distribution:-** <br> • It is restricted to the **Dachigam National Park.** <br> • It is located some **15 km northwest of Jammu & Kashmir's** summer capital **Srinagar.** <br> • The Hangul was once widely distributed in the **mountains of Kashmir and parts of the Chamba district** in neighboring Himachal Pradesh. <br> **Conservation Status:-** <br> • **IUCN's Red List**: Critically Endangered (IUCN updates the Red list of species) <br> • Indian Wildlife (Protection) Act, 1972: **Schedule I (Wildlife Institute of India (WII))** <br> • J&K Wildlife Protection Act, 1978: **Schedule I** <br><br> **MUST READ: Wildlife Protection** <br> **SOURCE: HIDUSTAN TIMES** |
| **Global Environment Facility (GEF)** | **Context:** The Global Biodiversity Framework Fund (GBFF) was ratified and launched at the Seventh Assembly of the **Global Environment Facility (GEF)** held recently. <br> **Global Biodiversity Framework Fund's (GBFF) implications:-** <br> • **Governments, non-profits, and the private sector can now contribute their funds** to GBFF. <br> • This will ensure that the **world meets the goals and targets of the Kunming-Montreal Global Biodiversity Framework (GBF)** formulated by the **Convention on Biological Diversity (CBD) by 2030.** <br> • As much as **20 percent of the funds would support Indigenous-led initiatives** to protect and conserve biodiversity. <br> • It will also prioritize support for **Small Island Developing States** and Least Developed Countries, which will receive more than a third of the fund's resources. |

- This is the **first time there would be funds channeled to non-state actors** like the indigenous communities.
- Under **Target 19 of GBF**, at least $200 billion per year will need to be raised **by 2030.**
- **Canada and the United Kingdom** have already donated 200 million Canadian dollars and 10 million pounds respectively to the GBFF.
    - After donations from Canada and the UK, **$40 million is still needed** to
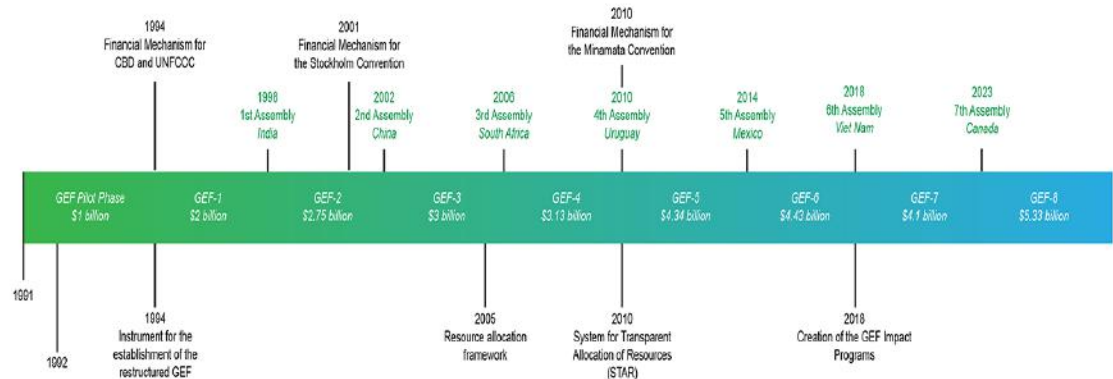


operationalize the fund by the end of 2023.
- The **first GBFF Council meeting** will be held in **January 2024,** with a view to approving the first work programme at the June 2024 Council meeting.
- The **first tranche of the fund** is likely to be disbursed after the council meeting to ensure that the first projects under the new Fund can be launched ahead of CBD's CoP16.

**About Global Environment Facility (GEF):-**

- **Established:1991.**
- It was established on the eve of the 1992 Rio Earth Summit of UNFCC.
- **HQ: Washington, D.C. United States.**

**Historical Background:-**

- It was set up as a fund under the **World Bank.**
- **Restructured: in 1994.**
- **1992:** At the Rio Earth Summit, the **GEF was restructured and moved out of the World Bank system** to become a permanent, **separate institution.**
- Since **1994**, however, the **World Bank has served as the Trustee** of the GEF Trust Fund.
    - **Rio Earth Summit:** It was a major United Nations conference held in Rio de Janeiro (Brazil) in 1992.
    - It highlighted the **impact of human socio-economic activities** on the environment. ( Climate Ambition Summit 2020 held virtually)
- **Members of GEF:** It has **184 member** countries.
    - India is a member.
- **Venue of the seventh Assembly of GEF:** Vancouver, Canada.
- It is a family of funds dedicated to confronting **biodiversity loss, climate change, pollution, and strains on land and ocean health.**
- Its grants, blended **financing, and policy support to help developing countries** address their biggest environmental priorities and adhere to international environmental conventions.
- It provides financial assistance for **five major international environmental conventions:-**

**The Minamata Convention on Mercury.**
- Signed: 2013.
- Effective from 2014.
- It is an international treaty designed to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

**The Stockholm Convention on Persistent Organic Pollutants (POPs).**
- Signed:2001.
- Effective from 2004.
- It is an international environmental treaty that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

**The United Nations Convention on Biological Diversity (UNCBD) (UN Biodiversity Summit)**
- Signed: 5 June 1992 – 4 June 1993.
- Effective from 1993.
- It is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits.

**The United Nations Convention to Combat Desertification (UNCCD).**
- Signed: 14 October 1994 – 13 October 1995.
- Effective from 1996.
- It was established in 1994 to protect and restore our land and ensure a safer, just, and more sustainable future.

**The United Nations Framework Convention on Climate Change (UNFCCC).**
- Signed:1992-1993.
- Effective from 1994.
- It was adopted in 1992 with the ultimate aim of preventing dangerous human interference with the climate system.

**Organization of GEF:-**
- The GEF's governing structure is organized around an **Assembly, Council, Secretariat, 18 implementing agencies, a Scientific and Technical Advisory Panel, and the Independent Evaluation Office.**
- GEF Council: it is the GEF's **main governing body**, and comprises **32 members** appointed by constituencies of member countries.

**Functions of GEF:-**
- It **supports developing countries' work** to address the world's most pressing environmental issues.
- It organizes work around five focal areas – **biodiversity loss, chemicals and waste, climate change, international waters, and land degradation.**
- It takes an integrated approach to **support more sustainable food systems, forest management, and cities.**

**GEF and India:**
- India is a **founder member of GEF.**
- It is both a **donor and recipient** of GEF funds.
- India **represents the GEF South Asia Constituency** (including, Bangladesh, Bhutan, Maldives, Nepal, and Sri Lanka) in the GEF Council.
- **GEF Political Focal Point:** Department of Economic Affairs (DEA).
- It is responsible for issues related to GEF governance, including policies and decisions, as well as relations between member countries and the GEF Council and Assembly.

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|  | • **GEF Operational Focal Point (OFP):** The Ministry of Environment, Forest and Climate Change (MoEFCC)<br><br>**MUST READ: Climate Adaptation Summit 2021**<br>**SOURCE: DOWN TO EARTH** |
| **Kampala Ministerial Declaration on Migration, Environment, and Climate Change (KDMECC)** | **Context:** The **Kampala Declaration on climate change**, and human mobility recently, got 48 African countries as members.<br>**Background:-**<br>• Representatives from 48 African countries gathered in Nairobi, Kenya, for the Conference of States on the continental expansion of the Kampala Ministerial Declaration on Migration, Environment, and Climate Change.<br>• The continental expansion of the KDMECC was discussed at a three-day Conference of States that began **August 23, 2023.**<br>• It was **co-hosted by** the Governments of Kenya and Uganda with support from the **International Organization for Migration (IOM) and the United Nations Framework Convention on Climate Change (UNFCCC).**<br>**IOM:-**<br>• **Established: 1951.**<br>• **HQ: Geneva, Switzerland.**<br>• It currently has **175 Member States.**<br>• It is a **United Nations agency** that provides services and advice concerning migration to governments and migrants, including internally displaced persons, refugees, and migrant workers<br>• The International Organization for Migration (IOM) governing bodies are comprised of the Council, which is the highest authority, and the Standing Committee on Programmes and Finance, a sub-committee of the Council.<br><br>**About Kampala Ministerial Declaration on Migration, Environment, and Climate Change (KDMECC):-**<br>• **Signed: 2022.**<br>• **Signed at Kampala, Uganda.**<br>• **Signed by: 15 African states.**<br>• **Objective:** to address the nexus of human mobility and climate change in the continent.<br>• The Declaration is the first comprehensive, action-oriented framework led by Member States to address climate-induced mobility in a practical and effective manner.<br>• **Need:** Africa is one of the world's **most vulnerable continents** to the impacts of climate change. ( Global Risks due to Climate Change)<br>     o There were over 7.5 million **new internal disaster displacements** in 2022, according to a 2023 report by the Internal Displacement Monitoring Centre.<br>     o If nothing is done, as many as 105 million **people could become internal migrants** within the African continent.<br>• **Progress:** An Expert Working Group (EWG) was formed in May 2023 to ensure that the signatory states of the KDMECC receive the necessary support they need to meet their commitments.<br>• The EWG comprises climate and migration experts and youth climate advocates from the signatory countries and regional bodies. |

- **Significance:** It will ensure that all voices, including those of youth, women, and persons in vulnerable situations are the priority of the expanded declaration.

**Signatory countries of the KDMECC:-**

- The Republic of Burundi
- The Republic of Djibouti
- The Democratic Republic of Congo
- The Federal Democratic Republic of Ethiopia
- The Republic of Kenya
- The Republic of Rwanda
- The Federal Republic of Somalia
- The Republic of South Sudan
- The Republic of the Sudan
- United Republic of Tanzania
- The Republic of Uganda
- The Arab Republic of Egypt
- People's Democratic Republic of Algeria
- The Republic of Senegal
- The Republic of Zambia

**MUST READ: Mitigating Climate Change**
**SOURCE: DOWN TO EARTH**

| Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) | **Context:** The 10th plenary of the **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)** was held recently. <br> **About the 10th plenary of IPBES:-** <br><br> • **Dates: 28 August – 2 September 2023.** <br> • **Location: Bonn, Germany.** <br> • **Agenda:** the scientific assessment report on "Invasive Alien Species and their Control".( Invasive Species) <br> • The **focus of IPBES 10** will be the thematic assessment of invasive alien species and their control, whose preparation was approved at IPBES 8. <br> • IPBES10 is the **first meeting of this global body** since the adoption of the **Kunming-Montreal Global Biodiversity Framework (GBF).** <br><br> **About Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES):-** <br><br> • **Established: 2012.** <br> • **HQ: Bonn, Germany.** <br> • **IPBES Member States: 143.** <br> • It is an **independent intergovernmental body.** <br> • It provides **evidence-based and policy-relevant information** on biodiversity and ecosystem services. ( Biodiversity conservation) <br><br>  |
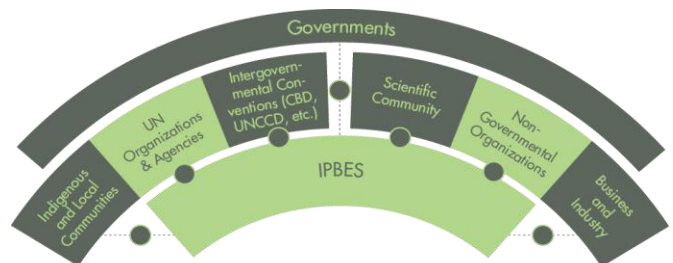
- **Observer states and stakeholders** also participate in Plenary sessions.
- IPBES **assesses the state of biodiversity** and the ecosystem services it provides to society, in response to requests from decision-makers.
- It is **not a United Nations body. (UN Biodiversity Summit)**
- The **United Nations Environment Programme (UNEP)** provides secretariat services to IPBES. (UNEP's Emission Gap Report 2022)

**IPBES structure:-**

- **Plenary:**
    o The governing body of IPBES.
    o It is made up of the representatives of IPBES member States.
    o It usually meets **once per year.**
- **Observers:** Any State not yet a member of IPBES.
- **Bureau**: Comprising the IPBES Chair, four Vice-Chairs, and five additional officers who oversee the administrative functions of IPBES.
- **Multidisciplinary Expert Panel (MEP):** Five expert participants from each of the five UN regions, overseeing all IPBES scientific and technical functions.
- **Stakeholders:** All contributors to and end-users of the IPBES outputs.
- **Expert Groups & Taskforces:** Selected scientists and knowledge holders carrying out the IPBES assessments and other deliverables.
- **Secretariat**: Ensures the efficient functioning of IPBES through support to the Plenary, Bureau, and MEP, as well as implementing the Platform's work and administrative functions.

**Functions of IPEBS:-**

- **Assessments:** On specific themes (e.g. "Pollinators, Pollination and Food Production"); methodological issues (e.g. "Scenarios and Modelling); and at both the regional and global levels (e.g. "Global Assessment of Biodiversity and Ecosystem Services").
- **Policy Support:** Identifying policy-relevant tools and methodologies, facilitating their use, and catalyzing their further development.
- **Building Capacity & Knowledge:** Identifying and meeting the priority capacity, knowledge, and data needs of our member States, experts, and stakeholders.
- **Communications & Outreach:** Ensuring the widest reach and impact of our work.

**MUST READ: Expansion of the Invasive Plants**
**SOURCE: DOWN TO EARTH**
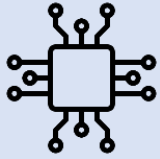
## SCIENCE & TECHNOLOGY

| Hepatitis | **Context:** Recently, World **Hepatitis** Day 2023 was observed. |
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**About World Hepatitis Day 2023:-**
- **World Hepatitis Day 2023 is observed on July 28.**
- It is observed each year with the objective to enhance **awareness of viral hepatitis.**
- **Theme for World Hepatitis Day 2023**: "One life, one liver," focusing on creating awareness about viral hepatitis.
- **Historical Background:-**
  - It was initially observed on May 19 but was later shifted to **July 28 in 2010.**
  - The World Hepatitis Alliance, established in 2007, organized **the first community-driven World Hepatitis Day in 2008.**
  - This date was chosen to honour **Dr Baruch Samuel Blumberg.**
  - **Dr Baruch Samuel Blumberg:** the American physician **who discovered Hepatitis B** in the 1960s.

**Hepatitis:-**

- Hepatitis is an **inflammation of the liver.**
- It can be:-
  - **Acute:** inflammation of the liver that presents with sickness like jaundice, fever, and vomiting.
  - **Chronic:** inflammation of the liver that lasts more than six months, but essentially shows no symptoms.

**Common symptoms of Hepatitis include-**
- fatigue
- flu-like symptoms
- dark urine
- pale stool
- abdominal pain
- loss of appetite
- unexplained weight loss
- yellow skin and eyes, which may be signs of jaundice



Acute and Chronic Hepatitis
Common Symptoms
- fatigue
- jaundice (yellow skin or eyes)
- nausea or vomiting
- lack of appetite
- bleeding or bruising
- dark urine

verywell

**Types of Hepatitis:-**
There are **five main types** of viral hepatitis:-
**Hepatitis A (HAV):-**
- HAV is usually **non-chronic.**
- It **does not cause chronic liver problems** and rarely leads to long-term complications.
- **Transmission:** It is primarily transmitted through the consumption of **contaminated food or water.**
- **Treatment:** Vaccination is available and recommended for individuals at risk.

**Hepatitis B (HBV):-**
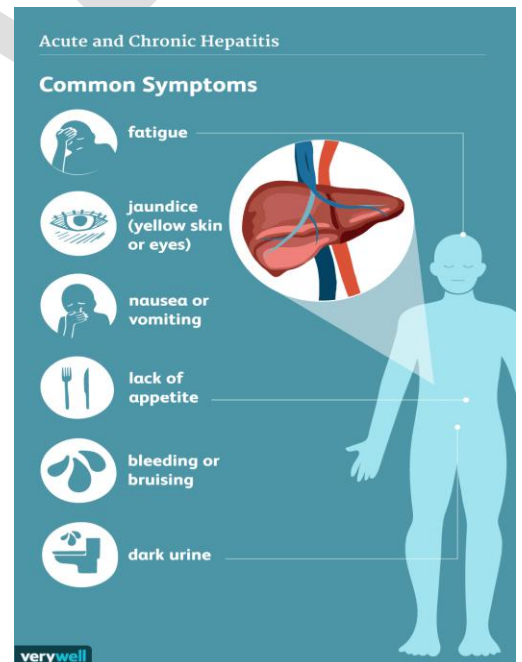
- It is the **world's most common** liver infection. , Unlike HAV, HBV can lead to **chronic infection** like increasing the risk of cirrhosis and liver cancer.
- **Transmission:** It mainly spreads through **infected blood, sexual contact** and from mother to child during childbirth.
- **Treatment: Vaccination** is highly recommended and should be administered to newborns and individuals at risk.

**Hepatitis C (HCV):-**
- It can lead to **chronic infection** in the majority of cases.
- **Transmission**: It is primarily transmitted through **exposure to infected blood**, often associated with unsafe injection practices and inadequate sterilization of medical equipment.
- **Treatment:** There is no vaccine for HCV, but antiviral treatments are available and can cure the infection in many cases.

**Hepatitis D (HDV):-**
- It is a unique type of hepatitis that **only occurs in individuals infected with HBV.**
- According to WHO, HDV **affects nearly 5% of people** with a chronic hepatitis B infection.
- It is considered the **most severe form of viral hepatitis**.
- It can **accelerate the progression of HBV-related liver disease.**
- **Treatment**: Preventing HBV infection through vaccination is the key to preventing HDV (Disease Surveillance System)

**Hepatitis E (HEV):-**
- **Transmission**: It is mainly transmitted through **contaminated water in areas with poor sanitation**.
- It is usually a self-limiting disease, but **pregnant women are at higher risk** of severe complications and mortality.
- **Treatment:** there is **no specific treatment or vaccine** for HEV.

**MUST READ: Non-Communicable Diseases (NCDs)**
**SOURCE: THE INDIAN EXPRESS**

| Scrub Typhus | **Context:** Recently, an alert was issued against **scrub typhus** in Kerala. |
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| | **About Scrub Typhus:-** |

**About Scrub Typhus:-**
- Scrub typhus is also known as **bush typhus.**
- **Caused by**: It is a disease caused by a bacteria called **Orientia tsutsugamushi.**
- **Transmission:** Scrub typhus is spread to people through bites of infected chiggers (larval mites).

**Common symptoms of scrub typhus:-**
- Fever
- Headache
- body aches
- rash
- dry cough
- skin rashes
- red eyes
- In some cases mental changes, ranging from confusion to coma.

**Treatment of Scrub typhus:-**
- **Vaccination:** No vaccine is available to prevent scrub typhus.

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|  | • **Medication:** the antibiotic **Doxycycline** is used.<br>    o **Doxycycline** is a broad-spectrum antibiotic used in the treatment of some bacterial and parasitic infections such as bacterial pneumonia, acne, chlamydia infections, Lyme disease, cholera, typhus, and syphilis.<br>**Prevention of Scrub typhus:-**<br>• **Mite repellents** can be applied to exposed skin.<br>• **Wearing fully covered clothes** before entering shrubby areas for work.<br>• People should **not dry clothes on the ground or grass**.<br>• Regular cleaning of surroundings including **removal of shrubs and low vegetation**.<br>**MUST READ: Ebola Disease**<br>**SOURCE: THE HINDU** |
| **Spike Non-Line of Sight (NLOS)** | **Context:** The Indian Air Force has received Israel's **Spike Non-Line of Sight (NLOS)** anti-tank guided missiles.<br>**Background:-**<br>• The Spike NLOS will be integrated with the Russian-origin fleet of Mi-17V5 helicopters.<br>**About Spike Non-Line of Sight (NLOS):-**<br>**Developed by: Rafael Advanced Defense Systems Ltd**, Israel.<br>**Characteristic features of Spike NLOS:-**<br>• Spike NLOS is a **multi-purpose, electro-optical/infrared missile system**.<br>• It is a **fire-and-forget anti-tank** and **anti-personnel missile.**<br>• **Range: up to 32 kilometers**<br>• It can be integrated with the **ground, air, or maritime platforms.**<br>• It has the **capability to strike distant or geographically concealed targets without line-of-sight.**<br>    o **In missile guidance, line of sight (LOS) is the line directly between the launcher/tacker and the target.**<br>• The weapon's **seeker and wireless datalink** provide operators with **real-time video imagery** and man-in-the-loop control throughout the missile's flight.<br>    o This provides operators with the **opportunity to alter or abort the mission** while en route to the target.<br>• The made-in-Israel Spike missile is **capable of destroying enemy targets hidden behind mountains from long ranges**.<br><br>**MUST READ: Ballistic missiles**<br>**SOURCE: HINDUSTAN TIMES** |
| **Havana Syndrome** | **Context:** Recently, the Central government in response to a Bengaluru resident's recent petition has told the Karnataka High Court that it will look into the matter of the '**Havana Syndrome'** in India.<br>**About Havana Syndrome:-**<br>• Havana syndrome is a series of debilitating mental health symptoms. ( Havana Syndrome)<br>**Historical Background:-**<br>• These first affected **U.S. intelligence officers and embassy staffers** stationed in Havana, Cuba, in late **2016.**<br>• In the following year, **American diplomats in different parts of the world** reported similar symptoms.<br>**Havana syndrome in India:-** |

- In India, the first such case was reported in **September 2021**, when a US intelligence officer traveling to New Delhi reported symptoms of Havana Syndrome.
- As of **July 2023, the 2021 incident** was the **only reported** occurrence of the syndrome in India.

**Causes of Havana syndrome:-**

- In December 2020, the National Academy of Sciences noted in its report that the best explanation for the syndrome would be **pulsed, directed microwaves.**

**Symptoms of Havana syndrome:-**

- Hearing certain sounds without any outside noise (Mental Health)
- Nausea
- Vertigo and
- Headaches
- Memory loss
- Balance issues.

**Long-term effects of Havana syndrome:-**

- Migraine
- Problems with distant vision
- Squinting
- Recurrent vertigo
- Nosebleeds

**Treatment of Havana syndrome:-**

The management of the disease consists of alternative medicine modalities such as:-

- Art therapy
- Meditation
- Breathing exercises
- Acupuncture

**MUST READ: Rare Diseases**
**SOURCE: THE INDIAN EXPRESS**

| RISC V-<br>Semiconductor | **Context:** Recent reports show that the **RISC V- Semiconductor** technology can give India a chance to challenge global domination.<br>**Background:-**<br><br>• India has thrown its weight behind the open-source RISC-V architecture.<br>• The aim is to be self-reliant in semiconductor design.<br>**About RISC V- Semiconductor:-**<br><br>• **Invented by: Prof. David Patterson.**<br>• The term RISC stands for "**reduced instruction set computer**" which executes few computer instructions whereas **'V'** stands for the **5th generation.**<br>• It is a **free and open ISA** (instruction set architecture). |  |

- It follows the **open-source model** with a modular design.
- In this, all the **base instructions are frozen**, which means the hardware is stable and the software will be able to work on RISC-V chips everywhere and forever, in theory. (India Semiconductor Mission)
- They **excel in space-constrained designs** and complex computational tasks.

**Uses of RISC V- Semiconductor:-**
- It is used for the **development of custom processors** targeting a variety of end applications.
- It is used in **designing. ( Semiconductors)**
- It is used in wearables, IoT, smartphones, automotive, aerospace, and more, offering power efficiency, performance customization, and security.

