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From

13th April to 18th April 2026

INDEX

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POLITY & GOVERNANCE

1.1. RIGHT TO VOTE IN INDIA

Context:

Recently, the Supreme Court of India, underscored the significance of the right to vote by describing it as a "sentimentally vital" entitlement for citizens. This observation came during a directive to the Election Commission of India (ECI) regarding the large-scale removal of voters from electoral rolls in West Bengal due to "logical discrepancies." With nearly 34 lakh appeals pending before Appellate Tribunals just ahead of the 2026 Assembly elections, the Court emphasized that ensuring the integrity of electoral rolls is essential for protecting the democratic right of every eligible citizen to participate in the governing process.

1. **The Nature of the Right**

   There is often a debate on whether the right to vote is a Fundamental, Constitutional, or Statutory right. For the UPSC Prelims, the following distinctions are vital:

   - **Constitutional Right:** It is a right granted by the Constitution (Article 326) but is located outside Part III (Fundamental Rights).
   - **Statutory Right:** It is also a statutory right because it is regulated and operationalized by the **Representation of the People Act, 1951**.
   - **Supreme Court's Stance:** In the *Anoop Baranwal case (2023)* and *Kuldip Nayar case (2006)*, the Court maintained it is a statutory right. However, in *PUCL vs. Union of India*, it was observed that voting is a "facet of freedom of expression" under **Article 19(1)(a)**.

2. **Constitutional Provisions**

   - **Article 326:** This article defines **Universal Adult Suffrage**. It states that elections to the Lok Sabha and State Legislative Assemblies shall be on the basis of adult suffrage; every citizen not less than 18 years of age (and not otherwise disqualified) is entitled to be registered as a voter.
   - **61st Constitutional Amendment Act, 1988:** This amendment reduced the voting age from **21 to 18 years**, which became effective in 1989.

3. **Legal Framework**

   The right to vote is governed by two major statutes:

   - **Representation of the People Act (RPA), 1950:** Focuses on the preparation of electoral rolls, qualification of voters, and delimitation of constituencies.
   - **Representation of the People Act (RPA), 1951:** Focuses on the actual conduct of elections and defines the "Right to Vote" under **Section 62**.

4. **Key Disqualifications and Limitations**

   The right to vote is not absolute and can be restricted on grounds of:

   - Non-residence.

- Unsoundness of mind.
- Crime or corrupt/illegal practices.
- **Prisoners' Rights:** Under **Section 62(5)** of the RPA 1951, no person shall vote if they are confined in a prison or in the lawful custody of the police (this does not apply to persons under preventive detention).
- **NRI Voting:** Non-Resident Indians can vote but currently must be **physically present** in their respective constituencies (Section 20A of RPA 1950).

Q. Consider the following statements regarding the Right to Vote in India:

1. The Right to Vote is a Fundamental Right guaranteed under Part III of the Constitution of India.
2. The reduction of the voting age from 21 to 18 years was implemented through the 42nd Constitutional Amendment Act.
3. According to the Representation of the People Act, 1951, persons under preventive detention are allowed to cast their vote.

How many of the statements given above are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

Answer: A

- **STATEMENT 1 IS INCORRECT:** The Right to Vote is a Constitutional/Statutory right, not a Fundamental Right. It is derived from Article 326.
- **STATEMENT 2 IS INCORRECT:** The voting age was reduced by the **61st Constitutional Amendment Act, 1988**, not the 42nd.
- **STATEMENT 3 IS CORRECT:** While prisoners in jail or police custody are generally barred from voting under Section 62(5) of the RPA 1951, the law provides an exception for those under **preventive detention**, who can vote via postal ballot.

1.2. WHIP IN INDIA

Context:

Recently, the Indian National Congress and the Bharatiya Janata Party (BJP) issued rigorous whips to their respective Members of Parliament in the Lok Sabha. These directives were issued to ensure the mandatory presence of all legislators for a special three-day sitting of Parliament scheduled from April 16 to 18, 2026. The primary objective of these whips is to secure maximum attendance and unified party support for critical amendments to the Women's Reservation Act and other "most important" legislative businesses slated for discussion and voting.

1. **Definition and Origin**
   - The **Whip** is an official of a political party who acts as an "assistant floor leader" within the legislature.
   - The concept is inherited from the **British Parliamentary system**, where "whipping-in" was used to ensure members followed the party line.
   - Every major political party, whether in power or in opposition, appoints its own whips in both the Lok Sabha and the Rajya Sabha.
2. **Status of the Office**
   - **Not in the Constitution:** The office of the whip is **not mentioned** in the Constitution of India.
   - **Not in House Rules:** It is also not mentioned in the **Rules of the House** or any specific **Parliamentary Statute**.
   - **Based on Convention:** The institution of the whip is entirely based on the **conventions** of the parliamentary form of government.
3. **Types of Whips**

   Political parties generally issue three categories of whips depending on the importance of the issue:
   - **One-line Whip:** This is issued to inform members about a vote; it allows a member to abstain if they do not wish to follow the party line.
   - **Two-line Whip:** This directs members to be **present** in the House during the time of voting, but does not provide specific instructions on how to vote.
   - **Three-line Whip:** This is the most stringent directive, mandating that members be present and **vote strictly according to the party's position**.
4. **Functions and Enforcement**
   - **Attendance & Discipline:** The primary role is to ensure the presence of party members and regulate their behavior on the floor.
   - **Communication:** The whip serves as a bridge between the party leadership and the individual legislators.
   - **The Tenth Schedule Link:** If a member violates a three-line whip (votes or abstains contrary to party directions), they face disqualification from the House under the **Anti-Defection Law (1985)**, unless the act is condoned by the party within 15 days.
5. **Key Limitations**