**MUST READ: Silicon Diplomacy**
**SOURCE: THE TIMES OF INDIA**

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| **Luna 25 mission** | **Context: Luna 25 mission** was launched by Russia.<br>**Background:-**<br>• Russia launched its first mission to the surface of the Moon in nearly half a century, in a bid to be the first country to land on the lunar south pole.<br>**About Luna 25 mission:-**<br><br>• **Launched: 2023.**<br>• **Launched by: Roscosmos.**<br>    ○ **Roscosmos:** the State Space Corporation of Russia that is responsible for space flights, aerospace research, and cosmonautics programmes.<br><br><br>Luna-Glob Payload accommodation<br><br>•**Take off: Vostochny cosmodrome, Russia.**<br>•**Landing Site: southwest of the Manzini crater.**<br>•It is also called the **Luna-Glob-Lander.**<br>•It is a **Russian lunar lander mission.**<br>•It is to carry **thirty kilo grams of scientific instruments** including a robotic arm and drilling hardware to collect soil samples.<br>•It will study the **south pole of the moon. ( Moon's Wobble Effect)**<br>**Objectives of Luna 25 mission:-**<br>• To study the **composition of the polar regolith.**<br>• To **study the plasma and dust components** of the lunar polar exosphere.<br><br>**MUST READ: Supermoon**<br>**SOURCE: AIR** |
| **Aditya L1** | **Context:** Indian Space Research Organisation (ISRO) has planned its next launch of the **Aditya L1 satellite** in August 2023<br><br>**About Aditya L1:-**<br>• Aditya L1 shall be the **first space-based Indian mission to study the Sun.**<br>• **Launched by: ISRO.** |
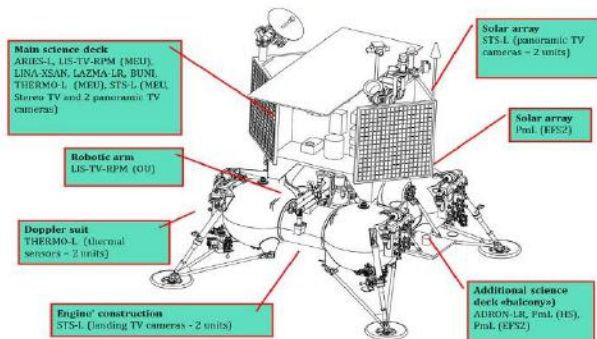
- **Launch Vehicle: PSLV-XL. ( PSLV-C54 launch)**
- **Destination:** The spacecraft shall be **placed in a halo orbit around the Lagrange point 1 (L1)** of the Sun-Earth system, which is about 1.5 million km from the Earth.
    - **Lagrange points:** specific locations in space where the gravitational forces of two large bodies, such as a planet and its moon or a planet and the Sun, produce enhanced regions of gravitational equilibrium.
    - There are **five primary Lagrangian points**, labeled L1 through L5, in a Sun-Earth system.
    - **L1 (Lagrange Point 1):-**
    - **Founded by**: Joseph Louis Lagrange.
    - **Location:** about 1.5 million kilometers inside Earth's orbit, between the Sun and the Earth.
    - The L1 point of the Earth-Sun system gives a clear view of the sun all the time, without any occultation/ eclipses.
- **Significance of Aditya L1:** It will provide a greater advantage in **observing solar activities** and their effect on space weather in real-time.

**Objectives of Aditya L1:-**
- Study of **Solar upper atmospheric** dynamics.
- Study of **chromospheric and coronal heating**, physics of the partially ionized plasma, initiation of the coronal mass ejections, and flares.
    - **Sun's corona**: the outermost layer of its atmosphere
- Study of **the Physics of the solar corona** and its heating mechanism.
- Study of **Diagnostics of the coronal and coronal loops** plasma: Temperature, velocity, and density.
- Study of **Magnetic field topology** and magnetic field measurements in the solar corona.

**MUST READ: Next Generation Launch Vehicle (NGLV)**
**SOURCE: AIR**

| Graphene-Aurora Program | **Context:** Recently, the Ministry of Electronics & Information Technology (MeitY) launched the **'Graphene-Aurora program'** at a function in Maker Village Kochi, Kerala. |
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**About Graphene-Aurora Program:-**
- **Launched:2023.**
- **Ministry: Ministry of Electronics & Information Technology (MeitY).**
- **Objectives:** fostering **innovation and commercialization of graphene technologies** in Kerala.

**Salient Features of the Graphene-Aurora Program:-**
- It shall **nurture the deep/emerging Graphene technology & innovation ecosystem.**
- It will guide, develop, implement, and support SMEs and startups to **commercialize developed graphene technologies** for scale adoption.
- A not for profit company called **'India Graphene Engineering and Innovation Centre (I-GEIC)'** shall be set up.
- I-GEIC's establishment will **bridge the gap** between research and commercialization, supporting startups and industries.
- The program's focus on emerging graphene technology is expected to position **India as a leader in the global new materials market.**
- **Funding:** The program shall be implemented by Digital University Kerala with **joint funding** from MeitY, the Government of Kerala, and Industry partners.

**About Graphene**
- It is a single layer **(monolayer) of carbon atoms.**
- It is the world's **thinnest, strongest, and most conductive** material of both electricity and heat.
- **Properties:** High thermal stability; High elasticity; High electrical conductivity; etc.
- It conducts electricity **better than copper.**

**Uses of Graphene:-**
- Graphene's unique characteristics make it a **versatile material** with various potential applications across different industries.
- It is used in **electronics** for creating faster and more efficient devices. (Production Linked Incentive Scheme (PLI) For Large Scale Electronics Manufacturing)
- It is used in **materials science** for reinforcing composites.
- It is used in **energy storage** for enhancing battery performance.
- It is used in **medical fields** for drug delivery and biosensors, among other uses. (Graphene Mask Inactivates Coronaviruses)

**MUST READ: Silicon Diplomacy**
**SOURCE: PIB**

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| **COVID-19 variant EG.5.1** | **Context:** Recently, doctors have urged people to stay vigilant against **COVID-19 variant EG.5.1.** <br> **Background:-** <br> • On August 9, the World Health Organization (WHO) designated the latest COVID variant, EG.5.1, unofficially known as**, Eris**, as a variant of interest. <br> • The overall risk evaluation by WHO places this variant at a low level. <br> **About COVID-19 variant EG.5.1.:-** <br> • **Other name:  Eris.** <br> • **First documented**: February 17, 2023. <br> • **Origin:** The majority of these sequences originated from **China**, followed by the **United States of America**, the **Republic of Korea**, **Japan**, **Canada**, and **Australia**. <br> • It is a **descendant of Omicron.** <br> • It is a **descendant of the XBB 1.9.2 variant** sharing a similar spike amino acid profile with XBB 1.5. <br> • EG.5 carries **an additional F456L amino acid mutation in the spike protein**, compared to the parent XBB.1.9.2 subvariant and XBB.1.5. <br> • **Spread:** According to the WHO, infections have been reported in **51 countries,** including China, the US, the Republic of Korea, Japan, etc. <br> **MUST READ: iNCOVACC** <br> **SOURCE: THE HINDU** |
| **Respiratory syncytial virus (RSV)** | **Context:** Recently, the United States of America's Food and Drug Administration (FDA) approved the first **respiratory syncytial virus (RSV)** vaccine for use in women during pregnancy to protect the baby. <br> **Background:-** <br> • This vaccine has been developed by **Pfizer.** <br> • The approval allows the vaccine to be **given to women 32 to 36 weeks** into pregnancy for the prevention of lower respiratory tract infection and severe disease in infants **until they are six months old.** |

**About Respiratory syncytial virus (RSV):-**
- It is a **common respiratory virus**.
- It is **highly contagious in nature** i.e., it has a high potential to infect people.
- It commonly infects **children, especially those under 2 to 6 years of age.**
- In most of the cases it has **symptoms like the common cold.**
- It can also cause more severe infections, especially in people **at high risk**.
- These infections include **bronchiolitis,** and pneumonia, an infection of the lungs.
  - **Bronchiolitis:** an inflammation of the small airways in the lung.
  - **Pneumonia:** an infection of the lungs.

**Transmission:-**
- It spreads from person to person through:-
- By **coughing and sneezing.**
- **Direct contact.**
- **Touching an object** or surface with the virus on it and then touching your mouth, nose, or eyes.

**Duration:-**
- People who have an RSV infection are usually contagious for **3 to 8 days.**
- But sometimes infants and people with weakened immune systems can continue to spread the virus for as **long as 4 weeks.**

**Symptoms:-**
- Runny nose
- Decrease in appetite
- Cough
- Sneezing
- Fever(Dengue and DNA vaccines)
- Wheezing
- The symptoms of RSV infection **usually start about 4 to 6 days after infection.**

**Treatment:-**
- There is no reliable cure available for RSV infection.
- The recent vaccine developed by Pfizer can be used in women **during pregnancy to protect the baby. (iNCOVACC)**

**MUST READ: Vaccine Development for COVID-19**
**SOURCE: AIR**

| Chandrayaan-3 | **Context: Chandrayaan-3** probe shows 50°C temperature difference between the moon's surface and below it.
**Background:-**

- On August 27, 2023, the Indian Space Research Organization (ISRO) released a graph of the temperature variation between the moon's surface and a point around 8 cm below as measured by an instrument named ChaSTE on board the lander module of the Chandrayaan-3 mission.
- **ChaSTE – short for 'Chandra's Surface Thermophysical Experiment'**.
- **Developed by: the** Space Physics Laboratory of ISRO's Vikram Sarabhai Space Centre (VSSC), with the Physical Research Laboratory (PRL), Ahmedabad. |

- It is a **temperature probe** that can be driven into the moon's surface using a motor to a depth of **up to 10 cm**.
- It **measured the temperature profile of the lunar topsoil** around the south pole to understand its thermal behaviour.
- Its data show that at the moon's surface (where the lander is located, a point between the craters Manzinus C and Simpelius N), the temperature is **40-50 degrees C.** But just under 80 mm under, it plunges to around -10 degrees C.

**About Chandrayaan-3:-**

**IMAGE SOURCE: IASBABA**

- [Chandrayaan-3](#) is the **successo**r to the Chandrayaan-2 mission.
- **Launch Vehicle: Mark-III (LVM3).**
- **Launched site: Satish Dhawan Space Centre (SDSC), Sriharikota, Andhra Pradesh.**
- **Composition:** It consists of an **indigenous Lander module (LM), a Propulsion module (PM), and a Rover.**
  o **Lander:** a spacecraft that descends towards and comes to rest on, the surface of an astronomical body.
  o **Propulsion module:** a box-like structure, mounted with a large solar panel on one side and a large cylinder on top.
  o **Rover**: a small vehicle that can move over rough ground, often used on the surface of other planets, sometimes controlled from the earth.
- The **Lander and the Rover have scientific payloads** to carry out experiments on the lunar surface.
- There will **not be any orbiters** like [Chandrayaan 2](#) in it.

**Objectives of Chandrayaan-3 mission:-**

- To **demonstrate a Safe and Soft Landing** on the Lunar Surface.
- To **demonstrate Rover roving** on the moon.
- To conduct **in-situ scientific experiments.**

**Lander payloads:-**

- **Chandra's Surface Thermophysical Experiment (ChaSTE):** to measure the thermal conductivity and temperature
- **Instrument for Lunar Seismic Activity (ILSA):** for measuring the seismicity around the landing site
- **Langmuir Probe (LP):** to estimate the plasma density and its variations.
- A passive **Laser Retroreflector Array** from NASA is accommodated for lunar laser ranging studies.

**Rover payloads:-**

- **Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscope (LIBS)**: for deriving the elemental composition near the landing site.

**Propulsion Module Payload:-**

- **Spectro-polarimetry of Habitable Planet Earth (SHAPE):** Future discoveries of smaller planets in reflected light would allow us to probe into a variety of Exo-planets which would qualify for habitability or for the presence of life.

**About GSLV-Mk III:-**

- **Weighs: 641 tones.**
- **Capacity:** GSLV can take 10,000-kg satellites to lower earth orbits.
- It is also known as the **Launch Vehicle Mark 3 (LVM3).**
- It is a **three-stage vehicle.**
  - o It has two solid motor strap-ons, a **liquid propellant core stage, and a cryogenic stage.**
- It is the **heaviest and the shortest** among India's operational launch vehicles.

**MUST READ: Gaganyaan**
**SOURCE: THE HINDU**

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| **Smishing** | **Context**: iPhone and Android users were recently warned against a new fraud called '**Smishing'.**<br>**About Smishing:-**<br>• Smishing" is a combination of **"SMS" (Short Message Service) and "phishing."**<br>• It is a type of **phishing attack**.<br>• It involves **sending fraudulent text messages to individuals**.<br>• **Objective:** tricking them into divulging sensitive personal information, such as passwords, credit card numbers, or other confidential data.<br>• Cybercriminals **send fraudulent emails** that seek to trick the recipient into clicking on a malicious link.<br>• It **uses text messages instead of email. ( Cyberattacks)**<br>• It often involves messages that **appear to be from legitimate sources**, such as banks, government agencies, or well-known companies.<br>**Working mechanism:-**<br>• Smishing messages typically **contain urgent or enticing content to persuade recipients to take immediate action**.<br>• This can be **clicking on a malicious link**, **calling a phone number, or providing sensitive information.**<br>• Once the victim **opens and clicks on the link** or dials the phone number listed in the message, they are taken to a fraudulent website or a mobile phone line that's designed to resemble a legitimate source.<br>• The victim might be asked to **enter sensitive information**, such as login credentials, social security numbers, credit card information, or personal identification numbers (PINs).<br>• Once the victim's sensitive information is divulged, the attacker might **steal it to commit fraud**.<br><br>**MUST READ: Cybercrime**<br>**SOURCE: TIMES NOW** |

## HISTORY AND ART & CULTURE

| Jalesar Dhatu Shilp | **Context:** Recently, seven products from across India, including **Jalesar Dhatu Shilp**, were given the Geographical Indication (GI) tag. |
| --- | --- |
| | **Background:-** |
| | • The GI tags were secured by '**Jalesar Dhatu Shilp' (a metal craft), 'Goa Mankurad Mango', 'Goan Bebinca', 'Udaipur Koftgari Metal Craft', 'Bikaner Kashidakari Craft', 'Jodhpur Bandhej Craft', and 'Bikaner Usta Kala Craft'.** |
| | |
| | **Jalesar Dhatu Shilp:-** |
| | • Jalesar is located in the **Etah district of Uttar Pradesh.** |
| | • It was the **capital of Magadha King Jarasandha.** |
| | • The metal art of Jalesar is highly esteemed for its **intricate designs and exceptional craftsmanship,** blending elements of both traditional and contemporary styles. |
| | • Skilled artisans employ **various techniques** such as casting, molding, hammering, engraving, and filigree work to create a diverse array of metal products. |
| | **The Jodhpur Bandhej Craft:-** |
| | • It is the **Rajasthani art of tying and dyeing.** |
| | • It is one of the **most famous textile art forms** of Rajasthan. |
| | • **The fabrics used:** muslin, silk, and voile. |
| | • Cotton thread is used for **tying the fabric.** |
| | **The Bikaner Usta Kala Craft:-** |
| | • It is also known as **gold nakashi or gold manauti work.** |
| | • It shows the **prominence of its long-lasting golden colour.** |
| | • Untreated raw camel hide is processed and molded by the **Dapgar community** of leather craftspeople for the requirements of the Usta. |
| | **Udaipur Koftgari Metal Craft:-** |
| | • The ancient art of Koftgari is used to **create exquisitely ornamental weaponry.** |
| | • **Technique:** This damascene technique involves a complex process of **etching designs, heating, and cooling** the metal, while also **embedding gold and silver** wire into the surface. |
| |     o Unlike inlaid metal ornamentation, the **wire does not sink into the iron**; instead, it remains on the surface and is mechanically bound through pressing, burnishing, and polishing. |
| |     o After the design is complete, **burnishing tools known as Opani** are used to push and bind the overlaid silver firmly. |
| |     o Lastly, **the surface is polished using a hakek stone** to achieve the final stunning appearance. |
| | • The term 'Koftgari' originates from the **Persian and Urdu words 'kuft-gari,'** meaning '**beaten work**'. |
| | • The artisans who practice this art are called **'kuftgars' or gilders.** |
| | • Historically, Koftgari was brought to India by Persian craftsmen during the 16th century when **they served Mughal rulers.** |
| | • The Mughal Emperors had a significant iron workshop called the **Mughal Silehkhana** that produced ornamented swords and weapons for the imperial army. |

**Bikaner Kashidakari Craft:-**
- It is traditionally created on **cotton, silk, or velvet** with a variety of fine stitches and mirror-work, mainly for objects associated with marriage, especially gift items.
- The mirrors are believed to **repel the 'evil eye'** with their reflective surfaces.
- The **weaving of fabrics by hand** used to be done by the Meghwal community in Bikaner and nearby districts.

**Goa Mankurad mango:-**
- The mango was given the name 'Malcorada' by the **Portuguese. (GI Tag for Mithila Makhana)**
- The name translates to 'poor coloured.
- Over time, this word evolved into **'Mankurad'.**
- In the **Konkani language,** it came to be known as **'aamo', which means mango.**

**Goan Bebinca:-**
- Bebinca, a traditional **Indo-Portuguese dessert**. ( Pokkali Rice)
- It is a type of **pudding** widely recognized as the **'Queen of Goan desserts.'**

**MUST READ: GI tag for Narasinghapettai nagaswaram**
**SOURCE:  THE HINDU**

| Gyanvapi Mosque Dispute | **Context:** The Supreme Court refused to stop the Archaeological Survey of India (ASI) survey at the **Gyanvapi complex** amid the dispute. |
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**About Gyanvapi Mosque Dispute:-**
**Historical Background:-**
- It is a popular belief that the Gyanvapi Mosque was **built in 1669 by the Mughal ruler Aurangzeb** by **demolishing the ancient Vishweshwar temple.**
- **Saqib Khan's book 'Yasir Alamgiri'**, mentions that Aurangzeb had demolished the temple in 1669 by ordering Governor Abul Hassan.

**Judicial Intervention:-**
- The case of Gyanvapi mosque has been in court **since 1991**, when three persons, including Pandit Somnath Vyas, a **descendant of the priests of the Kashi Vishwanath temple, filed a suit** in the court of the civil judge of Varanasi **claiming** that Aurangzeb had demolished the temple of Lord Vishweshwar and built a mosque on it so **that the land should be returned to them.**
- In 2021, in the same court in Varanasi, **five women filed a petition demanding to worship in the temple** of Mother Gauri, accepting which the **court constituted a commission** to know the present status of the Makeup Gauri Temple.
- In this context, **the court asked the commission to give the survey report by video graphing the idol** of Makeup Gauri and the Gyanvapi complex.
- This created an uproar, as questions were raised on the **impartiality of the court commissioner appointed by the Muslim side** for the survey.

**Hindu Side arguments:-**
- **Vijay Shankar Rastogi**, appearing for the Hindu side, **submitted a map of the entire Gyanvapi complex** as evidence in the court, which mentions the temples of Hindu deities

around after the entrance of the mosque, as well as the Vishweshwar temple, Gyankoop, the big Nandi and the basement of the Vyas family.

- o There has been a **controversy over the survey and videography of this basement**.

**Muslim Side arguments:-**
- The Muslim side says that **no decision can be given** on the dispute under **the Religious Places Act of 1991.**
- **Under Section 3** of the Places of Worship (Special Provisions) Act, 1991, **it is prohibited to convert a place of worship,** even its clause, into a place of worship of a different religious denomination or a different class of the same religious denomination.
- **Section 4(2)** of the Act states that **all litigations, appeals, or other proceedings** relating to changing the nature of the place of worship (which were pending till August 15, 1947) **shall cease after the enactment of this Act** and **no fresh action can be taken on such cases.**
- However, **if the change in the nature of the place of worship has occurred after the cut-off date of August 15, 1947** (after the act came into force), legal action can be initiated in that case.
  - o **For example** The disputed site of Ayodhya (Ram Janmabhoomi-Babri Masjid) was exempted from the
    Act.

**About Archaeological Survey of India (ASI) :-**
- **Established in 1861.**
- **Established by: Alexander Cunningham.**
- **Ministry: Union Ministry of Culture.**
- **HQ: New Delhi. ( ASI)**
- The ASI is the premier organization for the archaeological research and protection of the cultural heritage of the country.

**Functions of ASI:-**
- It **maintains** the archaeological sites, ancient monuments, and remains of national importance.
- It **regulates** all archaeological activities as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, of 1958.**
- It also regulates the **Antiquities and Art Treasure Act, of 1972.**

**MUST READ: ASI planning barricade around famed stone chariot at Hampi**
**SOURCE: AIR**

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| **Shree Jagannath Temple in Puri** | **In News:** The Archaeological Survey of India (ASI) has sought permission to inspect the inner chamber of the Ratna Bhandar (treasury) of the Shree Jagannath Temple in Puri. <br> **Background:** <br> • About 1.2 quintal of gold jewellery is stocked in the Ratna Bhandar <br> • The previous inventory of the jewellery in the Ratna Bhandar was carried out in 1978. <br> **About Puro Jagannath Temple:** <br> • The Shree Jagannath Temple of Puri is an important **Hindu temple dedicated to Lord Jagannath, a form of Vishnu,** in Puri in the **state of Odisha on the eastern coast of India.** <br> • The present temple was rebuilt from the 10th century onwards, on the site of an earlier temple, by **King Anantavarman Chodaganga Deva, first of the Eastern Ganga dynasty.** |

- The Jagannath Temple in Puri is called the "*White Pagoda*".
- The temple is a part of **Char Dham** (Badrinath, Dwaraka, Puri, Rameswaram) pilgrimages that a Hindu is expected to make in one's lifetime.
- The Puri temple is famous for its **Annual Ratha yatra, or chariot festival**, in which the three principal deities are pulled on huge and elaborately decorated temple cars.
  - These gave their name to the **English term Juggernaut.**
- Unlike the stone and metal icons found in most Hindu temples, the image of Jagannath is made of wood and is **ceremoniously replaced every twelve or nineteen years by an exact replica.**

**Architecture of Jagannath temple:**
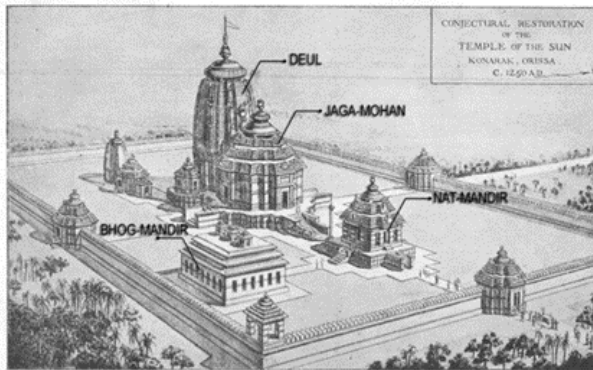


- The temple is built in the **Kalinga style of architecture**, with the **Pancharatha (Five chariots) type consisting of two anurathas, two konakas and one ratha.**
- Jagannath temple is a **pancharatha with well-developed pagas**.
- **'Gajasimhas' (elephant lions)** carved in recesses of the pagas, the **'Jhampasimhas' (Jumping lions) are also placed properly.**

- The perfect pancharatha temple developed into a **Nagara-rekha temple.**
- The temple is built on an elevated platform, as compared to Lingaraja temple and other temples belonging to this type.
- This is the **first temple in the history of Kalingaan temple architecture** where all the chambers like **Jagamohana, Bhogamandapa and Natyamandapa** were built along with the main temple.
- There are miniature shrines on the three outer sides of the main temple.

**Archaeological Survey of India:**

- The ASI is the premier organization for the archaeological researches and protection of the cultural heritage of the country.
- The prime objection of ASI is to maintain the archaeological sites, ancient monuments, and remains of national importance.
- **Headquarters: New Delhi**.
- Established: 1861 by **Alexander Cunningham**.
- It regulates all archaeological activities as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958.**
- It functions under the aegis of the **Union Ministry of Culture.**
- It also regulates **Antiquities and Art Treasure Act, 1972.**

**SOURCE:** The Hindu

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| **Matangini Hazra and Kanaklata Barua** | **Context**: Recently, President Droupadi Murmu paid tribute to **Matangini Hazra and Kanaklata Barua.**<br>**About Matangini Hazra:-**<br>• **Birth: 1869.** |

- **Birth place Tamluk, West Bengal.**
- **Death:1942.**
- She was married at a young age and **became widowed at 18.**
- After her husband's death, **she dedicated herself to social causes.**
- She was involved in the **Nationalist movement**.
- She became an active member of the **Indian National Congress** and took to spinning her own Khadi.
- **Ideology:** She **supported Mahatma Gandhi's ideals. ( Mahatma Gandhi)**
  - People fondly called her **Gandhi Buri** (Old Lady Gandhi) for her dedication towards Gandhian principles.
- **Political Participation**: **Civil Disobedience Movement, the Salt March, and Quit India Movement. (UPSC CSE: India and Mahatma Gandhi)**
- **1933:** When Sir John Anderson, Governor of Bengal visited Tamluk to address a public gathering, Matangini craftily managed to avoid the security and reached the dais where she waved a black flag.
  - She was **awarded six months of rigorous imprisonment** for her bravado.
- During the **Quit India Movement** in 1942, at the age of 73, she led a large procession of around 6,000 protesters, advocating for the takeover of the Tamluk police station.
- In the ensuing clash with British authorities, **she was shot and killed**, becoming a martyr for the cause of Indian independence.

**About Kanaklata Barua:-**
- **Birth: 22 December 1924**
- **Birthplace: Assam.**
- **Death: 1942**.
- She was a **young martyr of the Quit India Movement** and a symbol of courage and determination.
- **Participation:** At just 17 years old, she led the **Mrityu Bahini**, a group of freedom fighters, in an attempt to hoist the Tricolour at the Gohpur police station in Assam on September 20, 1942.

**Contributions and Inspiration:** -
- Despite her age, she was determined to **lead the procession**.
- During the confrontation with the police, **she was shot and killed while holding onto the flag**.
- Her **sacrifice inspired many** during a time when women's involvement in the freedom struggle was gaining momentum.
- **Legacy**: In 2020, the **Indian Coast Guard honoured** her memory by naming a Fast Patrol Vessel (FPV) after her, the **ICGS Kanaklata Barua.**

**MUST READ: Gandhi as Political thinker and a Social reformer**
**SOURCE: THE INDIAN EXPRESS**

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| **Madan Lal Dhingra** | **Context:** Recently, a massive memorial was dedicated to **Madan Lal Dhingra** on his 114th in Amritsar, where he hailed from.<br>**About Madan Lal Dhingra:-**<br>• **Birth: 18 February 1883**<br>• **Born in Amritsar.** |

- **Death: August 17, 1909.**
  - He was hanged at the age of only 24 for **killing British official Curzon Wyllie.**
- He was an **Indian revolutionary.**
- He **protested against British policies**, was expelled from college, and engaged in revolutionary activities.
- **He was disowned by his family** for his anti-British leanings.
- Even after his death, his family refused to take his body.

**Political Career and Activities:-**
- He enrolled at University College, London, where he studied engineering.
- While in England, Dhingra **became deeply involved in the activities of the Indian independence** movement.
- He came in contact with the revolutionaries like **Vinayak Damodar Savarkar, Shyamji Krishna Varma**, the founder of **Indian House**, and several others**.**
- He joined **Vinayak Savarkar's Abhinav Bharat Mandal** in London**.**
- He participated in discussions at **India House**, a hub for Indian nationalists.

**Assassination of Curzon Wylli and trial:-**
- On July 1, 1909, Dhingra **shot and killed Wyllie** during an event.
- During his trial, **Dhingra defended his actions as justifiable** in the context of **fighting against British oppression.**
- He was **found guilty** and executed on August 17, 1909, in London.

**Legacy:-**
- Dhingra's remains returned to India in 1976, and a memorial was erected in **Amritsar's Golbagh** area to honour his sacrifice.

**MUST READ: Role of Bengal in the Freedom Movement of India**
**SOURCE: THE INDIAN EXPRESS**

## SCHEMES & PROGRAMS

| SAGE and SACRED Portals | **Context:** Recently, the outcomes of the **SAGE (Senior Care Aging Growth Engine) PORTAL and SACRED portal** were reviewed. |
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**Background:-**

**About SAGE (Senior Care Aging Growth Engine) PORTAL:-**
- **Launched: 2021.**
- **Ministry: Ministry of Social Justice and Empowerment.**
- The SAGE scheme **identifies, evaluate, verify, aggregate, and deliver products, solutions and services** directly to the stakeholders. ( SAGE)

**Objectives:-**
- To support the needs of India's **elderly persons**. (Quality of Life for Elderly Index)
- To select, support and create a "**one-stop access" to elderly care** products and services.
- To **encourage the selected "startups"** based on innovative products and services to address the services from health, housing, care centers, and technology access linked to needs ranging from finances, food and wealth management to legal guidance.
- To **promote private enterprises** to bring out innovation in products to benefit elders.

**Eligibility:-**
- The start-ups selected under SAGE will be those, which will provide **new innovative products and services to elderly persons.**
- These include various areas like **health, travel, finance, legal, housing, and food** among others.

**Funding:-**
- The selected Start-Ups / Start-up ideas are **provided equity support of** up to **Rs. 1 crore per project** through IFCI.
- The fund of up to Rs.1 crore is provided as **one-time equity.**
- This is done while ensuring that the **total Govt. equity** in the start-up should **not exceed 49%.**

**Benefits of the SAGE portal:-**
- The SAGE portal would **encourage entrepreneurs and start-ups to enter the "silver economy"**.
  - **Silver economy:** the system of production, distribution and consumption of goods and services aimed at using the purchasing potential of older and ageing people and satisfying their consumption, living and health needs.

**About Senior Able Citizens for Re-Employment in Dignity (SACRED) Portal:-**
- **Launched:2021**
- **Ministry: Ministry of Social Justice and Empowerment.**
- It is a unique & innovative **technology-driven Employment marketplace**.
- **Objective:** To devise ways to ensure Senior Citizens live healthy, happy, empowered, dignified and self-reliant life.
- **Significance:** It brings together **both Job providers & Job seekers** on a transparent online portal.

**Mechanism of Working:-**
- **Any job provider can** register on the portal.
- The Interested and eligible senior citizens can apply for the job as per the matching criteria of his/her eligibility.

**Benefits:-**
- It will help Private & Public sector enterprises across sectors to share their **demand for human resources.**
- It will **help senior experienced citizens** get themselves registered for visibility of the emerging workplace demands, and apply for **relevant job opportunities.**
- It will bring people together by **virtual matching of preferences** by providing the senior citizens with a platform to connect with private enterprises positions.

**MUST READ: Elder Line**
**SOURCE: PIB**

| Galvanizing Organic Bio-Agro Resources Dhan (GOBARdhan) scheme | **Syllabus**<br><br>• **Prelims – Government Schemes**<br>**Context:** Recently, it was stated that over 1200 Biogas plants including 320 CBG plants across India registered on the **GOBARdhan portal** so far.<br><br>**About GOBARdhan scheme:-**<br>• **Launched: 2018.**<br>• **Ministry: Ministry of Jal Shakti.**<br>• **Implementation:** The scheme is being implemented as part of the Swachh Bharat Mission (Gramin).<br><br>**Objectives of GOBARdhan scheme:-**<br>• **Support villages safely** manage their cattle waste, agriculture waste and in long run all organic waste.<br>• Support communities, and **convert their cattle and organic waste to wealth** using decentralized systems. (Compressed Bio Gas (CBG))<br>• **Promote environmental sanitation** and **curb vector-borne diseases** through effective disposal of waste in rural areas.<br>• **Convert organic waste**, especially, cattle waste to biogas and fertilizer for use in rural areas.<br>• **Promote rural entrepreneurship** employment and income generation opportunities.<br><br>**Salient Features of the GOBARdhan scheme:-**<br>• It is an umbrella initiative of the Government of India.<br>• It covers the entire gamut of schemes/programmes/policies promoting the conversion of organic waste like cattle dung/ agri-residue etc. to biogas/ CBG/ Bio CNG.<br><br>**Benefits of the GOBARdhan scheme:-**<br>• Promotes circular economy<br>• An eco-friendly fuel<br>• Effective waste management<br>• Protects health and environment |
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- Reduces GHG emission
- Increases employment
- Saves foreign exchange
- Generates organic manure
- Improves savings

**About GOBARdhan portal:-**
- **Launched: 2023.**
- **Ministry: Ministry of Jal Shakti.**
- **Developed by:** the **Department of Drinking Water and Sanitation (DDWS).**
- **Objective:** to ensure close coordination with various Departments/Ministries for smooth implementation of Biogas schemes/initiatives and its real-time tracking.
- **Coordinated by: Department of Drinking Water and Sanitation under the Swachh Bharat Mission – Grameen (SBMG).**

**MUST READ: National Bioenergy Programme**
**SOURCE: AIR**

| Digital Health Incentives Scheme (DHIS) | **Context:** The National Health Authority (NHA) announced the extension of its **Digital Health Incentives Scheme (DHIS)** till the 31st of December 2023.<br><br>**About Digital Health Incentives Scheme (DHIS):-**<br>• **Launched: December 2022.**<br> o DHIS is effective from **1st January 2023.**<br>• **Implementing Agency: National Health Authority (NHA).**<br>• **Ministry: Ministry of Health and Family Welfare.**<br>• **Objectives:** to give a further boost to digital health transactions in the country under the Ayushman Bharat Digital Mission (ABDM).<br> o **Ayushman Bharat Digital Mission (ABDM):-**<br> o It was launched **in 2021. ( Ayushman Bharat Health Infrastructure Mission)**<br> o It aims to provide **digital health IDs for all Indian citizens** to help hospitals, insurance firms, and citizens access health records electronically when required.<br>**Salient Features of DHIS:-**<br>• The scheme offers **incentives of up to four crore rupees** based on the number of digital health records created and linked to the Ayushman Bharat Health Account numbers of the patients.<br>• Under the scheme, **incentives are provided to hospitals and diagnostic labs** and to the providers of digital health solutions such as Hospital/ Health Management Information Systems (HMIS) and Laboratory Management Information Systems (LMIS).<br>• This **incentive can be availed by the health facilities (hospitals and diagnostic labs) registered with ABDM's Health Facility Registry (HFR)** and fulfilling the eligibility criterion specified under the scheme.<br>• **Conditions for availing incentives:** Incentives would be provided to the following entities:-<br>**Benefits of DHIS:-**<br>• **Earn incentives for Digitization:** Reimburse the expenses incurred for digitization to all the participating healthcare facilities, Digital Solution Companies. |
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- **Efficiency in Healthcare Delivery:** Removes hassles in the healthcare process (registration, appointment, consultation, IPD admission, discharge, etc.).
- **Building a Robust Digital Health Ecosystem:** Building a robust digital health ecosystem across different levels of healthcare facilities.
- **Improved Quality of Care:** Evidence-based, accessible, and good quality care.

**MUST READ: Ayushman Bharat-Healthcare Scheme**
**SOURCE: AIR**

## Amrit Bharat Station Scheme

**Context:** Recently, Prime Minister Narendra Modi laid the foundation stone for the redevelopment of 508 railway stations across the country, under the Amrit Bharat Station Scheme.

**About Amrit Bharat Station Scheme:-**
- **Launched:2023.**
- **Ministry: Ministry of Railways.**
- **Objectives:** development of stations on a continuous basis with a long-term vision to enhance the facilities. ( Indian Railway Management Service (IRMS))

**Benefits of Amrit Bharat Station Scheme:-**
- **Elegant Station Building:** A new station building will redefine Station's architectural landscape.
- **Focus on Swachh Bharat**: Keeping in step with the Swachh Bharat mission, the station will introduce a **modular Sewage Treatment Plant,** ensuring efficient sewage treatment and a cleaner environment.
- **Aesthetic Platforms:** Platforms will undergo a resurfacing and aesthetic uplift.
- **Passenger Amenities**: Travelers will enjoy improved amenities, including better seating, drinking water facilities, and enhanced lighting.
- **Enhanced Connectivity**: A revamped **foot-over bridge**, supplemented by additional **lift and escalator facilities.**
- **Guidance and Information:** Modernized train indication boards and passenger-friendly signages will facilitate seamless navigation within the station premises.
- **Functional Upgrades**: The existing booking office and other administrative buildings will undergo a thorough renovation.
- **Inclusivity**: All improvements will be designed to **be divyangjan (specially-abled) friendly**, ensuring equal access and convenience for all.

**MUST READ: Restructuring of Railways**
**SOURCE: BUSINESS TODAY**

## PUShP portal

**Context:** Recently, the National Power Committee (NPC) favored offering incentives for buying & selling power on the **PUShP portal.**

**About the PUShP portal:-**
- **Launched: 2023.**
- **Ministry: Ministry of Power.**
- **Objective**: to enhance power availability during peak demand periods by enabling certain categories of sellers to offer power at prices surpassing the Rs 12 per unit ceiling.

- It is a **national-level generating capacity** utilization mechanism to help States, which are facing power cuts, buy power.
- The tariffs are regulated and determined by the **concerned regulatory commissions.**
- It **facilitates the submission of surplus power availability** by power distribution companies (DISCOMs) across various time blocks, days, or months.
- DISCOMs in need of power can requisition the surplus power indicated on the portal. (State of DISCOMs)

**Transaction mechanism:-**

- The **new buyer acquires the surplus power and pays** both variable charge (VC) and fixed cost (FC) as determined by Regulators.
- Upon **reassignment,** the original beneficiary relinquishes the right to recall, transferring the entire FC liability to the new beneficiary.

**Benefits:-**

- **Reduces fixed cost burden** on DISCOMs. Issues with DISCOMS)
- **Maximizes the utilization** of available generation capacity.

**Progress so far:-**

- It has seen **17 States utilizing it.**
- So far, **14 requests** have been processed and the power has been reallocated to the new beneficiaries.

**MUST READ: India's Power Crisis**
**SOURCE: BUSINESSLINE**

| **National Automated Fingerprint Identification System (NAFIS)** | **Context:** Recently, Union Home Minister Amit Shah hailed the team of **National Automated Fingerprint Identification System (NAFIS)** of **National Crime Records Bureau (NCRB)** for winning the Gold Award. |
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**Background:-**

- NAFIS won the Gold Award under the Excellence in Government Process Reengineering for Digital Transformation Category-1 of the Department of Administrative Reforms and Public Grievances (DARPG).

**About National Automated Fingerprint Identification System (NAFIS)**

- **Managed by: National Crime Records Bureau (NCRB)** at the Central fingerprint bureau, based in New Delhi.
- **Objective:** to collect fingerprint data of all the criminals from all the states and the Union Territories.
- It is a **web-based application project**. ( NAFIS)
- It is a country-wide searchable **database of crime- and criminal-related fingerprints.**

**Working of NAFIS:-**

- NAFIS assigns a **unique 10-digit National Fingerprint Number (NFN)** to each person arrested for a crime.
- This **unique ID will be used for the person's lifetime**, and different crimes registered under different FIRs will be linked to the same NFN.

**Uses:-**

- It enables law enforcement agencies to **upload, trace, and retrieve data from the database in real-time on a 24×7 basis.**
- It would help in the **quick and easy disposal of cases** with the help of a centralized fingerprint database.

| | **National Crime Records Bureau (NCRB)**<br>• **Established: 1986.**<br>• **HQ: New Delhi.**<br>• **Ministry: Ministry of Home Affairs.**<br>• **Objective:** To function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.<br>• It was set up based on the recommendations of the National Police Commission (1977-1981) and the MHA's Task Force (1985).<br>**Important publications of NCRB:-**<br>• Accidental Deaths & Suicides in India. (NCRB Report )<br>• Prison Statistics India.<br>• Fingerprints in India. (Facial recognition technology)<br>• Report on missing women and children in India.<br><br>**MUST READ: NATGRID and NCRB**<br>**SOURCE: AIR** |
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| **PM Vishwakarma scheme** | **Context:** Recently, the Union Cabinet approved the **'PM Vishwakarma' scheme.**<br>**Background:-**<br>• The Cabinet Committee on Economic Affairs chaired by Prime Minister Shri Narendra Modi approved a new Central Sector Scheme "PM Vishwakarma" with a financial outlay of Rs.13,000 crore for a period of five years (FY 2023-24 to FY 2027-28).<br>**About PM Vishwakarma scheme:-**<br><br>• **Launched: 2023.**<br>• **Ministry: Ministry of Micro, Small, and Medium Enterprises (MSME).**<br>• It is a **Central Sector Scheme.**<br>**Objectives of PM Vishwakarma scheme:-**<br>• To strengthen and nurture the Guru-Shishya parampara or **family-based practice of traditional skills** by artisans and craftspeople working with their hands and tools.<br>• To **improve the quality, as well as the reach of products and services** of artisans and craftspeople.<br>• To ensure that the **Vishwakarmas are integrated with the domestic and global value chains.**<br>**Salient Features of PM Vishwakarma scheme:-**<br>• The **artisans and craftspeople will be provided recognition** through a **PM Vishwakarma certificate and ID card.**<br>• **Credit Support:** Credit of **up to Rs.1 lakh (First Tranche) and Rs.2 lakh (Second Tranche)** will be given with a concessional **interest rate of 5%.**<br>• **Skill learning:** The Scheme will further provide **Skill Upgradation, Toolkit Incentives, Incentives** for Digital Transactions, and Marketing Support.<br>• **Training:** Skill development programs encompass both **basic and advanced training**.<br>• **Stipend**: Participants are entitled to a **stipend of Rs 500 per day** during their training period.<br>• **Modern Tools and Equipment:** Beneficiaries are eligible for financial support of **up to ₹15,000 to procure modern tools**, enhancing their efficiency and productivity. |

- **Sectors: Eighteen traditional trades will be covered** in the first instance under PM Vishwakarma.
- **These trades include** (i) Carpenter (Suthar); (ii) Boat Maker; (iii) Armourer; (iv) Blacksmith (Lohar); (v) Hammer and Tool Kit Maker; (vi) Locksmith; (vii) Goldsmith (Sonar); (viii) Potter (Kumhaar); (ix) Sculptor (Moortikar, stone carver), Stone breaker; (x) Cobbler(Charmkar)/ Shoesmith/Footwear artisan; (xi) Mason (Rajmistri); (xii) Basket/Mat/Broom Maker/Coir Weaver; (xiii) Doll & Toy Maker (Traditional); (xiv) Barber (Naai); (xv) Garland maker (Malakaar); (xvi) Washerman (Dhobi); (xvii) Tailor (Darzi); and (xviii) Fishing Net Maker.

**Eligibility Criteria:** -
- **Indian Citizenship:** Applicants must be Indian.
- **Artisan or Craftsman:** The applicant should be a traditional artisan or craftsman.
- **Age Limit**: **No Age Limit** for applying to the scheme

**Benefits of PM Vishwakarma scheme:-**
- The scheme will provide **support to artisans and craftspeople** in rural and urban areas across India.
- It caters to both urban and rural areas, **facilitating employment. (MSME Sustainable (ZED) Certification Scheme)**
- Funding for training programs to enhance **traditional skills**.

**MUST READ: PM SVANidhi scheme**
**SOURCE: PIB**

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| **PM e-bus Sewa scheme** | **Context:** Recently, the Union Cabinet approved the **PM e-bus Sewa scheme.** <br> **Background:-** <br> • The scheme will add 10,000 e-buses to city bus services across the country. <br> **About PM e-bus Sewa scheme:-** <br> • **Launched: 2023.** (Electric Vehicles (EVs)) <br> • **Objectives:** enhancing urban bus operations with 10,000 electric buses on a Public Private Partnership (PPP) model. <br> **Salient Features of PM e-bus Sewa scheme:-** <br> • Under PM-eBus Sewa Scheme 10,000 e-buses will be deployed across cities in the country. <br> • The scheme will cover **cities of Three lakh and above population** as per census 2011. <br>   ○ This will include all the **Capital cities of Union Territories, North Eastern Region, and Hill States**. <br> • Under this scheme, **priority will be given to cities having no organized bus service.** <br> • **The Scheme has two segments:** <br> • **Segment A – Augmenting the City bus services:(169 cities)** <br>   ○ The approved bus scheme will augment city bus operations with 10,000 e-buses **on Public Private Partnership (PPP) model.** <br>   ○ **PPP mode:** an arrangement between government and private sector for the provision of public assets and/or public services. <br> • **Segment B– Green Urban Mobility Initiatives (GUMI): (181 cities)** <br>   ○ The scheme envisages **green initiatives like bus priority**, infrastructure, multimodal interchange facilities, Charging infrastructure, etc. <br>   ○ **Support for Operation:** Under the scheme, **States/Cities shall be responsible for running the bus services** and making payments to the bus operators. |

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| | o The **Central Government** will support these bus operations by **providing subsidies** to the extent specified in the proposed scheme.<br>• **Funding:** It has been allocated a total funding of Rs 57,613 crore.<br>• Out of this financial provision, the **central government will contribute Rs 20,000 crore**, while the remaining portion will be covered by the **state governments.**<br>• **Coverage:** The scheme **will cover cities with 3 lakhs** and above population and priority will be given to cities not having organized bus services.<br>**Benefits of PM e-bus Sewa scheme:-**<br>• The scheme will **promote e-mobility. (Challenges of Electric Vehicles)**<br>• Cities will be supported for the **development of charging infrastructure** under Green Urban Mobility Initiatives.<br>• Adoption of Electric mobility will **reduce noise and air pollution** and curb carbon emission.<br><br>**MUST READ: Hybrid Electric Vehicles (HEV)**<br>**SOURCE: THE HINDU** |
| **Technology Development Fund (TDF) scheme** | **Context:** Recently, the Defense Ministry's **Technology Development Fund (TDF) scheme** was launched.<br>**About Technology Development Fund (TDF) scheme:-**<br>• **Launched:2023.**<br>• **Ministry: Ministry of Defense.**<br>• **Executed by: Defense Research and Development Organisation (DRDO).**<br>• **Objectives:** to encourage the **participation of MSMEs and startups** to design and develop various defense technologies indigenously. (Self-reliance in defense)<br>**Salient Features of the Technology Development Fund (TDF) scheme:-**<br>• The scheme **encourages the participation of public/private industries** especially MSMEs to create an eco-system for enhancing cutting-edge technology capability for defense applications.<br>• It **supports the indigenous development** of components, products, systems, and technologies by MSMEs and start-ups.<br>• **Project Duration:** Maximum two years.<br><br>**Eligibility of the Technology Development Fund (TDF) scheme:-**<br>• MSMEs and Startups **registered in India.**<br>• Public limited company, private limited company, partnership firms, limited liability partnership, one-person company, sole proprietorship **registered as per applicable Indian laws.**<br>• The industry has to be **owned and controlled by an Indian citizen.**<br>• The Industries with **foreign investments of 49% or less. (Defence exports)**<br><br>**Funding of Technology Development Fund (TDF) scheme:-**<br>• The funding will be through the provision of **grants to the Industry.**<br>• Industry may **work in collaboration with academia or research** institutions.<br>• The work **involvement of academia cannot exceed 40%** of the total project cost.<br>• The **funding will be linked** to mutually agreed milestones.<br>• **Funds will be released either in advance** against a bank guarantee of the same amount as collateral, or reimbursement based on the completion of milestones. |

- **Subsequent installments** will be released on successful completion of milestones.

**MUST READ: The new defense systems handed over to Army**
**SOURCE: FINANCIAL EXPRESS**

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| **Bharat New Car Assessment Programme (Bharat NCAP)** | **Context:** Union Minister of Road Transport and Highways Shri Nitin Gadkari launched the **Bharat New Car Assessment Programme (Bharat NCAP)** recently.<br>**About Bharat New Car Assessment Programme (Bharat NCAP):-**<br><ul><li>**Launched:2023.**</li><li>**Implementation:** October 1, 2023.</li><li>**Ministry: Ministry of Road Transport and Highways.**</li><li>**Objectives:** to enhance road safety by elevating vehicle safety standards for up to 3.5-tonne vehicles in India.</li><li>It is a **safety assessment program** for passenger vehicles **weighing less than 3.5 tonnes** and capable of **seating up to eight people.**</li></ul>**Salient Features of Bharat NCAP:-**<br><ul><li>It proposes a mechanism of **awarding 'Star Ratings' to automobiles** based on their performance in crash tests.</li><li>The voluntary Bharat NCAP would assign vehicles between **one and five stars** on parameters such as **Adult Occupant Protection (AOP), Child Occupant Protection (COP), and Safety Assist Technologies (SAT).**<ul><li>This will help assess to what **extent a car may suffer damage in** the event of an **accident.**</li></ul></li><li>Potential car **buyers can refer to these star ratings** to decide which car to buy by comparing the safety standards.</li><li>Bharat NCAP standard is aligned with **global benchmarks** and it is beyond minimum regulatory requirements.</li><li>The **testing of vehicles** for this programme will be carried out at testing agencies, with the necessary infrastructure.</li></ul>**Benefits of NCAP:**<br><ul><li>Develop a **safety-sensitive car market** in India.</li><li>Consumer Awareness.</li><li>Enhanced Safety and **Export Potential.**</li><li>Making the Indian automobile industry **self-reliant. (Atmanirbhar Bharat 3.0)**</li></ul>**MUST READ: Electric Vehicles**<br>**SOURCE: PIB** |
| **Project Accelerated Mission for Better Employment and Retention (AMBER)** | **Context:** Recently, the Ministry of Skill Development and Entrepreneurship (MSDE) launched **Project 'AMBER'.**<br>**Background:-**<br><ul><li>MSDE started the project in collaboration with Generation India Foundation (GIF) and Amazon Web Services India Private Limited (AWS India).</li></ul>**About Project 'AMBER':-**<br><ul><li>**Launched: 2023.**</li><li>**Ministry: Ministry of Skill Development and Entrepreneurship (MSDE).**</li></ul> |

- It is a joint initiative of the **National Skill Development Corporation (NSDC), Generation India Foundation (GIF), and Amazon Web Services India Private Limited (AWS India)**.
- The initiative has been undertaken under the **SANKALP programme.**
- **Objective:** to train 30,000 youth, focusing on women and underprivileged groups.
- Among the **30,000 youth, 50%** will be women.
- Learners engage in the AWS (re/Start) program, gaining fundamental AWS cloud skills and practical career guidance.

**Features of the project:-**

- The learners take part in AWS (re/Start), a workforce development program for unemployed and underemployed individuals.
- It **covers fundamental AWS cloud skills** as well as practical career tips, including resume writing and interview preparation.
- Through real-world scenario-based exercises, labs, and coursework, learners are trained in multiple technologies, including **Linux, Python, networking, security, and relational databases.**
- The program **covers the cost for learners to take the AWS Cloud Practitioner Certification exam**.
  - **AWS Cloud Practitioner Certification exam**: an industry-recognized credential that validates their cloud skills and knowledge and connects the participants with job interview opportunities in cloud or IT with local employers.

**Significance:-**

- It will **bring entry-level talent into the workforce.**
- It **helps individuals to launch successful cloud careers. (Cloud Computing)**
- It helps **organizations to increase their competitive edge** with in-demand talent, and communities.
- It focuses on **women to improve gender diversification** in the tech industry and underprivileged groups.

**MUST READ: National Super Computing Mission (NSM)**
**SOURCE: PIB**

| GREAT Scheme | **Context:** Recently, the Centre announced up to Rs 50 lakh grant for **Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) scheme.** <br> **About GREAT scheme:-** <br><br> • **Launched:** <br> • **Ministry: Ministry of Textiles.** <br> • The Scheme focuses on **supporting individuals and companies** to translate prototypes into technologies & and products, including commercialization. <br> • **Objective:** To provide much-needed impetus for the development of the technical textiles startup ecosystem in India, especially in niche sub-segments such as bio-degradable and sustainable textiles, high-performance and specialty fibers, and smart textiles. <br> • The scheme will be commensurate with the **National Technical Textiles Mission.** <br> • **National Technical Textiles Mission:-** <br>     o **Ministry: Ministry of Textiles** <br>     o **Duration: FY 2020-21 till FY 2023-24.** |
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| | o **Objective:** to increase the penetration level of technical textiles in India while leveraging the extraordinary growth rate of the sector.<br>**Salient Features of GREAT scheme:-**<br><br>• **Grant-in-aid: up to Rs 50 lakh.**<br>• **Duration:** 18 months.<br>• The textile ministry will **additionally provide 10 percent** of the total grant-in-aid to incubators.<br>• Only a **minimum of 10 percent contribution** has to be made by the incubatee.<br>• **Incubators:** like IITs, NITs, Textiles Research Associations, and Centres of Excellence.<br>    o **Incubators:** Organizations or institutions, that provide resources, mentorship, and support to startups during their early stages.<br>• The textiles ministry has also given a nod to **26 institutes for upgrading their laboratory infrastructure** and training of trainers in the application areas of **technical textiles.**<br>    o **Technical Textiles:** Textile materials designed to serve specific purposes beyond traditional clothing and furnishing, such as medical textiles, geotextiles, and industrial fabrics.<br><br>**MUST READ: Textile Industry in India**<br>**SOURCE: BUSINESS STANDARD** |
| **Promotion of Research & Innovation in the Pharma-MedTech sector (PRIP) scheme** | **Context:** Recently, the Union Cabinet approved the **Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme.**<br>**Background:-**<br><br>• The scheme has an outlay of ₹5,000 crore for five years, from 2023-24 to 2027-28.<br>**About Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme:-**<br><br>• **Launched:2023.**<br>• **Ministry: Ministry of Chemicals and Fertilizers.**<br>• **Objectives:** to transform the Indian Pharma MedTech sector from cost-based to innovation-based growth by strengthening the research infrastructure in the country.<br>**Salient Features of Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme:-**<br><br>• The scheme promotes industry-academia linkage for R&D in priority areas to inculcate the culture of quality research and nurture our pool of scientists. **(Integrated Pharmaceutical Database Management System 2.0)**<br>• The scheme is proposed to have **two components as follows**:-<br>• **Component A:** Strengthening the Research Infrastructure.<br>    o It will encompass the setting up of Centres of Excellence at the National Institute of Pharmaceutical Education & Research (NIPERs).<br>• **Component B: Promotion of Research in Pharma MedTech sector:**<br>    o The budget 2023-24 proposes to encourage industry to invest in research and development in specific priority areas.<br>    o Accordingly, it is proposed that financial assistance under the component would be provided to promote R&D. |

**Funding:-**

- The funding disbursed for the projects will be recovered through **benefit sharing** (excluding refunded funding, if any) either **through royalty** or **equity** in the following ways:-
    - 10% royalty on the net sale of the product/technology till the patent is effective.
    - Equity (not less than 100% of the DoP support provided).

**Benefits of Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme:-**

- It will lead to sustained **global competitive** advantage. (Strengthening of Pharmaceutical Industry (SPI) scheme)
- It will contribute to quality **employment generation** in the country.

**MUST READ: Pharmaceutical Technology Upgradation Assistance (PTUAS) Scheme**
**SOURCE: THE HINDU**

**MISCELLANEOUS**

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| **Lokmanya Tilak National Award** | **Context:** Recently, Prime Minister Modi was conferred **Lokmanya Tilak National Award.**<br>**Background:-**<br>• Prime Minister Narendra Modi was given the Lokmanya Tilak National Award for his outstanding contributions towards the progress of the country.<br>**About Lokmanya Tilak National Award:-**<br>• **Instituted: 1983**<br>• **Instituted by: Tilak Smarak Mandir Trust.**<br>• This award is given every year on **1st August.**<br>• **Significance:** It is to mark the **death anniversary of Lokmanya Tilak.**<br>• It is awarded to persons who have made **remarkable and extraordinary contributions, working for the progress and development of the nation.**<br><br>**About Bal Gangadhar Tilak:-**<br>• **Birth: July 23, 1856.**<br>• **Birthplace: Ratnagiri (now in Maharashtra state), India.**<br>• **Death: August 1, 1920, in Mumbai.**<br>• He was a scholar, mathematician, philosopher, and ardent nationalist who helped lay the foundation for India's independence by building his own defiance of British rule into a national movement.<br>• He was also known as **Lokmanya Tilak.**<br>• His famous declaration "**Swaraj is my birthright, and I shall have it**" served as an inspiration for future revolutionaries during India's struggle for freedom.<br>• The British Government termed him the "**Father of Indian Unrest".** (Sedition Law)<br>**Important Institutions Started by Tilak:-**<br>• **Deccan Education Society (1884):** He was the founder of the Deccan Education Society along with his associate Gopal Ganesh Agarkar and others.<br>• **Fergusson College (1885):** He was one of the founders of Fergusson College in Pune.<br>**Political ventures of Tilak:-**<br>• **1890:** He joined the Indian National Congress (INC).<br>• Tilak protested against the oppressive nature of the British efforts and wrote provocative articles on it in his newspapers on the epidemic of the **Plague in Pune and adjacent regions.**<br>• His article inspired the **Chapekar brothers** and they carried out the assassination of Commissioner Rand and Lt. Ayerst on June 22.<br>• Because of this, Tilak was imprisoned for 18 months on **Sedition charges** for inciting murder. Sedition Law)<br>• **Indian Home Rule League (1914):** He founded the Indian Home Rule League.<br>• **Lucknow Pact (1916):** he concluded the Lucknow Pact with Mohammed Ali Jinnah, which provided for Hindu-Muslim unity in the nationalist struggle.<br>**Newspapers by Tilak:-**<br>• Weeklies: Kesari (Marathi) and Mahratta (English)<br>**Books by Tilak:-** |

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| | • Gita Rhasya<br>• Arctic Home of the Vedas.<br><br>**MUST READ: Padma awards**<br>**SOURCE: AIR** |
| **Gallantry awards** | **Context:** President Droupadi Murmu approved 76 **Gallantry awards** on the eve of Independence Day.<br>**Background:-**<br>• These include four Kirti Chakra, all posthumous, 11 Shaurya Chakras, including five posthumous, two Bar to Sena Medals (Gallantry), 52 Sena Medals (Gallantry), three Nao Sena Medals (Gallantry) and four Vayu Sena Medals (Gallantry).<br>**About Gallantry Awards:-**<br>• These gallantry awards are announced **twice a year**.<br>    ○ The first on the occasion of **Republic Day** and then on the occasion of **Independence Day**.<br>• **Order of precedence**: Param Vir Chakra, the Ashoka Chakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra, and the Shaurya Chakra.<br>• All the gallantry awards **may be awarded posthumously.**<br>**Historical Background:-**<br>• Post-independence, the first three gallantry awards namely **Param Vir Chakra, Maha Vir Chakra, and Vir Chakra**.<br>• They **were instituted** by the Government of India on **26th January 1950.**<br>• Thereafter, **other three gallantry awards** i.e. **Ashoka Chakra Class-I, Ashoka Chakra Class-II, and Ashoka Chakra Class-III** were instituted by the Government of India on **4th January 1952**.<br>• These awards were renamed **Ashoka Chakra, Kirti Chakra, and Shaurya Chakra** respectively in **January 1967.**<br>**MUST READ: Padma awards**<br>**SOURCE: AIR** |
| **Assam Rifles** | **Context**: In recent times, the **Assam Rifles** personnel have been facing increased hostility in Manipur.<br>**Background:-**<br>• Normally, there are 20 battalions of the Assam Rifles in Manipur, with the primary mandate of counter-insurgency and border guarding.<br>• Since ethnic violence erupted in the state on May 3, 2023, two more battalions were moved in.<br>• Due to being tasked with manning "buffer zones" between Meitei- and Kuki-Zomi-dominated territories in Manipur, the Assam Rifles has been facing heat from the Meiteis, with some even demanding its removal from the state.<br>**About Assam Rifles:-**<br>• **Establishment:1835.**<br>• **Ministry: Ministry of Home Affairs.**<br>• It is a **Central Paramilitary Force** under the **Central Armed Police Forces (CAPF).**<br>    ○ **CAPF:** the collective name of central police organizations in India under the Ministry of Home Affairs (MHA). |

o It includes **7 forces**: Assam Rifles (AR), Border Security Force (BSF), Indo-Tibetan Border Police (ITBP), Sashastra Seema Bal (SSB), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF) and National Security Guard (NSG).

- Assam Rifles is the **oldest Central Para Military Force** in India.

**Historical Background:-**
- The Assam Rifles was set up as **Cachar Levy in 1835** to **protect British Tea estates** and their settlements against tribal raids.
- **Post-Independence,** role of the Assam Rifles continued to evolve ranging from:-
  o **Conventional combat** role: during Sino-India War in 1962
  o **Operating in a foreign land**: as part of the **Indian Peace Keeping Force** (IPKF) to Sri Lanka in 1987 (Op Pawan)
  o **Peacekeeping role:** in the **North-Eastern areas of India.**

**Structure of Assam Rifles:-**
- The Force is commanded by an officer of the rank of **Lieutenant General of the Army.** (UPSC CSE: Administration of Assam Rifles)
- **HQ Directorate General of Assam Rifles**: Shillong.

**MUST READ: Armed Forces (Special Powers) Act**
**SOURCE: THE INDIAN EXPRESS**

| Interpol Global Academy Network | **Context:** Recently, the Central Bureau of Investigation (CBI) Academy joined the **Interpol Global Academy Network.**<br>**Background:-**<br>• The CBI Academy has become the **10th member** of the Interpol Global Academy Network.<br>**About Interpol Global Academy Network:-**<br>• **Launched: 2019.**<br>• **Objective:** supporting Interpol in leading a global approach to Law Enforcement Training.<br>• The Interpol Global Academy Network is a **network of trusted law enforcement education institutions**.<br>• **Members:** The Network has members in all regions and supports academic collaboration amongst Law Enforcement Training Institutions across the globe.<br>• **Significance:** It seeks to **promote academic excellence** and **innovation in law enforcement training** by establishing quality standards, accreditation mechanisms, and recognition systems.<br>• **Working mechanism:** Its members support the creation and delivery of select digital and **face-to-face training courses.**<br>  o These **cover INTERPOL's tools and services, crime areas, and other law enforcement topics.**<br>  o They also help **identify and coordinate responses** to training needs.<br>  o They contribute to **a knowledge exchange platform** to advance law enforcement education through cutting-edge training tools and methodologies.<br>**About INTERPOL:-**<br>• **Establishment:1923.**<br>• **HQ: Lyon, France.**<br>• **Full name:** International Criminal Police Organization and we are an inter-governmental organization.<br>• **Members: 195 countries.**<br>  o **India is one of the oldest members of Interpol. It joined Interpol in 1949.** |
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| | • **Central Bureau of Investigation (CBI)** represents Interpol in India as the country's national central bureau.' (CBI and ED) <br><br> **MUST READ: Operation Garuda** <br> **SOURCE: THE INDIAN EXPRESS** |
| **International Chess Federation (FIDE)** | **Context:** The **Grandmaster D. Gukesh** has recently overtook **Chess legend Viswanathan Anand** as the highest-rated Indian player in International Chess Federation (FIDE) rankings. <br> **About the International Chess Federation (FIDE):** <br> • The International Chess Federation (FIDE) is the governing body of the sport of chess, and it regulates all international chess competitions. Constituted as a non-governmental institution, it was recognized by the International Olympic Committee as a Global Sporting Organization in 1999. <br> • FIDE currently has its **headquarters in Lausanne,** but it was initially founded in 1924 in **Paris under the motto "Gens una Sumus"** (Latin for "We are one Family"). <br> • It was one of the very first International Sports Federations, alongside the governing bodies of the **sports of Football, Cricket, Swimming**, and **Auto Racing.** <br> • It is now one of the largest, encompassing **199 countries as affiliate members, in the form of National Chess Federations.** <br> • Chess is nowadays a truly global sport, with dozens of millions of players in all the continents, and more than 60 million games on average played every day. <br> • Each month, FIDE publishes the lists such as- <br>      o Top 100 Players <br>      o Top 100 Women <br>      o Top 100 Juniors <br>      o Top 100 Girls <br> • It also publishes rankings of countries according to the average rating of their top 10 players and top 10 female players. <br> • It uses the Elo rating system for ranking purpose. <br> • The Elo rating system is a method for calculating the relative skill levels of players in zero-sum games such as chess. <br> **Source:**     **The Hindu** |
| **Wrestling Federation of India (WFI)** | **Context:** The United World Wrestling (UWW) has suspended the **Wrestling Federation of India (WFI)** for not conducting elections on time. <br> **Background:-** <br> • The UWW suspended the WFI for not conducting its elections within the mandated 45 days, which meant that the Indian grapplers would not be able to compete in Belgrade from September 16 under the Indian flag**.** <br> **About the Wrestling Federation of India (WFI):-** <br> • **Establishment: 1958.** <br> • **Ministry: Ministry of Youth Affairs & Sports.** <br> • **HQ: New Delhi.** <br> • It is the **governing body of wrestling in India.** <br> • **Objective:** to promote wrestling players for the Olympics, Asian Games, National Wrestling Championships, and World Wrestling Championships. |

**Historical Background of Wrestling in India:-**
- Wrestling in India has been practiced since **the 5th millennium B.C**.
- In Ancient India, wrestling was known as **MallaYudha.**
- Many characters in Mahabharata are considered to be great wrestlers of the time, included: **Bhimawas Jarasandha, Keechak, and Balrama.**
- **Ramayana** mentions **Hanuman** as one of the greatest wrestlers of his time.
- It is called **kushti** in Punjab and Haryana.

**Composition of WFI:-**
- President -01
- Senior Vice President - 01
- Vice Presidents - 04
- Honourary Secretary General – 01
- Honourary Treasurer – 01
- Honourary Joint Secretaries – 02
- Executive Members – 05

**Functions of WIFI:-**
- To encourage, promote, and control amateur wrestling activities.
- To affiliate with the **Indian Olympic Association**.
- To affiliate with the **United World Wrestling [UWW]** and to **enforce the rules and regulations** of UWW.
- To arrange the holding of **Senior, Junior, and Sub-Junior Wrestling Championships** every year as per UWW Rules.
- To **authorize a State Wrestling Association** to hold wrestling competitions of Inter-Regional nature.
- To maintain **control over officials** and keep a panel of trained officials to work in approved.
- To arrange for their **training and tests** whenever required.
- To conduct **systematic coaching camps** for the benefit of wrestlers.
- To lay down the **general policy** under which the State Wrestling Associations.
- To **register wrestlers** and promote friendly bouts among them.

**About-United World Wrestling (UWW):-**
- It is the **international governing body** for the sport of wrestling.
- **HQ: Switzerland.**
- **Objective:** to lead the growth of Wrestling, competitive and recreational, around the world.
- The UWW was formerly known as **FILA (Fédération Internationale des Luttes Associées).**

**MUST READ: Sports Code**
**SOURCE: AIR**

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| **The Grand Cross of the Order of Honour** | **Context:** Recently, Prime Minister Modi became the first Foreign Head of a Govt. to be awarded **'The Grand Cross of the Order of Honour'** by the Greek govt.<br>**Background:-**<br>• This recognition was given during Prime Minister Modi's official visit to Greece.<br>**About The Grand Cross of the Order of Honour:-** |

- **Established:1975.**
- **Conferred by: President of Greece. (Aegean sea & islands)**
- **Description: The head of the goddess Athena is depicted on the front side of the Star with the inscription "ONLY THE RIGHTEOUS SHOULD BE HONOURED".**
- **Conferred to:** Prime Ministers and eminent personalities who by reason of their distinguished position, have contributed to enhancing the stature of Greece. (Greece- Turkey Clash)

**MUST READ: NATO**

**SOURCE: AIR**

## GS-Paper 1
### Preserving Tribal Culture

**Syllabus – GS -1(Society)**

**Context:** The vision of inclusive growth and community-led development is not an idea but an actionable strategy for **Odisha in its 5T (transparency, technology, teamwork, time limit, leading to transformation)-**driven development model.

**Tribal population in India**

- India comprises 8.6% tribal population, has access to an enormous indigenous knowledge, which through recognition, adoption, and mainstreaming has the potential to provide sustainable solutions.
- According to **article 342 of the Indian Constitution**, the President may with respect to any State or Union territory specify the tribes, tribal communities, parts of, or groups within tribes or tribal communities as **Scheduled Tribes in relation to that State or Union territory.**

**Odisha's Special Development Councils (SDCs) initiative**

- In a significant move towards preserving, promoting, and popularising tribal culture while also continuing with the development process, the Odisha government launched the **Special Development Councils (SDCs) initiative in 2017.**
- This is an active effort to preserve the **culture and heritage of 62 tribes** in the State under one umbrella while keeping economic development on course in the regions.
- The scheme, which covered **9 tribal-dominated districts and 60 lakh tribal households in 117 blocks,** has now been expanded to 23 districts covering more than 84 lakh tribal people.

**About Tribal Cultures:**

- **Communal living:** Many tribal communities in India have a strong emphasis on **communal living and sharing resources.**
    - They live in close-knit communities and often make decisions collectively.
- **Self-Sufficiency**: Tribe is a **synonym for a self-reliant community**, a tribe is a relatively closed society and its openness is inversely related to the **extent of its self-sufficient pursuits.**
- **Connection with nature:** Tribals have a strong connection with nature, with **traditional beliefs and practices** that revolve around the forests and animals.
- **Folk arts and crafts:** Tribals are known for their unique art forms, including **pottery, weaving, and jewellery making.**
- **Spiritual beliefs**: Tribals often have their own unique spiritual beliefs, which may involve the **worship of ancestors, nature spirits, or deities.**

**Tribal Lifestyle and Sustainable development:**

- **Respect for the natural environment:** Tribal traditional practices, such as using natural materials for **housing, food, and medicine, and living in harmony** with the cycles of nature.
- **Community-based decision-making:** Collective decision-making considers the needs of the community as a whole and ensures that decisions are made in a **sustainable and equitable manner.**
- **Promotion of biodiversity:** Tribals have developed practices to protect and promote diversity, which includes traditional methods of agriculture, such **as intercropping and seed saving, as well as the protection of sacred sites** that are important for the preservation of biodiversity.
- **Conservation of natural resources:** Sustainable practices involve limiting the use of resources to ensure their long-term availability, such as **rotational farming or allowing forests to regenerate before harvesting timber.**

- **Emphasis on intergenerational knowledge sharing:** Passing down knowledge to the next generation includes **traditional knowledge of the natural environment and sustainable practices for managing resources**.
- **Protection of water resources:** Tribal communities rely on water resources and have developed practices that can help to ensure that **water is available for future generations, and can reduce greenhouse gas emissions.**
- **Regenerative agriculture:** tribal communities have been practicing regenerative agriculture for centuries, which involves practices like **crop rotation, intercropping, and regenerating soils with organic matter.**
    - These practices help to sequester carbon in the soil, which can help to mitigate climate change.
- **Use of renewable energy:** They have traditionally used renewable energy sources like **wind, solar, and hydropower**, which can be expanded and modernized to provide clean energy for more people.

**Challenges faced by tribals in performing their lifestyle**
- **Discrimination:** Tribal communities often face discrimination and prejudice from the dominant society, including limited access to education, healthcare, and other basic services.
- **Land rights:** Tribal communities have been displaced from their traditional lands due to industrialization, and mining, which has resulted in the loss of cultural identity, and social and economic marginalization.
- **Climate change and environmental degradation:** Climate Change, such as changes in rainfall patterns, increased frequency of natural disasters, loss of biodiversity, deforestation, pollution, and loss of habitat, has negatively affected their traditional livelihoods and ways of life.
- **Socioeconomic marginalization**: Many tribal communities have limited access to education, healthcare, and economic opportunities, which can result in poverty and social exclusion.
- **Lack of political representation:** Tribal communities often lack political representation and may not have a voice in decision-making processes that affect their lives.
- **Cultural assimilation:** Many tribal communities face pressure to assimilate into the dominant culture, which can lead to the loss of traditional knowledge, language, and cultural practices.

**Government initiatives to conserve tribal culture:**
- **National Scheduled Tribes Finance and Development Corporation (NSTFDC),** an apex Organization under the **Ministry of Tribal Affairs** in 2001 was brought into existence with the sole aim of economic upliftment of the Scheduled Tribes by way of extending concessional financial assistance to the target group under its various schemes.
- **TRIFED's Initiatives for Tribal Population:** The Government plans to establish **50,000 Van Dhan Vikas Kendras, 3000 Haat Bazaars, etc.**
- **Central Sector Scheme**: Institutional Support for Development & Marketing of Tribal Products / Produce.
- **Pradhan Mantri Van Dhan Yojana**: It is a market-linked tribal entrepreneurship development program for forming clusters of tribal Self Help Groups (SHGs) and strengthening them into Tribal Producer Companies.
    - Scholarships for pre-matric, post-matric, and overseas education
    - Support to National Scheduled Tribes Finance and Development Corporation
- **Development of Particularly Vulnerable Tribal Groups (PVTGs):** The scheme covers activities like housing, land distribution, land development, agricultural development, animal husbandry, construction of link roads, etc.
- **Vocational Training in Tribal Area:** The aim of the Scheme is to develop the skills of the ST youth for a variety of jobs as well as self-employment and to improve their socio-economic condition by enhancing their income.
- **Centrally Sponsored Scheme**: The mechanism for Marketing of Minor Forest Produce (MFP) through (MSP) and Development of a Value Chain for MFP' as a measure of social safety for MFP gatherers.

**Source:**          **The Hindu**

## GS- Paper 2
### The Bharatiya Sanhita Suraksha Bill, 2023

**Syllabus**

- **Mains – GS 2 (Governance)**

**Context**: The Bharatiya Sanhita Suraksha Bill, 2023 was introduced in Lok Sabha to replace the Indian Penal Code, Code of Criminal Procedure and Indian Evidence Act.

**Highlights of the Bill:**

- The Bharatiya Nyaya Sanhita Bill 2023 prescribes **capital punishment as the maximum sentence for mob lynching.**
- The bill suggests **10 years of imprisonment** for sexual intercourse with women on the false promise of marriage.
- The bill states that **sexual intercourse by a man with his wife**, when the wife is not under 18 years of age, is not considered rape.

**Repeal of [Sedition Section]**

- The bills provide **definitions for terrorism and offences such as separatism, armed rebellion** against the government, and challenging the sovereignty of the country.
    - Confiscation of property can be done based on court orders.
- The bills aim to **provide speedy justice and create a legal system** that aligns with contemporary needs and aspirations.
- In **cases of sexual violence against women**, the video recording of survivor statements is made compulsory.
    - Police must inform about the **status of a complaint within 90 days**.
    - Consultation with the victim is required before withdrawing a case punishable by seven years or more.
    - Community service is being introduced for specific crimes.
- The **maximum time to file a charge sheet is fixed at 180 days**.
    - In additional 90 days can be granted by the court, but it cannot exceed that.
- The government must decide prosecution sanctions against police officers and civil servants within 120 days, or it will be deemed permitted.
- **Videography of search and seizure** is made compulsory, and a charge sheet will not be accepted without it.
- **Forensic collection of evidence** is made compulsory for all crimes punishable by seven years.
- A designated police officer will certify the custody of an accused to their relatives, both online and physically.
- Rules for remission of sentences are stricter to prevent individuals with political influence from benefiting disproportionately.

**Significance of the Bharatiya Nagarik Suraksha Sanhita Bill:**

- It will **consolidate and amend the law** relating to criminal procedure and calls for specific timelines for time-bound investigations, trials and judgements.
    - It will ensure speedy delivery of justice.
- The draft legislation falls in line with the **government's Digital India initiative**.
    - For example, **it provides for admissibility of digital or electronic record** as evidence, which shall have the same legal validity and enforceability as a paper record.
- A '[Zero FIR]' can be lodged at any police station and the FIR must be transferred within 15 days to the police station having jurisdiction over the place of crime.
    - Unlike an FIR, which is restricted by jurisdiction, a zero FIR can be filed in any police station, regardless of whether the offence was committed under the jurisdiction of that particular police station.

- It will **promote a human rights-based approach** that respects the dignity and rights of all stakeholders in the criminal justice process.
- It will **enhance the efficiency and effectiveness** of the criminal justice system by reducing delays, pendency, backlog, and corruption.
- It will improve the **quality and credibility of justice delivery** by ensuring transparency, accountability, and professionalism.
- It will foster a **culture of peace and harmony** in society by preventing and curbing crimes that threaten social order and security.
- It will **address the root causes of crimes** by addressing socio-economic inequalities and injustices.
- It will strengthen the **rule of law and democracy** in India by upholding constitutional values and principles.

**Challenges:**
- The bills may **face opposition and resistance from some quarters** who may perceive them as an infringement on their rights, interests, or autonomy.
- It may **face legal challenges and scrutiny** from the courts on the grounds of constitutionality, validity, or interpretation of certain provisions.
- It may face **practical difficulties and bottlenecks** in implementation due to **a lack of awareness, cooperation, or coordination** among various agencies or stakeholders.
- It may **face unforeseen consequences or implications** that may require further amendments or modifications in the future.

**Way Forward:**
The criminal justice system is the backbone of any democracy. It is essential to ensure that it is fair, efficient, and responsive to the needs and aspirations of the people. The introduction of these bills is a historic opportunity to achieve this goal. It is hoped that these bills will usher in a new era of criminal justice reform in India and make it a model for other countries to emulate.

**Source:**          **The Hindu**

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## Digital Personal Data Protection Bill, 2023

**Syllabus – GS 2 (Governance)**
**Context:** The Centre recently tabled the Digital Personal Data Protection Bill, 2023.
**Key Features of Digital Personal Data Protection Bill, 2023**



**Decoding the data protection bill**

**WHAT IT MEANS FOR CONSUMERS**
- **DATA** can be processed or shared by any entity only after consent.
- **SAFEGUARDS**, including penalties, introduced to prevent misuse of personal data.
- **ALL** data to be categorized under three heads—general, sensitive and critical.

**THE GOVERNMENT & REGULATORY ROLE**
- **GOVT** will have the power to obtain any user's non-personal data from companies.
- **THE** bill mandates that all financial and critical data has to be stored in India.
- **SENSITIVE** data has to be stored in India but can be processed outside with consent.

**WHAT COMPANIES HAVE TO DO**
- **SOCIAL** media firms to formulate a voluntary verification process for users.
- **SHARING** data without consent will entail a fine of ₹15 crore or 4% of global turnover.
- **DATA** breach or inaction will entail a fine of ₹5 crore or 2% of global turnover.

Source: Mint research

- **Applicability:** The Bill will apply to the processing of digital personal data within India.
  o It will also apply to the processing of personal data outside India, if it is for offering goods or services or profiling individuals in India.
- **Consent:** Personal data may be processed only for a lawful purpose for which an individual has given consent.
  o A notice must be given before seeking consent.
  o Notice should contain details about the personal data to be collected and the purpose of processing. Consent may be withdrawn at any point in time.
  o For individuals below 18 years of age, consent will be provided by the legal guardian.
- **Rights and Duties of Data Principal:** An individual, whose data is being processed (data principal), will have the right to
  o obtain information about processing,

- o seek correction and erasure of personal data,
- nominate another person to exercise rights in the event of death or incapacity
- **Transfer of Personal Data outside India**: The central government will notify countries where a data fiduciary may transfer personal data.
  - o Transfers will be subject to prescribed terms and conditions.
- **Exemptions:** Rights of the data principal and obligations of data fiduciaries (except data security) will not apply in specified cases. These include
  - o prevention and investigation of offences, and
  - o Enforcement of legal rights or claims.
  - o The central government may, by notification, exempt certain activities from the application of the Bill. These include
  - o processing by government entities in the interest of the security of the state and public order, and
  - o Research, archiving, or statistical purposes.
- **Data Protection Board of India**: The central government will establish the Data Protection Board of India.
- **Key functions of the Board include**
  - o monitoring compliance and imposing penalties,
  - o directing data fiduciaries to take necessary measures in the event of a data breach, and
  - o Hearing grievances made by affected persons.
- **Penalties:** The schedule to the Bill specifies penalties for various offences such as up to
  - o Rs 200 crore for non-fulfilment of obligations for children, and
  - o Rs 250 crore for failure to take security measures to prevent data breaches.

**Significance of the Bill:**
- **Strong safeguards**: Fines for data misuse prescribed in the previous version of the Bill were not seen as an effective deterrent.
- The **higher penalties being proposed** now will prompt entities to build strong safeguards to protect data and enforce fiduciary discipline.
- Companies would face **punitive actions in the nature of financial penalties** in the event of misuse of data and data breaches.
- The upcoming data protection Bill will put an **end to misuse of customer data with companies facing financial consequences.**
- There will also be a **strict or purpose limitation of data** collected by companies and the time till which they can store it under the new Bill.
- Data fiduciaries will be required to **stop retaining personal data** and **delete previously collected data** after the initial purpose for which it was collected was fulfilled.

**Criticisms:**
- **Weak regulator:** It will lead to a progressive weakening of the **Data Protection Authority of India** – the body that is supposed to be the key regulator and enforcer of the law.
- **Autocratic appointments:** The Centre was also empowered to appoint members to the data protection board, raising concerns over the control it could potentially exert on the institution in cases where it was an interested party.
- **More like Chinese version:** Provisions for the central government to bypass norms around seeking express consent from citizens and the right to exempt **"any instrumentality of the state"** from adverse consequences

citing national security, relations with foreign governments, and maintenance of public order among other things, are where the Bill comes in closer to the Chinese version.

**Comparing India's Proposal with Global Models:**
- Various countries worldwide have enacted legislation to secure data protection and privacy.
- The EU model, known for its stringent regulations, **serves as a template for many nations.**
- The US model emphasizes **individual liberty protection** from government intrusion, while **China's Personal Information Protection Law (PIPL)** focuses on **preventing the misuse of personal data.**

**Way Forward:**
The Digital Personal Data Protection Bill, 2023 extends substantial rights to individuals and provides them with better visibility, awareness, decisional autonomy and control over their data.
It also obligates companies to comply with the rights of the individuals and provide effective redressal mechanisms linked with significant penalties. The Bill also provides for a legislative backing to the **Supreme Court's landmark judgement in Justice K. S. Puttaswamy (Retd) Vs Union of India Case (2017).**

**Source:** **Indian Express**

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## The Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023

**Syllabus**
- **Mains – GS 2 (Polity and Governance)**

**Context:** The Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023, was recently introduced in Rajya Sabha.

**Key Features of the Bill**
- **Election Commission:** As per A**rticle 324 of the Constitution**, the Election Commission consists of the **Chief Election Commissioner (CEC)** and such number of other Election Commissioners (ECs), as the President may decide.
  - The CEC and other ECs are appointed by the President. The Bill specifies the same composition of the Election Commission.
  - It adds that the CEC and other ECs will be appointed by the President on the **recommendation of a Selection Committee.**
- **Selection Committee**: The Selection Committee will consist of: (i) the Prime Minister as Chairperson, (ii) the Leader of the Opposition in Lok Sabha as member, and (iii) a Union Cabinet Minister nominated by the Prime Minister as member.
  - If the Leader of Opposition in Lok Sabha has not been recognised, the leader of the single largest opposition party in Lok Sabha will assume the role.
- **Search Committee**: A Search Committee will prepare a panel of five persons for the consideration of the Selection Committee.
  - The Search Committee will be headed by the Cabinet Secretary. It will have two other members, not below the rank of Secretary to the central government, having knowledge and experience in matters related to elections.
  - The Selection Committee may also consider candidates who have not been included in the panel prepared by the Search Committee.
- **Qualification of CEC and ECs:** Persons who are holding or have held posts equivalent to the rank of Secretary to the central government will be eligible to be appointed as CEC and ECs.
  - Such persons must have expertise in managing and conducting elections.

- **Salary and allowances**: The 1991 Act provides that the salary of the ECs will be equal to that of a Supreme Court judge.
  - The Bill provides that salary, allowance, and service conditions of the CEC and other ECs will be the same as that of the Cabinet Secretary.
- **Term of office:** The 1991 Act mandates that the CEC and other ECs will hold office for a term of six years or until they reach the age of 65 years, whichever is earlier.
  - If an EC is appointed as the CEC, his total term cannot exceed six years. The Bill retains the same tenure.
  - Further, under the Bill, the CEC and other ECs will not be eligible for re-appointment.
- **Conduct of business:** All business of the Election Commission is to be conducted unanimously. In case of difference of opinion between the CEC and the other ECs on any matter, it shall be decided through majority.
- **Removal and resignation**: Under Article 324 of the Constitution, the CEC can only be removed from his office in a manner similar to that of a Supreme Court judge.
  - This is done through an order of the President, based on a motion passed by both Houses of Parliament in the same session.
  - The motion for removal must be adopted with: (i) majority support of total membership of each House, and (ii) at least two-thirds support from members present and voting. An EC can only be removed from office on the recommendation of the CEC.
  - The Bill retains this removal procedure.
- Further, the 1991 Act provides that the CEC and other ECs may submit their resignation to the President.
  - The Bill has the same provision.

**Significance of the bill:**
- The Election Commission, led by a CEC and two other commissioners, is much too **critical a body for the functioning of India's democracy and integrity of elections** to leave exposed to charges of external influence.
- A Supreme Court judgement stated that the **Prime Minister, Leader of Opposition in the Lok Sabha and Chief Justice of India (CJI)** would decide the EC's leadership—until the Centre came up with a law.

**Concerns about the bill:**

**Balance of Power:**
- The **Prime Minister and a Cabinet Minister (nominated by the Prime Minister)** forming part of the three-member committee, **the Leader of Opposition** is left with a minority vote even before the process begins.
- This raises questions about the balance of power within the committee and whether the selection process truly ensures independence or remains skewed in favour of the Executive.

**Impact on Electoral Governance:**
- The proposed changes may have implications for the autonomy and functioning of the ECI.
- The independence of the Election Commission is crucial for ensuring impartiality and integrity in the conduct of elections.
- Any perceived influence of the Executive in the selection process might raise concerns about the EC's ability to carry out its responsibilities without bias.

**Alignment with Framers' Intentions:**
- The SC, in its previous ruling, emphasized that the framers of the Constitution intended for an independent body to oversee elections.
- Critics of the proposed Bill raise questions about whether the new composition of the Selection Committee aligns with the framers' objective of creating an impartial and independent body responsible for elections.

**Way Forward:**

The independent V-Dem Institute in Sweden, which compares democracies worldwide, has downgraded India to an **"electoral autocracy",** citing the loss in autonomy of the ECI. The need for a selection process that embodies insulation from executive preponderance makes sense. A **non-partisan and independent ECI** is a sine qua non for the robustness of electoral democracy.

**Source:** **The Hindu**
**Must Read: UPSC CSE 2024**

## Mob Lynching

**Syllabus - GS2 (Governance)**
**Context:** The Supreme Court (SC) of India directed the seven remedial measures in its judgment '**Tehseen Poonawala 2018'** to States because of their lax response to lynching.

**About Tehseen Poonawala judgment**:
- In Tehseen Poonawalla vs Union of India, 2018, Supreme Court condemned **incidents of lynching and mob violence against Dalits and minority community** members as **"horrendous acts of mobocracy",** and asked Parliament to pass law-establishing lynching as a separate offence with punishment.
  - Such a law should be effective enough to instill a sense of fear in the perpetrators.
  - SC said that such incidents **"threaten rule of law and the country's social fabric**."
  - The court said the growing numbness of the ordinary Indian to the frequent incidents of lynchings happening right before his eyes in a society based on rule of law is shocking.
  - It is also the obligation of the Centre and the States to ensure that "**nobody takes the law into his hands nor become a law into himself".**

**About Mob lynching:**
- Mob lynching is a form of collective violence in which a group of people attacks and kills a person or a group of people, often based on their identity, beliefs, or actions.
- It is not a new phenomenon in India, but it has become more frequent and visible in recent years, especially with the rise of social media and fake news.
- Mob lynching has become a serious problem in India, where it has claimed hundreds of lives in recent years.
  - The victims of mob lynching are mostly from marginalized communities, such as religious minorities, Dalits, Adivasis and women.

**Reasons for rise in mob-lynching incidents in India:**
- **Failure of state:** The failure of state in protecting Minorities from mob, lack of proper mechanism in place.
  - People are losing their faith in law and order machinery therefore; they are taking laws in their hand.
- **Rise in intolerance**: In recent times, intolerance has increased especially against marginalised.
  - For example, intolerance has increased against Muslims for cow slaughter and mob-lynching case has increased on any news of beef eating lead to mob lynching of the Muslims.
- **Propagandas:** In India, people are very emotive on sensitive issues. It is very easy to flare them up.
  - Some people are spreading wrong information on social media especially on Facebook and WhatsApp.
- **Misguided youth**: with rise in unemployment, politicians or religious groups are misguiding youth ideologically.
  - Due to misguidance of youth, they act against certain sects to take revenge or are motivated by thrill and excitement.
- **Defence**: Mob violence may be done for defence against any perceived and presumed threat from other social groups.
  - It is also motivated by a desire to protect one's territory. E.g., mob crime against a nation's citizens.
- **Biased view**: A bias against any group due to historical or social reasons motivate mob to commit a hate crime.
  - For example, Muslim being tagged as terrorist lead to an act of lynching against them by mob.

- **Lack of impunity**: One of the major reasons for the rise in mob lynching is impunity.
  - Police find it difficult to register cases against big crowds, some people get advantage of it.
  - There is no particular law to deal with lynching and it finds no mention in the Indian Penal Code. Hence, often the perpetrators get away with it.

**Negative Impacts:**

- Mob lynching violates the **human rights and dignity of the victims and their families,** who often do not get justice or compensation for their losses.
- It creates a climate of **fear and insecurity among the vulnerable groups**, who face constant threats and harassment from the mobs.
- It undermines the **rule of law and democracy**, as the mobs take the law into their own hands and challenge the authority of the state and its institutions.
- It erodes the **social fabric and harmony**, as it fuels communal hatred and violence, and widens the gaps between different groups.
- It hampers **economic development and progress**, as it disrupts the normal functioning of society and affects the livelihoods and opportunities of many people.

**Government Measures:**
- **Designated Fast Track Courts:** States were directed to set up designated fast track courts in every district to exclusively deal with cases involving mob lynchings.
- **Special Task Force**: The court had also mooted the setting up of a special task force with the objective of procuring intelligence reports about the people involved in spreading hate speeches, provocative statements and fake news, which could lead to mob lynchings.
- **Victim Compensation Schemes:** Directions were also issued to set up Victim compensation schemes for relief and rehabilitation of victims.
  - The Supreme Court issued notices to the Centre and several states asking them to submit the steps taken by them towards implementing the measures and file compliance reports.
  - As of now **only three states Manipur, West Bengal and Rajasthan** have enacted laws against mob lynching.
- The **Jharkhand Assembly has passed Prevention of Mob Violence and Mob Lynching Bill, 2021** that has been returned by governor recently for reconsideration of a few provisions.

**Way Forward:**
Mob lynching in India is a serious issue that has claimed many lives and violated human rights. Some steps taken by the government and civil society to prevent mob lynching include enacting laws, creating helplines, raising awareness and promoting communal harmony.
However, there are still many challenges in implementing these measures, such as lack of accountability, political interference, social media rumors and communal hatred. The way forward is to strengthen the rule of law, ensure justice for the victims, educate the masses and foster a culture of tolerance and peace.
**Source:** [The Hindu](#)

## Police Reforms in India

**Syllabus**
- **Mains – GS 2 (Governance)**

**Context:** Incidents like an outbreak of communal violence in Delhi region and violence in Manipur's Imphal Valley raises concerns over the role of law enforcement.
**About Police and Policing Framework in India**

- The primary role of police forces is to uphold and enforce laws, investigate crimes and ensure security for people in the country.
- In a large and populous country like India, police forces need to be well equipped, in terms of personnel, weaponry, forensic, communication and transport support, to perform their role well.

**Constitutional and legal provisions:**
- Under the Constitution, '**Police' and 'Public Order'** are **state subjects** under the **Seventh Schedule to the Constitution of India**.
  - Therefore, each state has its own police force.
- The center is also allowed to **maintain its own police forces** to assist the states with ensuring law and order.
- The basic framework for policing in India was laid down in the pre-independence era through the **Police Act, 1861.**
- Apart from the above, several other laws and regulations govern police functioning in India.
  - These include **the Criminal Procedure Code (CrPC), Indian Penal Code (IPC), Evidence Act and various state-specific laws.**

**Significance of police reforms:**
- **Low police-to-population ratio**: The global average ratio of police-population is 270 to 100,000, where it is 120 in India.
  - With far less police –ill-equipped and most of them posted to protect the political representatives, people of India are the least secured people on the globe.
- **Corruption:** In 2016, the vigilance department had conducted 55% more inquiries against its men.
  - A Delhi Police survey found 34% of the cops to be corrupt in 2015, down from 66% in 2014.
- **Changing nature of crime**: The recent social and technological changes fueled by the internet and the new social media are fast changing the nature, intensity and the reach of crime leading to unprecedented lawlessness and frightening dimensions of global terrorism.
- **Insensitive towards backward classes:** Representation of women and depressed caste is low which makes them insensitive towards them.
  - Escalating violence resulting from caste conflicts including the most recent Dalit uprising, farmers woes across the country.

**Issues in Police Forces**

**Colonial Law:** Even at present, the police system in India is based on colonial law.
- Sometimes the British used the police as their instrument to suppress the voice of people and for their personal functions and at present our respected government is doing the same.

**Huge vacancies:** While the sanctioned police strength was 181 police per lakh persons in 2016, the actual strength was 137 police.
- This is excessively low when compared with the United Nations' recommended standard of 222 police per lakh persons.
- Further, a high percentage of vacancies within the police forces exacerbates an existing problem of overburdened police personnel.

**Custodial Death:** There are many cases on custodial death means Death by torture/pressure in police/judicial custody.
- During 1996-1997 in D.K.Basu judgment, the Supreme Court (SC) issued a guideline against custodial death in India.

**Police Infrastructure (weapons, vehicle etc.):** Modern policing requires strong communication support, state-of-the-art or modern weapons, and a high degree of mobility.

- Even the fund's allotted face Underutilization.

**Law on Torture:** India has only signed the "United Nation Convention on torture" but yet to pass by the Parliament.

- India does not have a specific law for torture.

**Political Interference:** Police officers are not able to do their work due to the interference of political leaders.

- There is no minimum tenure security for officers at the higher post and not even place posting security.

**Promotions and working conditions:** Qualifications and training of police personnel are not up to the mark, especially for lower levels of officials.

- The lower ranks of police personnel are often verbally abused by their superiors or they work in inhuman conditions.
- This non-harmonious work environment ultimately affects their relationship with the public.

**Way Forward: Seven Directives of the Supreme Court (SC)**

- **Limit political control:** Ensure that the state government does not exercise unwarranted influence or pressure on the police.
- **Appoint based on merit:** Ensure that the Director-General of Police is appointed through a merit-based, transparent process, and secures a minimum tenure of 2 years.
- **Fix minimum tenure:** Ensure that other police officers on operational duties (Including Superintendents of Police in charge of a district and Station House Officers in charge of a police station) are also provided with a minimum tenure of 2 years.
- **Separate police functions:** Separate the functions of investigation and maintaining law and order.
- **Set up fair and transparent systems**: Set up a Police Establishment Board to decide and make recommendations on transfers, postings, promotions and other service-related matters of police officers of and below the rank of Deputy Superintendent of Police.
- **Establish a Police Complaints Authority in each state**: At the state level, there should be a Police Complaints Authority to look into public complaints against police officers of and above the rank of Superintendent of Police in cases of serious misconduct, including custodial death, grievous hurt or rape in police custody.
  - At the district level, the Police Complaints Authority should be set up to inquire into public complaints against the police personnel of and up to the rank of Deputy Superintendent of Police in cases of serious misconduct.
- **Set up a selection commission:** A National Security Commission needs to be set up at the union level to prepare a panel for selection and placement of chiefs of the Central Police Organizations with a minimum tenure of 2 years.

**Source:**        **LM**

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## Mines and Mineral Bill 2023

**Syllabus**

- **Mains – GS 2 (Governance)**

**Context:** The Parliament recently passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2023.

**Scenario of the Mining Sector in India:**

- Mining industry plays a crucial role in the country's economy, serving as the backbone for manufacturing and infrastructure sectors.
- According to the **Ministry of Mines (UPSC CSP: Bureau of mines),** the total value of mineral production (excluding atomic and fuel minerals) during 2021-22 amounted to Rs. 2, 11,857 crore.
- **India ranks 4th globally** in terms of iron ore production and is the world's 2nd largest coal producer as of 2021.

- Combined Aluminium production (primary and secondary) in India stood at 4.1 MT per annum in FY21 becoming the 2nd largest in the world.
- In 2023, the mineral's demand is likely to increase by 3%, driven by expanded electrification and overall economic growth in India**. ( Deep sea mining)**

**Key Features of the Bill:**

- It was passed to **attract private sector investment** in the exploration of critical and deep-seated minerals in the country.
- The Bill puts **six minerals used in electric vehicle batteries** and other energy storage into a list of critical and strategic minerals.
  - It includes **lithium, beryllium, niobium, titanium, tantalum, and zirconium.**
- The exploration and mining of these minerals (previously classified as atomic minerals), were restricted to government-owned entities.
- The Bill seeks to bring exploration processes at par with that of developed countries by getting private sector capacity into exploration.
  - In Australia and multiple other jurisdictions globally, private mining firms (junior explorers), engage in risk-taking by putting their expertise and limited financials into explorations to find potential mines.
- The Bill allows prohibited **activities under the Mines and Minerals (Development and Regulation) Act (MMDR)** like pitting, trenching, drilling, and sub-surface excavation as part of reconnaissance including mapping and surveys.
  - Once discovered, these private companies can sell these to bigger mining companies who then develop and run these mines.
- This would multiply exploration projects and accelerate the pace of exploration.

**Significance of private sector participation in the exploration of critical and deep-seated minerals:**

- **Expertise and Innovation**: Private companies often bring specialized technical expertise and innovative approaches to mineral exploration. They invest in advanced exploration techniques, technologies, and methodologies that can lead to more efficient and effective discovery of mineral resources.
- **Accelerated Exploration**: Private companies, often referred to as junior explorers, have the flexibility and incentive to accelerate exploration efforts. Their focus on quick and efficient project development can lead to a higher number of exploration projects, increasing the chances of discovering new mineral deposits.
- **Increased Investment:** Private sector involvement attracts investment from various sources, including venture capital, private equity, and exploration-focused funds. This infusion of funds can lead to larger exploration budgets, enabling more extensive and in-depth exploration activities.
- **Resource Multiplication:** Private exploration firms can multiply the number of exploration projects compared to government agencies alone. This diversification increases the likelihood of discovering valuable mineral resources across different geographic regions.
- **Reduced Burden on Government:** Engaging the private sector in mineral exploration reduces the financial burden on government agencies, allowing them to allocate resources to other critical areas while benefiting from private sector investments.
- **Efficient Resource Allocation**: Private companies typically allocate resources based on market demand and economic viability. This market-driven approach can lead to the discovery of minerals that are in high demand and align with the country's industrial and technological needs.
- **Technology Transfer and Capacity Building:** Private sector participation facilitates technology transfer from experienced explorers to local professionals, enhancing domestic capacity and knowledge in mineral exploration.

- **Competition and Collaboration:** Private sector participation fosters healthy competition among exploration firms, encouraging them to innovate and adopt best practices. Collaboration between government agencies and private firms can lead to synergies and knowledge sharing.
- **Job Creation and Economic Growth:** Exploration activities create jobs and stimulate local economies. Private sector involvement can lead to increased employment opportunities and economic development in regions with potential mineral resources.

**Issues with the Bill:**
- The primary way to **generate revenue for a private company** with an exploration license would be a share of the premium paid by the miner.
  - A successfully discovered mine should be auctioned and operationalized for that purpose.
- The Bill has a provision that if the resources were proven after exploration, the state government would conduct a mining lease auction within six months of the submission of the report by the exploration license holder.
  - Such a process would take a long time to materialize owing to government timelines for clearances, the complexity of the deposit, and geography.
- It would be difficult to find the value of the minerals before exploration and using the auction method of allocation for exploration licenses.
- A huge capital investment is needed to discover natural resources through exploration and mining contracts.
- In the new policy, only the government can auction the discovered mineral, but the explorer would only get a share of the premium at an unknown stage.
- This is unlike other global jurisdictions where private explorers can sell their discoveries to miners.

**Supreme Court directions:**
- It ruled that the **First Come First Served (FCFS)** method was vulnerable to manipulation, favoritism, and misuse, asking the government to adopt a transparent and reasonable method.
- Auction that was duly published and fair would be the best method for resource distribution.
- Auctions were not the only available method for mineral extraction.
- The method should be fair, reasonable, non-discriminatory, transparent, non-capricious, unbiased, and without favoritism or nepotism.
- It should promote healthy competition and equitable treatment.

**Way Forward:**
Private players always get motivated by the profit they are going to make. If government want them to participate in the exploration of critical minerals in India, it needs to provide them certainty of the revenue stream from that investment, then only, India's efforts towards self-sufficiency will be successful.
**Source:** [The Hindu](#)

## Expansion of BRICS

**Syllabus**

- **Mains – GS 2 (International Relations)**

**Context:** Recently there have been internal conflicts about the nature and scope of the potential expansion of BRICS ahead of 15<sup>th</sup> summit, which is going to be held in South Africa.

**About BRICS:**

**Source:** **CGTN**

- **BRICS** is an acronym for five regional economies: **Brazil, Russia, India, China and South Africa.**

- The first four were initially grouped as **"BRIC" in 2001** by an economist Jim O'Neill, who coined the term to describe fast-growing economies that would collectively dominate the global economy by 2050.
- **Summits:** The governments of the BRICS states have met **annually at formal summits since 2009.**
- India hosted the **13th BRICS summit** in 2021 virtually.
- China hosted the **14<sup>th</sup> BRICS summit** in 2022.
- **South Africa will host the 15<sup>th</sup> summit 2023.**
- BRICS is an important grouping bringing together the major emerging economies from the world, comprising:
  - 41% of the world population,
  - 24% of the world GDP
  - Over 16% share in world trade.
  - Total combined area of 29.3% of the total land surface of the world
- Over a period of time, BRICS countries have come together to deliberate on important issues under the three pillars of:
  - political and security,
  - economic and financial and
  - Cultural and people-to-people exchanges.
- **New Development Bank and BRICS:** Formerly referred to as the BRICS Development Bank, is a multilateral development bank established by the BRICS states.
  - The Bank shall support public or private projects through loans, guarantees, equity participation and other financial instruments.

**The need for BRICS expansion**

- **Economic strength**: The economic strength of the five members of the grouping is not as promising as it was when the platform was first announced in 2009.
  - Though the BRICS nations certainly represent 43% of the world's population and around 30% of the global economy, their economic weaknesses are certain.
- **China's anti-western orientation:** China is focused on a quick expansion of BRICS with the aim of giving the platform a distinctly anti-western orientation.
- **Prevailing Anti-Western sentiment**: Many realize that the doors of other groupings are closed to them.
  - The clamour reflects prevailing anti-western sentiments and a pervasive desire to create a sizeable forum of the Global South.
- **Global challenges**: Russia is being marginalised in the global economy, while China is facing a difficult economic environment with the west turning against it.

**Challenges with expanding BRICS grouping:**

- An increase in membership is likely to **weigh the group in favour of China** because some countries waiting to join are also part of the **Chinese Belt and Road Initiative**.
  - This raise concerns that an expanded BRICS could be seen as a **Chinese-led anti-American bloc.**
- India, which has been strengthening its **bilateral relationship with the US**, has been concerned about expansion.
  - India views China's role in driving these countries for membership of BRICS along with the support of Russia.
- India also raised its concern in last year's BRICS that any addition of new members must follow the carefully **thought-out objective criteria for membership**.
  - This should be mutually discussed among the present members, so that all are of the same view regarding expansion.
- Further, at the BRICS foreign ministers' meeting last month, **India's External Affairs Minister S Jaishankar** emphasized the need to consider the ways in which existing BRICS countries collaborate with each other and engages with non-BRICS countries.

**Way Forward:**
The 15th BRICS summit holds multifaceted importance for India, offering a platform for addressing geopolitical concerns, facilitating bilateral talks, and advancing economic collaborations. As the global landscape continues to evolve, BRICS remains a critical forum for emerging economies to engage and collaborate on key global challenges. The outcomes of this summit will not only affect the member nations but also shape the broader trajectory of international relations and cooperation.
**Source:**                **Economic Times**

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## The Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023

**Syllabus**
**Mains – GS 2 (Polity and Governance)**
**Context:** The bill was recently introduced in Rajya Sabha will consist of the Prime Minister as the chairperson, the Leader of the Opposition as a member, and a Union Cabinet Minister nominated by the Prime Minister as another member.

- This bill proposes to exclude the **Chief Justice of India** (CJI) from the three-member committee that recommends the names of the **Chief Election Commissioner (CEC) and the Election Commissioners (ECs)** to the **President**.

**Background:**

- The Supreme Court (SC) in recently ruled that CEC and ECs will be appointed by the President of India on the advice of a **Committee consisting of the Prime Minister, and Leader of Opposition in the Lok Sabha, and the Chief Justice of India** until a law is enacted by Parliament on their appointments.
  - This ruling emerged from a **2015 Public Interest Litigation (PIL)** challenging the appointment process.

**Key provisions of the bill:**

- **Composition of the commission**: The bill maintains the existing structure of the Election Commission, consisting of the CEC and other ECs.
  - The CEC and ECs are appointed by the President of India.
  - However, the bill introduces the requirement that their appointments will be made on the recommendation of a Selection Committee.

- **Selection committee**: The Selection Committee will comprise the Prime Minister as the Chairperson, the Leader of the Opposition in the Lok Sabha, and a Union Cabinet Minister nominated by the Prime Minister.
  - If there is no recognized Leader of the Opposition, the leader of the largest opposition party in the Lok Sabha will take on this role.
- **Search committee**: A Search Committee will be responsible for preparing a panel of five potential candidates for the Selection Committee's consideration.
  - The Search Committee will be headed by the Cabinet Secretary and will have two other members who are senior government officials with expertise in election-related matters.
  - The Selection Committee can also consider candidates who were not included in the panel prepared by the Search Committee.
- **Qualification**: Individuals who hold or have held positions equivalent to the rank of Secretary in the central government will be eligible for appointment as CEC and ECs.
  - Additionally, these individuals should possess expertise in managing and conducting elections.
- **Salaries and allowances**: The bill stipulates that the salary, allowances, and service conditions of the CEC and other ECs will be the same as those of the Cabinet Secretary.
- **Term of office**: Both the CEC and other ECs will serve for a term of six years or until they reach the age of 65, whichever comes first.
  - If an EC is elevated to the position of CEC, its total term cannot exceed six years.
  - The bill also specifies that the CEC and ECs will not be eligible for reappointment.
- **Conduct of business**: The Election Commission's business will continue to be conducted through unanimous decisions.
  - If a difference of opinion arises between the CEC and other ECs on any matter, it will be resolved through a majority vote.
- **Removal and resignation:** The bill maintains the existing procedure for removing the CEC and ECs from office.
  - The CEC can only be removed through a process similar to the removal of a Supreme Court judge, requiring a motion passed by both Houses of Parliament with majority support of the total membership and at least two-thirds support from members present and voting.
  - The recommendation of the CEC is required for the removal of an EC. Resignation provisions remain the same as well.

**Criticisms associated with the bill:**
- **Balance of Power**: The Prime Minister and a Cabinet Minister (nominated by the Prime Minister) forming part of the three-member committee, the Leader of Opposition is left with a minority vote even before the process begins.
  - This raises questions about the balance of power within the committee and whether the selection process truly ensures independence or remains skewed in favour of the Executive.
- **Impact on electoral governance:** The proposed changes may have implications for the autonomy and functioning of the ECI.
  - The independence of the Election Commission is crucial for ensuring impartiality and integrity in the conduct of elections. Any perceived influence of the Executive in the selection process might raise concerns about the EC's ability to carry out its responsibilities without bias.
- **Alignment with Framers Intentions**: The SC, in its previous ruling, emphasized that the framers of the Constitution intended for an independent body to oversee elections.

- o Critics of the proposed Bill raise questions about whether the new composition of the Selection Committee aligns with the framers' objective of creating an impartial and independent body responsible for elections.

**Way Forward:**

Therefore, preserving the autonomy of the Election Commission is not only crucial for maintaining the integrity of elections but also for upholding the very foundation of democracy. The government should look after the review the composition of the selection committee and consider making it more balanced. This might involve giving the opposition a stronger representation to ensure a fair decision-making process.

**Source:**       **The Hindu**

## GS-Paper 3

### Artificial Intelligence and its significance

**Syllabus**

- **Mains – GS 3 (Science and Technology)**

**Context:** Pope Francis recently called for a global reflection on the potential dangers of artificial intelligence (AI), noting the new technology's "disruptive possibilities and ambivalent effects."

**About artificial intelligence:**

- AI is defined as a machine's ability to perform a task that would have previously required human intelligence.
- It includes technologies like **machine learning, pattern recognition, big data, neural networks, self-algorithms etc.**
- AI is different from **hardware driven robotic automation**. Instead of automating manual tasks, AI performs frequent high volume computerised tasks reliably.

**Significance of AI:**

- **Healthcare:** It helps provide personalized medicine and X-ray readings. It can better analyse reports and make accurate diagnosis.
- **Security:** AI facial recognition tools may be used for surveillance and security purposes.
- **Education:** AI can be used to develop content for education purpose, which could convey knowledge in an effective way.
- **Robotics:** AI can help robots learn the processes and perform the tasks with complete autonomy, without any human intervention.
- **Transport**: Driverless vehicles are developed as a part of Artificial Intelligence (AI).
- **Banking and finance**: AI bots, digital payment advisers and biometric fraud detection are some of the applications in banking and finance.
- **Agriculture:** AI can analyse the crop health by looking at images of crops and suggesting appropriate amounts of fertilizers and water. It can also predict yields.
- **E-commerce and social media:** AI can provide personalized content to users based on their previous usage pattern. Apart from targeted sale, it also help in targeted advertising.

**Key issues with Artificial Intelligence:**

- **High carbon footprint:** In order to carry out the tasks they are supposed to, AI models need to process mountains of data.
  - o This data crunching happens in data centers.
  - o It requires a lot of computing power and is energy-intensive.
  - o The entire data center infrastructure and data submission networks account for 2-4% of global $CO_2$ emissions.
- **High Costs of Creation:** As AI is updating every day the hardware and software need to get updated with time to meet the latest requirements.
  - o Machines need repairing and maintenance, which need plenty of costs.
  - o It's creation requires huge costs as they are very complex machines.
- **Unemployment**: As AI is replacing the majority of the repetitive tasks and other works with robots, human interference is becoming less, which will cause a major problem in the employment standards.
  - o Every organization is looking to replace the minimum qualified individuals with AI robots, which can do similar work with more efficiency.
- **No Emotions:** There is no doubt that machines are much better when it comes to working efficiently but they cannot replace the human connection that makes the team.

o Machines cannot develop a bond with humans which is an essential attribute when comes to Team Management.

• **Lacking Out of Box Thinking:** Machines can perform only those tasks, which they are designed or programmed to do, anything out of that they tend to crash or give irrelevant outputs, which could be a major backdrop.

• **Lack of transparency of AI tools:** AI decisions are not always intelligible to humans.

• **AI is not neutral**: AI-based decisions are susceptible to inaccuracies, discriminatory outcomes, embedded or inserted bias.

o Surveillance practices for data gathering and privacy of court users.

• New concerns for fairness and risk for Human Rights and other fundamental values.

**Way Forward:**
• **Dedicated Research**: The relationship between climate change and AI is understudied, not least because the largest companies working in this space are neither transparent nor meaningfully committed to studying, let alone acting, to substantively limit the climate impact of their operations.

• **Recommendation of WEF**: In 2018, a **World Economic Forum (WEF)** report showed that while AI can address some of Earth's environmental challenges, it is important to manage it properly.

   o To prevent this, the WEF proposed that governments and companies should pursue advancements in "safe" AI to ensure that humanity is not developing AI that is harmful to the environment.

• **Merging Technology with Sustainable Development**: To make sure AI is used to help, and not hinder the society, it is time to merge the two big debates of the present time - digital technology and sustainable development (in particular, the environment).

   o If we use the former to save the latter, this could be the best possible use made out of the resources available to us.

**Source:**      **Indian Express**

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## Biosimilars

**Syllabus – GS 3 (Science and Technology)**

**Context:** The health ministry plans to revamp guidelines for approving biosimilar drugs to make the regulatory pathway more robust and synchronize it with the rapidly evolving global landscape.

**About Biosimilar:**
• A biosimilar is , it is a biologic that is "similar" to another biologic medicine (known as a reference product), Biosimilars are highly similar to the reference product in terms of safety, purity and potency, but may have minor differences in clinically inactive components.

• Biosimilars are not new drugs, but rather **they are copies of biologic drugs** that have been used to treat many diseases and conditions.

• Familiar biologic drugs include widely prescribed therapies like **etanercept, infliximab, adalimumab and others.**

**Difference between biosimilars and generics:**

- Biosimilars involve developing equivalent of biological entity while generics involve developing equivalent of a chemical entity-the Active Pharmaceutical Ingredient.
- In case of biosimilars, **biological entities being some ward different** (and not as it is of replica), every organism has to be engineered to produce the same therapeutic effect while in generics, the copies of API can be generated
- Bio-similars differ from generics – **in complexity, in the manufacturing processes** and in the data needed to demonstrate similarity for approval.
    - The **structure of Generic Simple** and well-defined whereas for Bio-similar its **Complex with potential structural variations.**
- Regulatory procedure to get approval for biosimilars is complex as compared to that of a generic.

**Prospects for biosimilars**
- Market growth in biologics **for cancer (monoclonal antibodies), diabetes (insulin) and many other autoimmune diseases** has opened up new opportunities for biosimilars worldwide.
- Many Indian pharmaceutical companies are investing heavily in the development of biosimilars.
- The **first biosimilar version of trastuzumab emtansine** not only prevents the growth of cancer cells (trastuzumab), but also delivers a cytotoxic agent to the cancer cell and helps destroy it.
- The market for biosimilars is expanding because they are cheaper than biologics, whose high cost puts them out of reach for many patients.
- **Complex generic and similar biological medicines** are designed to treat non-communicable diseases such as cancer, asthma and arthritis, and encouraging their manufacture can have a positive impact on development.

**Challenges of biosimilars:**
- The **expensive and lengthy development process** can take six to seven years.
- Temperature has a significant impact on the **preservation of biosimilars due to their high sensitivity.**
    - Therefore, they must be distributed through a cold chain network.
- Biosimilars and generics differ significantly in production costs and investments in machinery, buildings and other assets.

**The regulation and development of biosimilars in India includes:**
- Department of Biotechnology (DBT)
- Central Drugs Standard Control Organization (CDSCO)
- Indian council of Medical Research (ICMR)
- Institutional Biosafety Committee (IBC)
- National Control Laboratory Biosafety Committee

**Different laws and guidelines that Biosimilars fall under:**
- Drugs and Committee Act (1940)
- Drugs and Cosmetics Rules (1945)
- Environment Protection Act (1986)
- Recombinant DNA Safety Guidelines (1990)
- Guidelines for preclinical and clinical data for rDNA vaccines, diagnostics and other biologicals (1999)
- CDSCO guidance for Industry (2008)

**Way forward**

Thus, to ensure dishonest and unethical activities, a regulatory structure must be established and proper inspection must be implemented. India needs to invest in basic research and training to grow its biological research ecosystem.

**Source:** **The Hindu**

## E20 PETROL

**Syllabus**

- **Mains – GS 3 (Science and Technology)**

**Context:** Minister of State, Ministry of Petroleum & Natural Gas informed the Rajya Sabha about the E20 programme of the government.

**About E20 fuel:**

- The number "20" in "E20" refers to the percentage of ethanol in the gasoline blend.
- Simply put, the higher the number, the higher the percentage of Ethanol in the gasoline.
- India's current ethanol-to-petroleum mix is 10%, the highest it has ever been.
- Because it is made from biomass, ethanol does not require crude oil.
- Ethanol is primarily produced from crops such as corn and sugarcane.
- India already produces significant quantities of grain and sugarcane. It may allow automobiles to use a higher proportion of Ethanol.

**Ethanol blending:**



FEEDSTOCK AND LAND REQUIREMENTS FOR ACHIEVING E20 BY 2025-26

| FEEDSTOCK | SUPPLY TARGET (BILLION LITRES) | ETHANOL YIELD PER TONNE FEEDSTOCK (LITRES) | FEEDSTOCK REQUIRED (MILLION METRIC TONNES) | LAND REQUIREMENT (MILLION HECTARES) ∧ |
|---|---|---|---|---|
| SUGARCANE* | 5.5 | 20 | 275 | 3.3 |
| MAIZE | 2.33 | 380 | 6.1 | 1.8 |
| RICE | 2.33 | 425** | 5.5 | 2.0 |
| TOTAL | 10.16 | --- | --- | 7.1 |

NOTE

\* It is assumed that all ethanol is produced through the B-Heavy molasses route. Ethanol yields are taken from NITI Aayog's ethanol roadmap except for sugarcane.

\*\* As per NITI Aayog, ethanol yield from FCI rice and (broken) rice sourced from open market is 450 and 400 litres/tonne respectively, we have assumed an average yield of 425/tonne of rice.

∧ Crop yields are taken for year 2021-22 as 8.4 tns/ha for sugarcane, 3.4 tns/ha for maize, and 2.8 tns/ha for rice.

SOURCE: ARCUS POLICY RESEARCH REPORT

ThePrint

- **Naturally, Produced**- Ethanol is a biofuel, naturally produced by the fermentation of sugars by yeasts or by petrochemical processes like ethylene hydration.
- **Derived from agricultural products**- In ethanol blending, a blended motor fuel containing ethyl alcohol derived from agricultural products is blended with petrol specifically.
- **High in oxygen content**- Ethanol is high in oxygen content, allowing an engine to combust fuel more thoroughly.

**(Ethanol blending)**

**Ethanol Blended with Petrol (EBP) programme:**

- EBP programme was launched by the government in 2003 to promote the use of alternative and environmentally friendly fuels.
- This intervention also aimed to reduce import dependency for energy requirements, and give boost to the **agriculture sector (supply of straw, additional income to farmers).**
- **Oil marketing companies (OMCs)** were mandated to sell ethanol-blended petrol with percentage of ethanol up to 10 per cent.
  - The government allowed procurement of ethanol produced from non-food feed stocks, like cellulosic and ligno-cellulosic materials, including petrochemical route.
- **Ligno-cellulosic materials**: It describes the main constituents in most plants, namely cellulose, hemicelluloses, and lignin. Lignocellulose is a complex matrix, comprising many different polysaccharides, phenolic polymers and proteins.
  - Cellulose, the major component of cell walls of land plants, is a glucan polysaccharide containing large reservoirs of energy that provide real potential for conversion into biofuels.
  - It is the non-starch based fibrous part of plant material.

**Advantages of E20 fuel**

- **Environmentally friendly:** Pointing out that vehicular emissions such as carbon monoxide (CO), hydrocarbons (HC) and oxides of nitrogen (NOx) are currently under regulation in India.
    - Ethanol blended gasoline decreases these emissions.
- **Cost savings**: About 85% of India's fuel needs are met by imports.
    - The use of petrol with a 20% ethanol mix in India would result in significant cost savings for the nation.
- **Employment generation**: When innovative technologies are put into practice, new employment possibilities emerge.
    - New positions will be created in the original equipment manufacturing (OEM) sector, as well as in the component supplier and aftermarket service provider sectors.
- **Benefit to agriculture**: India's government believes that reaching its goal of 20% ethanol in gasoline would benefit the country's agricultural industry.
    - The government asserts that farmers' incomes would rise because of these measures.

**Challenges:**
- **Consumer acceptance:** Consumer acceptance of new technology is subject to be tested.
    - The anxiety about using new technology will remain a concern.
- **Huge investment:** A new technology implementation on a mass scale certainly requires a huge sum of investment from the industry stakeholders.
    - After spending a huge amount of money on BS-VI migration from BS-IV in record time, it will be hard for the auto industry stakeholders to invest another huge sum.
- **Farmers acceptance:** Farmers who have been traditionally farming sugarcanes can be benefitted from the strategy.
    - However, it is hard to believe that a large scale of farmers will opt for sugarcane farming, which is the main ingredient for ethanol production.
- **Timeframe:** With the Covid-19 and subsequent troubling situations disrupting the auto industry operations, achieving the target by the set deadline could be a challenge.

**Present utilisation of E20 Fuels in India:**
- **India's Creta, Venue, and Alcazar SUVs** from Hyundai Motor are said to be capable of running on E20 gasoline as of the 2023 MY model year.
- **Tata Motors** debuted two new turbocharged petrol engine sat the **Auto Expo 2023. (1.2-litre and 1.5-litre).**
- Tata has stated that its vehicles longer than 4 meters will soon be equipped with E20 fuel-compatible engines.
- Similar developments are planned for vehicles manufactured by Mahindra, Maruti Suzuki, Kia, and others.

**Way Forward**

India being a large agricultural economy, there is a large amount of agricultural residues available; therefore, the scope of producing biofuels is immense in the country. Biofuels can help in rural and agricultural development in the form of new cash crops.

**Source:** **LiveMint**

## Sponge cities

**Syllabus**
- **Mains – GS 3 (Disaster management)**

**Context:** Recently China has been hit by devastating floods, inundating cities and causing deaths and infrastructural damage, as well as raising questions about the effectiveness of its 2015 "sponge city" initiative aimed at reducing urban flood risks.

**About Sponge cities:**

- A sponge city is a **city that is designed to passively absorb, clean and use rainfall** in an ecologically friendly way that reduces dangerous and polluted runoff.
- Associated techniques include **permeable roads, rooftop gardens, rainwater harvesting, rain gardens, green space and blue space** such as ponds and lakes.

**Main reasons for Urban Floods:**

- **Inadequate Drainage Infrastructure:** Cities like Hyderabad and Mumbai rely on a century-old drainage system, covering only a small part of the core city.
  - o In the last 20 years, the Indian cities have grown manifold with its original built-up area.
  - o As the city grew beyond its original limits, not much was done to address the absence of adequate drainage systems.
- **Terrain Alteration:** Lasting irreversible damage has been done to the city by property builders, property owners, and public agencies by flattening terrain and altering natural drainage routes.
- **Reducing Seepage**: Indian cities are becoming increasingly impervious to water, not just because of increasing built up but also because of the nature of materials used (hard, non-porous construction material that makes the soil impervious).
- **Lax Implementation:** Even with provisions of rainwater harvesting, sustainable urban drainage systems, etc., in regulatory mechanisms like the **Environmental Impact Assessment (EIA),** adoption at user end as well as enforcement agencies remains weak.
- **Encroaching Natural Spaces:** The number of wetlands has reduced to 123 in 2018 from 644 in 1956. The green cover is only 9%, which ideally should have been at least 33 per cent.

**Significance of Sponge cities:**

- It is a new way of thinking about storm water, not as a problem but as an opportunity and a resource to augment our water supply.
- In the long run, sponge cities will reduce carbon emissions and help fight climate change.
- Sponge cities also come with wider social benefits.
- Properly implemented sponge city can reduce the frequency and severity of floods and improve water quality.
- By capturing storm water, we are preventing beach pollution.
- Greening the city by planting new plants.
- Associated strategies such as green space can improve quality of life, improve air quality and reduce urban heat islands.
- Water can be used to keep green spaces verdant, provide an outdoor area for the people who live and work in the building, and even be used to grow food.
- This in-turn can improve urban eco-system diversity by providing new habitats for a wider range of organisms.

**China's Sponge Cities: Case study**

- Nowhere has embraced the idea of sponge cities as enthusiastically as China.
- The Chinese government is building water-absorbent projects in 30 cities as part of its "sponge city initiative."
- The plan is to manage 60% of rainwater falling in the cities.
- Develop ponds, wetlands; build permeable roads and public spaces that enable storm water to soak into the ground.

- By 2020, China hopes that 80% of its urban areas will absorb and re-use at least 70% of rainwater.
- However, transforming entire cities into sponges will require massive investment.
- With growing urbanisation in India and increasing urban floods, it is time for India to move towards sponge cities.

**India's Schemes/Programmes Related to Urban Development:**

- **Smart Cities Mission**
- **AMRUT Mission**
- **Swachh Bharat Mission-Urban**
- **HRIDAY**
- **Pradhan Mantri Awas Yojana-Urban**
- **Aspirational district programme**

**Way Forward:**

Acknowledging the role of different actors in the city can create a practical space to begin this work. Doing so will not just help control recurring floods but also respond to other fault lines, provide for water security, and more green spaces, and will make the city resilient and sustainable. The constant search for a scapegoat to blame, while a few people try what they can, limits our capacities and only creates cycles of devastation.

**Source:** **Indian Express**

## GS-Paper 4

### India takes first step to remove animals from Drug-testing

**Syllabus**

- **Mains – GS 2 (Governance), GS 4 (Ethics)**

**Context:** An amendment to the **New Drugs and Clinical Trial Rules (2023)** was passed by the Government with the aim of stopping the use of animals in research, especially in drug testing.

**Key-highlights of the Amendment:**

- The amendment grants researchers the authority to use alternative techniques that do not include animals and are more applicable to humans.

- These methods encompass technology such as **3D organoids, organs-on-chip, and sophisticated computational approaches**, which are utilized to assess the safety and effectiveness of novel pharmaceuticals.

- The aforementioned regulations provide that any **Contract Research Organization (CRO)** doing a clinical trial or bioavailability/bioequivalence research involving novel or experimental medications in human participants must get registration from the **Central Licensing Authority** prior to commencing such investigations.

**Clinical Trials module in India:**

- Every drug goes through a long journey of tests, designated to check whether it can treat the disease for which it was created and its harmful effects.

- The first step of the process for drug testing involves candidate molecule in at least **two animal species:** a rodent (mouse or rat) and a non-rodent, such as canines and primates.

- However, **humans are more complex creatures**, and b**iological processes and their responses often vary from person to person** as well, based on factors such as **age, sex, pre-existing diseases, genetics, diet,** etc. – and a lab-bred animal species reared in controlled conditions may not fully capture the human response to a drug.

**Technologies suggested as alternatives:**

- **Technologies developed using human cells or stem cells:** These include millimeter-sized three-dimensional cellular structures that **mimic specific organs of the body, called "organoids" or "mini-organs".**

- **'Organ-on-a-chip' Technology:** These are **AA-battery-sized chips lined with human cells connected to micro channels**, to mimic blood flow inside the body.
  - These systems capture several aspects of human physiology, including tissue-tissue interactions and physical and chemical signals inside the body.

- **USING 3D Bioprinter:** Bio printers are used to 'print' biological tissues using human cells and fluids as '**bio-ink'.**
  - Since they can be built using patient-specific cells, they can also be used to personalise drug-tests.

**Challenges:**

- **Developing an organ-on-a-chip system**: It typically requires multidisciplinary knowledge and expertise in cell biology to recreate the cellular behaviour in the lab.
  - Materials science to find the right material to ensure that the chip does not interfere with biological processes.
  - Fluid dynamics to mimic blood flow inside the microchannels; electronics to integrate biosensors that can measure pH, oxygen etc. in the chip; engineering to design the chip; and pharmacology and toxicology to interpret action of the drugs in the chips.

- **Resources for research and development:** Most of the reagents, cell-culture related materials and instruments are currently imported from the U.S., Europe, and Japan.
  - There is a huge gap and opportunity in several diverse areas related to cell culture, material science and electronics, to develop an end-to-end ecosystem in India.

- **Variability in the data arising** from differences in lab-to-lab protocols and expertise.

- o For example, one lab may create a system with only liver cells, while another lab attempting to study the immune system and liver may also incorporate immune cells in its liver-on-a-chip.
- o It means there can be no 'standard' or 'universal' liver-on-a-chip to study all liver diseases.

**Status of regulations worldwide:**

- **United States**: FDA Modernization Act 2.0 was passed in December 2022, allowing researchers to use these systems to test the safety and efficacy of new drugs.
- **South Korea:** A 'Vitalization of Development, Dissemination, and Use of Alternatives to Animal Testing Methods' bill was introduced in December 2022.
- **European Union:** In 2021, a resolution was passed on an action plan to facilitate transition towards technologies that do not use animals in research, regulatory testing, and education.
- **Canada**: The Environmental Protection Act was amended in June 2023 to replace, reduce or refine the use of vertebrate animals in toxicity testing.
- **India:** In March 2023, the government embraced these systems in the drug-development pipeline by amending the New Drugs and Clinical Trials Rules 2019.
    - o It did so after inviting comments from the people and in consultation with the **Drug Technical Advisory Board, the statutory body** that advises Central and State governments on drug-related technical matters.

**Way Forward:**

India's drug development law change **reduces animal experimentation and promotes ethical principles** for safer and more effective pharmaceuticals. India establishes a foundation for responsible **drug development by promoting alternative approaches, animal welfare, and international criteria**. It's a truly interdisciplinary endeavour and needs focused training and human-resource building, which is lacking in the country at present.

**Source:** **The Hindu**

**Additional information:**

**Drugs Technical Advisory Board (DTAB):**

- DTAB serves as the supreme statutory decision-making authority concerning technical aspects of drugs within the nation.
- It is established in accordance with the **Drugs and Cosmetics Act of 1940.**
- DTAB operates under the umbrella of the Central Drugs Standard Control Organization (CDSCO), which operates within the **Ministry of Health and Family Welfare.**

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

- CDSCO is India's top regulatory authority for pharmaceuticals and medical devices.
- Established under the **Drugs and Cosmetics Act, 1940.**
- Operates under the **Directorate General of Health Services (DGHS) in the Ministry of Health and Family Welfare.**

**Mandate and Functions:**

- Ensures safety, efficacy, and quality of drugs, cosmetics, and medical devices.
- Reviews new drug approvals, clinical trials, and import/export licenses.
- Regulates manufacturing, sale, distribution, labelling, and packaging.
- Monitors adverse reactions, conducts post-market surveillance.
- Collaborates with state authorities, industry, global regulators.

## Removing gender stereotypes from the law

**Syllabus**

- **Mains – GS 1 (Society) and GS 4 (Ethics)**

**Context:** The Supreme Court has recently launched a 'Handbook on Combating Gender Stereotypes'.

**Highlights of the handbook:**

**Source:**       **The Hindu**

- Handbook on **Combating Gender Stereotypes** aims to **free the judiciary and the legal community** from the mechanical application of gender stereotypical language in judgments, orders, and court pleadings.

| Stereotype promoting language (INCORRECT) | Alternative language (PREFERRED) |
|---|---|
| Adulteress | Woman who has engaged in sexual relations outside of marriage |
| Affair | Relationship outside of marriage |
| Bastard | Non-marital child or, a child whose parents were not married |
| Biological sex / biological male / biological female | Sex assigned at birth |
| Born a girl / boy | Assigned female / male at birth |
| Career woman | Woman |
| Carnal intercourse | Sexual intercourse |
| Chaste woman | Woman |
| Child prostitute | Child who has been trafficked |
| Concubine / keep | Woman with whom a man has had romantic or sexual relations outside of marriage |

- It "aims to assist judges and the legal community in identifying, understanding and combating stereotypes about women".
- It contains a **glossary of gender-unjust terms and suggests alternative words or phrases** which may be used while drafting pleadings as well as orders and judgments.
- Some of the other terms that the handbook wants courts to avoid using are **adulteress, bastard, career woman, carnal intercourse, concubine/keep, housewife, mistress, prostitute, transsexual and unwed mother.**

**Gender Stereotypes**

- Gender stereotyping refers to the **practice of assigning certain traits, roles, behaviors, and characteristics to individuals** based on their gender.
- These stereotypes are often oversimplified and generalized beliefs about how people of different genders should act, think, or behave.
- Gender stereotyping can affect various aspects of life, including social interactions, education, employment, and even legal and political matters.

**Reasons for Gender Stereotypes:**

- **Patriarchy:** Patriarchy is a social system where men hold more power and privilege than women are.
  - It is a major driver of gender stereotypes, as it reinforces the idea that certain traits, behaviours, and roles are inherently male or female.
- **Societal Norms and Historical Practices**: Many societies have ingrained traditional gender roles that have been passed down through generations.
  - These roles often prescribe specific behaviours, responsibilities, and expectations for individuals based on their gender.
- **Traditional Family Structures**: The traditional nuclear family model, where men are typically the breadwinners, women are responsible for domestic chores, and caregiving has contributed to gender role expectations.
- **Religious and Cultural Beliefs**: Many religious and cultural practices promote specific gender roles and expectations.
  - These beliefs can be very influential in shaping societal attitudes towards what is considered appropriate behaviour for each gender.
- **Media Influence** the media, including television, movies, and advertisements, often portrays exaggerated and one-dimensional depictions of gender roles.
  - These portrayals reinforce stereotypes by presenting limited and often unrealistic ideas of how men and women should behave or look.

- **Lack of Representation**: When certain genders are underrepresented or misrepresented in various fields, it can perpetuate the idea that they are not capable or suited for those roles.
  - o This lack of representation can be due to historical biases and existing stereotypes.
- **Peer Pressure and Socialization:** From a young age, individuals are socialized into gender roles by observing how people around them behave and by receiving messages from family, friends, and society at large.
  - o This socialization can make it difficult for individuals to break free from these expectations.

**Impacts of Gender Stereotyping on Women and Society:**
- Gender stereotypes act as a **barrier for girls to access quality education.**
  - o For example, stereotypes about the **role of women as confined to the domestic and family sphere** underpin all obstacles to girls' equal access to quality education.
- Women are often held **back from high status positions** in society.
- The persistent **gender gap in education, employment and wages** is due in part to gender stereotyping.
- **Harmful gender stereotypes, rigid constructions of femininity and masculinity and stereotyped gender** roles are a root cause of gender-based violence against women.
- **Family dynamics**: Gender stereotypes can affect family dynamics by influencing expectations placed on individuals within the family unit.
- **Economic disparities**: Gender stereotypes often result in unequal pay and disparities in the workforce. Jobs traditionally associated with women tend to be undervalued and underpaid, leading to economic inequality.
- **Societal progress:** Gender stereotypes hinder societal progress by limiting innovation and creativity.

**Challenges:**
- **Deep-rooted Beliefs:** Cultural norms and beliefs that have been passed down through generations can be deeply ingrained in society.
  - o Challenging these long-standing norms requires a significant cultural shift, which can be slow and met with resistance.
- **Media Influence:** The media plays a powerful role in shaping societal attitudes and perceptions.
  - o If the media continues to portray narrow and stereotypical gender roles, it can undermine efforts to challenge those stereotypes through other means.
- **Resistance to Change**: Traditional mindsets and conservative values can resist efforts to change established gender norms.
- **Lack of Role Models:** Limited representation of diverse gender roles and identities in positions of influence and leadership can make it difficult for individuals to envision alternative paths beyond traditional stereotypes.
- **Intersectionality**: The intersection of gender with other factors like caste, class, and religion adds complexity to the challenge.
  - o Discrimination and stereotypes can be compounded for individuals who face multiple forms of marginalization.
- **Cultural Sensitivity:** When implementing gender equality initiatives, it is important to consider cultural nuances and sensitivities.
  - o Approaches that are not culturally appropriate might face backlash and resistance.

**Steps Taken to address gender stereotypes and promote gender equality:**
- **Legal Framework:** India has established a legal framework to protect women's rights and address gender-based discrimination.

- o The [**Protection of Women from Domestic Violence Act**](#) provides legal remedies for women facing domestic violence, while the [**Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act**](#) aims to create a safe environment for women in workplaces.
- **Education Initiatives:** The Indian government has launched campaigns to promote girls' education and reduce gender biases in educational materials.
  - o Efforts are being made to ensure that textbooks and curricula do not perpetuate stereotypes and present a more inclusive view of gender roles.
- **Economic Empowerment**: Programs like the [**National Rural Livelihood Mission**](#) **(NRLM)** focus on economic empowerment through self-help groups, skill development, and entrepreneurship training.
  - o These initiatives aim to enhance women's financial independence and decision-making abilities.
- **Reservation Policies:** India has implemented reservation policies in various sectors, such as politics and education, to increase the representation of women and marginalized groups.
  - o These policies aim to provide more opportunities for women to participate in decision-making processes.

**Way Forward:**
The handbook calls upon the Indian judiciary to recognise the deep-rooted impact of gender stereotypes and actively work to dismantle them from its thinking, decision-making, and writing. As pointed out by the **Chief Justice of India**, **"even when the use of stereotypes does not alter the outcome of a case, stereotypical language may reinforce ideas contrary to our constitutional ethos".**
**Source:**          [**The Hindu**](#)

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## Corporate Social Responsibility (CSR)

**Syllabus**

- **Mains – GS 2 (Governance) and GS 4 (Ethics)**

**Context**: According to the latest provisional data by the **Ministry of Corporate Affairs**, In FY22, **India's corporate social responsibility (CSR)** spending on the **environment more than doubled,** which made the sector the biggest recipient of such funds after health and education.
**Corporate Social Responsibility (CSR):**



- According to **the United Nations Industrial Development Organization (UNIDO),** Corporate Social Responsibility is a **management concept** whereby companies integrate **social and environmental concerns** in their business operations and interactions with their stakeholders.
- CSR is a way of running the businesses by which **corporate houses contribute towards social good.**
- It is closely linked to **sustainability (creating economic, social, and environmental value) and ESG (Environmental, Social, and Governance).**
- CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives **('Triple-Bottom-Line- Approach')**, while at the same time addressing the expectations of shareholders and stakeholders.

**Activities can be undertaken by A Company under the CSR**: Specified under **Schedule VII of the Companies Act 2013**, these activities include:
- Eradicating extreme hunger and poverty

- Promotion of education, gender equality and empowering women
- Combating HIV-AIDS and other diseases
- Ensuring environmental sustainability
- Contribution to the PM's National Relief Fund or any other fund set up by the Central Government for socio-economic development and relief.

**Significance of CSR:**

- **Sustainable Development Goals**: Corporates are seen as the key drivers of SDGs as they can apply their creativity and innovation to achieve sustainable development.
  - o CSR and SDGs together have tremendous potential to develop an interconnected model for sustainable growth.
- **CSR for Technology Incubators**: In September 2019, the Government expanded the scope of CSR to spur the R&D and innovation ecosystem in India.
  - o Contribution to incubators funded by Governments/PSUs or to research and academic institutions has been included under the CSR.
- **Responsible Business Reputation/Customer Loyalty:** Corporate social investment can help to build a reputation as a responsible business, which can, in turn, lead to competitive advantage.
  - o Companies often favour suppliers who have responsible policies, since this can reflect on how their customers see them.
- **Costs Savings:** By reducing resource use, waste and emissions, will help the environment and save money as well.
  - o With a few simple steps, company may be able to lower their utility bills and achieve savings for their business.
- **Employee Retention:** Employees stay in their jobs because of several reasons: job satisfaction, the environment of the company, and good prospects etc.
  - o Being a responsible, sustainable business may make it easier to recruit new employees or retain existing ones.
  - o Employees may be motivated to stay longer, thus reducing the costs and disruption of recruitment and retraining.
- **Attracting Responsible Investors**: **Socially responsible investors (SRIs)** seek out businesses that have shared values.
  - o The number of SRIs is raising rapidly.
  - o Shareholder engagement is also seen to be more prominent in companies with SRIs, as they are more willing to push CSR to the forefront of business strategy.

**Issues Pertaining to CSR:**

- **Finding Right Partners:** Despite growing awareness about the significance of CSR compliance, the challenges remain in identifying the right partners and projects, as well as in selecting projects that are **long-term impactful, scalable, and are self-sustaining.**
- **Lack of Community Participation in CSR Activities**: There is a lack of interest of the local community in participating and contributing to CSR activities of companies.
  - o This is largely attributable to the fact that there exists little or no knowledge about CSR within the local communities as no serious efforts have been made to spread awareness about CSR.
  - o The situation is further aggravated by a lack of communication between the company and the community at the grassroots.

- **Issues of Transparency**: There is an expression by the companies that there exists lack of transparency on the part of the local implementing agencies as they do not make adequate efforts to **disclose information on their programs, audit issues, impact assessment and utilisation of funds.**
  - This reported lack of transparency negatively affects the **process of trust building between companies and local communities,** which is a key to the success of any CSR initiative at the local level.
- **Non-availability of Well-Organised NGOs**: There is non-availability of well organized NGOs in remote and rural areas that can assess and identify real needs of the community and work along with companies to ensure successful implementation of CSR activities.

**Examples of CSR activities in India:**
- **TATA GROUP:** The Tata Group supports numerous educational institutions with scholarships and endowments.
  - The organisation is also involved in healthcare projects such as child education, immunisation, and raising AIDS awareness.
- **ULTRATECH CEMENT:** Its CSR initiatives are focused on healthcare and family welfare programmes, education, infrastructure, the environment, social welfare, and long-term economic viability.
- **ITC GROUP**: Their **e-Choupal programme**, which aims to connect rural farmers via the internet to purchase agricultural products, now includes 40,000 villages and more than four million farmers.
- **MAHINDRA & MAHINDRA**: M&M runs programmes like **Nanhi Kali,** which focuses on girls' education, Mahindra Pride Schools, which provides industrial training, and Lifeline Express, which provides healthcare in rural areas.

**Way Forward:**
The Ministry of Corporate Affairs has instituted **National Corporate Social Responsibility (CSR) Awards** to recognize companies that have made a positive impact on society through their innovative and sustainable CSR initiatives will further the companies. All CSR projects should be selected and implemented with the active involvement of communities, district administration and public representatives.

**Source:** **Economic Times**

## Constitutional Morality

**Syllabus**
- **Mains – GS 2 (Governance) and GS 4 (Ethics)**

**Context:** Recently the High Court bench of Telangana opined that constitutional morality must outweigh the argument of public morality, even if it were the majoritarian view.
- The court passed the order while decriminalising gay sex among consenting adults, which was earlier a criminal offence punishable with even life imprisonment.

**About Constitutional Morality:**
- Constitutional morality refers to the **principles and values** that underlie the constitution and guide the **actions of government and citizens.**
- It encompasses the idea that the **constitution is not just a legal document** but also a moral one that **reflects the shared values and aspirations of a society.**
- It also encompasses the idea that the constitution should be interpreted and implemented consistently with these **fundamental principles and values** rather than simply as a technical document to be followed literally.
- The term **Constitutional Morality is not mentioned** anywhere in the constitution.

**Evolution of Constitutional Morality over the period**:
- **Origin:** The doctrine of Constitutional morality traces its origin back to the work of **English Historian George Grote.**
- He used '**constitutional morality'** to describe popular sovereignty, governed based on '**freedom' and self-restraint.**

- Constitutional morality, for Grote, also meant **citizens' right to criticize public officials**.
    - Therefore, highlighting the limitation to the power of public officials and their duty to respect the Constitution.
- **Constituent Assembly**: In the Indian context, this word was first used by **Dr. Bhim Rao Ambedkar** during the Constituent Assembly debate to justify the inclusion of administrative details in the Constitution itself.
- According to him, constitutional morality was the solution to the existing inequality in society.
    - It primarily meant respect among parties in a republic for constitutional democracy as the preferred form of governance and administration.
- **Kesavananda Bharati Case(1973):** It was subtly indicated by the Supreme Court when it propounded the conception of the basic structure of the Constitution.
- Constitutional Morality was also mentioned in the **First Judges case (1982)**.
    - Thereafter, it was mentioned in **Naz Foundation v. Government of NCT of Delhi (2010)**, where it was used antithetically to popular acceptance and social morality.

**Elements of Constitutional morality:**
- Constitutional morality involve adherence to constitutional principles like:
    - Commitment to liberty
    - Constitutional supremacy
    - Parliamentary form of government and self-restraint
    - Rule of law
    - Equality
    - Intolerance for corruption, to name a few

**Significance of Constitutional morality:**
- **Protects rights of citizens:** It helps to protect the rights and freedoms of citizens by ensuring that the government is held accountable to the rule of law and the principles of democracy, justice, liberty, and equality.
- **Promoting democratic ideals:** It helps to maintain the integrity of democratic institutions by ensuring that the government is constrained by the will of the people and the principles of the constitution.
- **Bring positive change in society**: It can be used to interpret laws or statutes no longer consistent with recent times, thus bringing positive societal change.
- **Creates Inclusive Society**: It helps to promote social cohesion and respect for diversity by recognizing and protecting the rights of all citizens, regardless of their background or identity.

**Supreme Court Landmark Judgments Upholding Constitutional morality:**
- **S. Khushboo vs Kanniammal & Anr. (2010):** Declared sexual relations between consenting adults outside marriage as legal and within the right to privacy.
- **Naz Foundation vs Government of NCT of Delhi (2009):** Decriminalized consensual homosexual acts between adults, declaring **Section 377 of the Indian Penal Code** as a violation of rights.
- **Joseph Shine vs Union of India (2018):** Decriminalized adultery and declared it a violation of the rights to equality, dignity, privacy, and autonomy.
- **Navtej Singh Johar vs Union of India (2018)**: Affirmed the rights of LGBTQ+ individuals to express their sexual orientation and identity with dignity.
- **Shafin Jahan vs Asokan K.M. (2018):** Upheld the right to marry a person of one's choice regardless of religion or caste, nullifying the annulment of a Hindu-Muslim marriage.
- **Shakti Vahini vs Union of India (2018):** Condemned honour killings and violence against inter-caste and inter-religious couples, issuing guidelines for prevention and protection.

- **Indian Young Lawyers Association & Ors vs. The State of Kerala & Ors., (2019) (Sabarimala Case):** The Supreme Court ruled that the exclusion of women between the ages of 10-50 years from the Sabarimala temple violates four key principles of constitutional morality: Justice, Liberty, Equality, and Fraternity.
  - The court observed that the term **"morality" in Articles 25 and 26** of the Constitution refers to constitutional morality rather than popular morality.

**Challenges pertaining to Constitutional morality in India:**
- **Lack of clarity**: Some argue that the concept of constitutional morality is not clearly defined and that it can be used to justify a wide range of actions and decisions, which undermines the principle of predictability and the rule of law.
- **Subjectivity:** Some argue that the concept of constitutional morality is highly subjective and that it can be used to justify different actions and decisions depending on the perspective of the person or institution interpreting it.
- **Can lead to judicial overreach**: If this doctrine is used without limits or restrictions, it could amount to judicial overreach. This can lead to a violation of the separation of powers.
- **Selective application:** There have been instances where constitutional morality has been selectively applied to certain groups or issues, undermining the principle of impartiality and the rule of law.
- **Lack of popular legitimacy**: Some argue that constitutional morality is not based on popular consent and is imposed on society in opposition to public morality.

**Way Forward:**
Constitutional Morality is a sentiment to be cultivated in the minds of a responsible citizen. Upholding constitutional morality is not just the **duty of Judiciary or state but also of individuals**. The **preamble of the constitution** explicitly mentions the type of society we wish to establish; it is only through constitutional morality it can become reality. Constitutional morality should **be flexible and adaptive to evolving societal norms, values, and challenges**. The courts and institutions responsible for interpreting the constitution should embrace a dynamic approach that considers contemporary issues and developments.

**Source:** **Deccan Herald**

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## The Role of Emotional Intelligence in Effective Leadership

**Syllabus**
- **Mains – GS 4 (Ethics)**

**Context:** Emotional intelligence, or the ability to understand and manage one's emotions and those of others, is crucial for effective leadership in this technology driven modern era especially for the good governance.

**About Emotional Intelligence (EI):**
- Emotional Intelligence (EI) refers to the capability of a person to recognize, understand and manage own emotions, as well as to understand, manage and influence emotions of others. It is not always virtuous and can be used as a tool for positive and negative ends.

**Elements of EI (as given by Daniel Goleman)**
- **Self-Awareness:** It is the skill of being aware of and understanding one's emotions as they occur and as they evolve.
- **Self-Regulation**: It is about controlling one's emotions i.e. instead of reacting quickly; one can reign in one's emotions and thus will think before responding.
- **Internal Motivation:** It includes one's personal drive to improve and achieve commitment to one's goals, initiative, or readiness to act on opportunities, and optimism and resilience.
- **Empathy:** It is an awareness of the needs and feelings of others both individually and in groups, and being able to see things from the point of view of others.

- **Social Skills**: It is applying empathy and balancing the wants and requirements of others with one's. It includes building good rapport with others.

**Development of EI among civil servants:**
- **Training:** through practice and feedback, civil servants can learn from their mistakes using real life examples and reflection opportunities.
- **Experiential learning**: Emotional and behavioral changes require life activities, which are primarily outside of the traditional classroom, and is commonly referred to as experiential learning.
- **Learning transfer:** it refers to how people use what they learn in training for performance improvement.
  - Learning transfer seeks to reinforce and apply the information learned on the job immediately.
- **Support**: Coaching, encouragement and peer support can assist with lasting change and positive development of EI competencies.

**Significance of Emotional Intelligence in Civil/Public Services:**
- **Better decision making:** Biological evidence suggests that decision-making is neurologically impossible without being informed by emotions.
  - Therefore, EI furthers neutrality and impartiality when there is conflict of interest.
- **Better Communication:** Emotionally intelligent people listen to other people and know how to communicate effectively (Goleman 1997).
  - Hence, an emotionally intelligent Civil Servant manages to execute policies effectively through better communication with public at large.
  - **Empathy and integrity** takes precedence over personal biases when one is emotionally sorted out.
- **Management of disruptive emotions**- A civil servant while working in high-pressure environment often becomes subject to political pressure, life threats etc.
  - Only a public servant who is Emotionally Intelligent would be able to handle such pressures without succumbing to anger, depression or compromise.
- **Better execution of Policies**- According to a research working with colleagues who are not self-aware can cut a team's success in half and, lead to increased stress and decreased motivation.
- **Fosters Leadership**- Self-awareness is at the core of everything. It describes the ability to not only understand one's strengths and weaknesses, but to recognize emotions and the effect they have on herself (public servant) and her team's performance.
- **More efficient administration**: Because Emotional intelligence helps to -
  - Respond to situations very flexibly.
  - Take advantage of the right time and right place.
  - Make sense of ambiguous or contradictory messages.
- **Build Trust with people**: Emotionally intelligent people listen to other people's emotions and can empathize with them.
  - Emotionally intelligent people act ethically and build trust through integrity and reliability.
- **Better Governance:** All public service is people service. Relationships are at the heart of governance.
  - To the extent that public administration mirrors the hearts and minds of people, it is governance.
  - EI helps in building relationships with people and ensures better implementation of public schemes.

**Negative side of EI:**
- Emotions are complex, and they cannot always be managed or controlled.
  - Emotional intelligence does not guarantee that one's emotions will always work in their favour.
  - **Example**: Hitler speeches to play with Germans emotions

- Emotional intelligence is not a substitute for critical thinking or problem-solving skills, and it cannot guarantee success in all situations.
- **Left wing extremism and Terror organisations** manipulating innocent youth emotions and led them to fight against state.

**Way Forward:**

Thus, the leaders/bureaucrats who possess high levels of emotional intelligence are able to coach teams, control stress, give criticism, and work effectively with others. To improve emotional intelligence, leaders can practice self-reflection and regulate their emotions, remain motivated, show empathy, and develop social skills such as conflict resolution and effective communication.

**Source:** **Economic Times**

**PRACTICE QUESTIONS**

**Q1)** Consider the following statements

Statement-I :
The Archaeological Survey of India(ASI) regulates the Antiquities and Art Treasure Act, of 1972.
Statement-II :
It was established in 1860.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q2)** Consider the following statements

Statement-I :
Sorghum helps reduce the risk of a heart attack.
Statement-II :
It helps in conditions like anaemia.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q3)** Consider the following pairs:

| Spacecraft | Launch |
|------------|--------|
| Juno | 2011 |
| Voyager 2 | 1977 |
| Chandrayaan 1 | 2008 |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q4)** Consider the following pairs:

| Exercise | Countries |
|----------|-----------|
| JIMEX | India and Jordan |
| SANGAM | India and US |
| Pitch Black | India and Australia |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q5)** Consider the following statements

Statement-I :

Code of Civil Procedure, 1908, provides for freedom from arrest and detention of members under civil process during the continuance of the meeting of the House.

Statement-II :

Article 194 of the Indian constitution deals with the powers, privileges, and immunities of the State Legislatures.

| Deepor Beel | Assam |
| Hirakud Reservoir | Rajasthan |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q6)** Consider the following statements

Statement-I :

Renaming a state is under Articles 3 and 4 of the Indian constitution.

Statement-II :

Such a bill in order to take the force of law must be passed by a special majority.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q7)** Consider the following pairs:

| Ramsar sites | Location |
| Tampara Lake | Jharkhand |

**Q8)** Consider the following statements

Statement-I :

Order of precedence of gallantry Awards is Param Vir Chakra, the Mahavir Chakra, the Kirti Chakra, the Ashoka Chakra, the Vir Chakra, and the Shaurya Chakra.

Statement-II :

All the gallantry awards may be awarded posthumously.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement I is incorrect but Statement II is correct

**Q9)** Consider the following statements

Statement-I :

A line connecting all points on the surface where the intensity is the same is called an Isoseismic line.

Statement-II :

The point where the energy is released is called the epicentre.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q10)** Consider the following pairs:

| Missile | Country |
|---|---|
| Spike Non-Line of Sight (NLOS) | France |
| HELINA | USA |
| Trident II | India |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q11)** Consider the following statements

Statement-I :

Nausea, Vertigo, and Headaches can be one of the few symptoms of Havana syndrome.

Statement-II :

Havana syndrome has never been detected in India.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q12)** Consider the following statements

Statement-I :

Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environment Programme (UNEP) only.

Statement-II :

IPCC and U.S. Vice-President Al Gore were jointly awarded the Nobel Peace Prize in 2007.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q13)** Consider the following pairs:

| Coral reef type | Description |
|---|---|
| Fringing reefs | They are shaped circularly or elliptically and are surrounded by seas on all four sides. |

| Atolls | They develop near the continent and remain close to the coastline. |
| Barrier reefs | They usually run parallel to the coastline at some distance. |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q14)** Consider the following statements

Statement-I :

LSD (lysergic acid diethylamide) is a Psychedelic.

Statement-II :

It belongs to the same class of drugs, ergolines, that treats migraine and Parkinson's disease.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q15)** Consider the following statements

Statement-I :

Australia's Great Barrier Reef has been removed from UNESCO's "in danger" list.

Statement-II :

It was selected as a World Heritage Site in 1981.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q16)** Consider the following pairs:

| Tiger Reserve | State |
|---|---|
| Nagarjunsagar-Srisailam | Andhra Pradesh |
| Pilibhit | Bihar |
| Manas | Arunachal Pradesh |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q17)** Consider the following statements

Statement-I :

The Digital Portal of the Central Registrar of Cooperative Societies aims in enhancing the Ease of Doing Business.

Statement-II :

It can provide transparent processing.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

a. Only one
b. Only two
c. All three
d. None

**Q20)** Consider the following statements

Statement-I :

Infrastructure investment trusts (InvIT) are regulated by SEBI.

Statement-II :

They can be used to diversify the investments.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q18)** Consider the following statements

Statement-I :

CBDT makes policy regarding the discharge of statutory functions of the Board and of the Union Govt. under the various laws relating to direct taxes.

Statement-II :

CBDT is in charge of only direct taxes.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q21)** Consider the following statements

Statement-I :

Gobardhan portal will ensure Ease of Doing Business.

Statement-II :

The registration number is required to avail the benefits provided under the scheme.

Which one of the following is correct in respect of the above statements?

**Q19)** Consider the following pairs:

| Island | Disputing countries |
|---|---|
| Falkland Islands | Argentina and the United Kingdom. |
| Kuril Islands | Russia and South Korea |
| Paracel Islands | China and Russia |

How many of the above pairs are correctly matched?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q22)** Consider the following pairs:

| Missions to the Sun | Space Agency |
|---|---|
| Aditya-L1 | ISRO |
| Parker Solar Probe | NASA |
| DSCOVR | NASA |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q23)** Consider the following statements
Statement-I :
PM Vishwakarma scheme is under the Ministry of Culture.
Statement-II :
Credit support of up to Rs.1 lakh (First Tranche) and Rs.2 lakh (Second Tranche) will be given under the scheme.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q24)** Consider the following statements
Statement-I :
Shri Atal Bihari Vajpayee was Prime Minister of India thrice.
Statement-II :
He was also awarded Padma Vibhushan in 2002.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q 25)** Consider the following pairs:

| National Parks in news | Country |
|---|---|
| Yasuni National Park | Brazil |
| Yellowstone National Park | Ecuador |
| Kuno National Park | Madhya Pradesh |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q26)** Consider the following statements

Statement-I :

Sloth bear are Endangered as per the IUCN Red List.

Statement-II :

They are found in India, Sri Lanka, and southern Nepal.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q27)** Consider the following statements

Statement-I :

Maharaja Bir Bikram Manikya Bahadur established the Maharaja Bir Bikram College (MBB College) in Agartala, Tripura.

Statement-II :

He believed in the modernization and development of the state and did not support local arts, crafts, and traditions.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q28)** Consider the following pairs:

| Tiger Reserve | Location |
|---|---|
| Melghat Tiger Reserve | Karnataka |
| Palamau Tiger reserve | Bihar |
| Nawegaon-Nagzira Tiger Reserve | Maharashtra |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q29)** Consider the following statements

Statement-I :

National Automated Fingerprint Identification System (NAFIS) assigns a unique 10-digit National Fingerprint Number (NFN) to each person arrested for a crime.

Statement-II :

It would help in the quick and easy disposal of cases.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q30)** Consider the following statements

Statement-I :

GSI is under the Ministry of Earth Science.

Statement-II :

It uses the latest computer-based technologies for the dissemination of geoscientific information and spatial data.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q31)** Consider the following pairs:

| Disease | Vaccine |
|---------|---------|
| Malaria | Sputnik V |
| Dengue | **DEN-2** |
| Typhoid | iNCOVACC |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q32)** Consider the following statements

Statement-I :

Hurricane Hilary originated as a Tropical Storm off the shores of Mainland Mexico.

Statement-II :

It is the first tropical storm to hit Southern California in 84 years.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q33)** Consider the following statements

Statement-I :

Foreign exchange reserves are assets held on reserve by a central bank in foreign currencies.

Statement-II :

India's Forex Reserve contains only US dollars.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q34)** Consider the following pairs:

| Dam | Location |
|-----|----------|
| Pong | Himachal Pradesh |
| Srisailam | Karnataka |
| Nagarjuna Sagar Dam | Tamil Nadu |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q35)** Consider the following statements

Statement-I :

Graphene is used in medical fields for drug delivery and biosensors.

Statement-II :

Copper conducts electricity better than graphene.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q36)** Consider the following statements

Statement-I :

Technology Development Fund (TDF) scheme was launched in 2022.

Statement-II :

To be eligible under the scheme the industry has to be owned and controlled by an Indian citizen.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q37)** Consider the following pairs:

| GI Tag | Location |
|---|---|
| Rasagola | Odisha |
| Palani Panchamirtham | Telangana |
| Matti banana | Tamil Nadu |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q38)** Consider the following statements

Statement-I :

Madan Lal Dhingra was born on 18 February 1883, Ludhiana.

Statement-II :

He was hanged at the age of only 24 for killing British official Curzon Wyllie.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q39)** Consider the following statements

Statement-I :

UNCTAD is not a part of the UN Secretariat.

Statement-II :

It was established by the United Nations General Assembly.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q40)** Consider the following pairs:

| Crop name | Type |
|-----------|------|
| Maize | Kharif crops |
| Oat | Rabi crops |
| Soybean | Kharif crops |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q41)** Consider the following statements

Statement-I :

Amyotrophic lateral sclerosis is a progressive disease.

Statement-II :

It's also known as Lou Gehrig's disease.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q42)** Consider the following statements

Statement-I :

COVID-19 variant EG.5.1 is a descendant of the Delta variant.

Statement-II :

The overall risk evaluation by WHO places this variant at a high-risk level.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect

d. Statement-I is incorrect but Statement II is correct

**Q43)** Consider the following pairs:

| Hydrogen | Production |
|---|---|
| Grey hydrogen | produced from fossil fuels. |
| Blue hydrogen | produced from fossil fuels with carbon capture and storage. |
| Green Hydrogen | produced entirely from renewable power sources. |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q44)** Consider the following statements

Statement-I :

Psoriasis is a chronic autoimmune condition.

Statement-II :

It can be treated completely by medication.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q45)** Consider the following statements

Statement-I :

First BRICS Summit was in 2009 in Brazil.

Statement-II :

The 13th BRICS Summit was in 2021 in India.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q46)** Consider the following pairs:

| Lunar Mission | Country |
|---|---|
| Pioneer 1 | USA |
| Chandrayaan-1 | India |
| Luna 1 | Russia |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q47)** Consider the following statements

Statement-I :
Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme was launched on 16th August 2023.

Statement-II :

It is under the Ministry of Health and Family Welfare.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q48)** Consider the following statements

Statement-I :
Monsoons are peculiar to the Indian Subcontinent, South East Asia, parts of Central Western Africa, etc.
Statement-II :
Southwest monsoon is associated with high-pressure cells over the Tibetan and Siberian plateaus.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

**Q49)** Consider the following pairs:

| Nuclear power plant | Location |
|---|---|
| Zaporizhzhia | Ukraine |
| Fukushima | China |
| Chernobyl | Russia |

How many of the above pairs are correctly matched?

a. Only one
b. Only two
c. All three
d. None

**Q50)** Consider the following statements

Statement-I :

Zonal Councils are constitutional bodies.

Statement-II :

The North Eastern States are not included in the Zonal Councils.

Which one of the following is correct in respect of the above statements?

a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
c. Statement-I is correct but Statement II is incorrect
d. Statement-I is incorrect but Statement II is correct

## KEY ANSWERS

| | | | | |
|---|---|---|---|---|
| **Ans 1** | C | | **Ans 2** | B |
| **Ans 3** | C | | Ans 4 | B |
| **Ans 5** | B | | Ans 6 | C |
| **Ans 7** | A | | Ans 8 | D |

| Ans 9 | C | Ans 10 | D |
|---|---|---|---|
| Ans 11 | C | Ans 12 | D |
| Ans 13 | A | Ans 14 | B |
| Ans 15 | B | Ans 16 | A |
| Ans 17 | B | Ans 18 | A |
| Ans 19 | A | Ans 20 | B |
| Ans 21 | B | Ans 22 | C |
| Ans 23 | D | Ans 24 | C |
| Ans 25 | A | Ans 26 | D |
| Ans 27 | C | Ans 28 | A |
| Ans 29 | A | Ans 30 | D |
| Ans 31 | A | Ans 32 | B |
| Ans 33 | C | Ans 34 | A |
| Ans 35 | C | Ans 36 | D |
| Ans 37 | B | Ans 38 | D |
| Ans 39 | D | Ans 40 | C |
| Ans 41 | B | Ans 42 | C |
| Ans 43 | C | Ans 44 | D |
| Ans 45 | D | Ans 46 | B |
| Ans 47 | C | Ans 48 | C |
| Ans 49 | A | Ans 50 | D |