   The authority of the whip is not absolute and does not apply in the following scenarios:
   - **Presidential Elections:** Members of Parliament and State Assemblies cannot be directed by a whip to vote for a particular candidate.
   - **Vice-Presidential Elections:** Similarly, no whip can be issued for the election of the Vice-President.
   - **Rajya Sabha Elections:** Following the Supreme Court's observations, the whip system does not strictly apply to the election of members to the Rajya Sabha.

Q. Consider the following statements regarding the office of the 'Whip' in India:

1. The office of the Whip is established under the Rules of Procedure and Conduct of Business in the Lok Sabha.
2. A Member of Parliament who violates a three-line whip is automatically disqualified by the President of India.
3. Whips cannot be issued to direct the voting behavior of legislators during the election for the President of India.

How many of the statements given above are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

Answer: A

- **STATEMENT 1 IS INCORRECT:** The office of the whip is not mentioned in the Constitution, the Rules of the House, or any statute; it is based purely on parliamentary convention.
- **STATEMENT 2 IS INCORRECT:** While violating a whip leads to disqualification under the Tenth Schedule, the decision is made by the **Presiding Officer (Speaker/Chairman)** of the House, not the President of India.

STATEMENT 3 IS CORRECT: The Election Commission and the Supreme Court have clarified that political parties cannot issue whips for the election of the President, as it is a secret ballot and legislators must be free to vote according to their conscience.

1.3. CONSTITUTION (ONE HUNDRED AND THIRTY-FIRST AMENDMENT) BILL, 2026

Context:

Recently, the Union Government introduced the **Constitution (One Hundred and Thirty-First Amendment) Bill, 2026** in the Lok Sabha. The Bill aims to overhaul the electoral map of India by expanding the strength of the Lower House to **850 members** and enabling the immediate rollout of 33% reservation for women by decoupling it from the requirement of a post-2026 Census.

Key Provisions of the 131st Amendment Bill, 2026

1. **Expansion of Lok Sabha Strength**

   The Bill proposes a significant increase in the membership of the Lok Sabha to accommodate India's growing population.

   - **Total Seats:** Increased from 543 to **850**.

- **State Representation:** Maximum seats for States capped at **815**.
- **UT Representation:** Maximum seats for Union Territories capped at **35**.
- **Rationale:** To improve the representative-to-population ratio, which has remained stagnant based on the 1971 Census data.

2. **Amendment to Article 81 and 82 (Removing the Freeze)**
   - **Article 82:** Currently, this article mandates that delimitation can only happen after the first Census conducted after the year 2026. The 131st Amendment seeks to **delete this proviso**.
   - **Data Baseline:** It allows the government to use the **2011 Census** (or any "last preceding published census" as determined by Parliament) to redraw constituencies immediately, rather than waiting for the final results of the 2027 Census.
3. **Accelerated Women's Reservation (Article 334A)**
   - The **106th Amendment Act (2023)** had stipulated that women's reservation would only take effect after a census and subsequent delimitation.
   - The 131st Amendment modifies **Article 334A** to allow the 1/3rd reservation to be implemented for the **2029 General Elections** by linking it to the expedited delimitation process proposed in this Bill.
4. **Role of the Delimitation Commission 2026**
   - The Bill is accompanied by a new **Delimitation Bill, 2026**.
   - The Commission will be chaired by a **retired or serving Supreme Court Judge**.
   - It will include the Chief Election Commissioner and respective State Election Commissioners.
   - **Judicial Immunity:** As per standard practice, the orders of the Delimitation Commission, once published in the Gazette, cannot be called into question in any court of law.
5. **Federal Challenges and Concerns**
   - **North-South Divide:** Southern states (like Tamil Nadu and Kerala) fear a loss of political weight because they successfully implemented population control, whereas Northern states (like Uttar Pradesh and Bihar) will see a massive surge in seats due to higher population growth.
   - **Constitutional Default:** By removing the 1971 freeze, the Bill reverts to the default of **Article 81(2)(a)**, which requires seats to be proportional to population, potentially penalizing states with better demographic management.

Q. With reference to the Constitution (131st Amendment) Bill, 2026, consider the following statements:

1. The Bill proposes to increase the total strength of the Lok Sabha to 850 members.
2. It mandates that the new delimitation exercise must strictly use the 2027 Census data for seat reallocation.
3. The Bill amends Article 334A to expedite the implementation of women's reservation in the Lok Sabha.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2, and 3

Answer: C

- **STATEMENT 1 IS CORRECT:** The Bill proposes a maximum of 815 seats for States and 35 for UTs, totaling 850.
- **STATEMENT 2 IS INCORRECT:** The Bill actually seeks to remove the post-2026 Census requirement by amending Article 82, allowing the use of the 2011 Census (or the latest published data) to start delimitation immediately.
- **STATEMENT 3 IS CORRECT:** It modifies Article 334A (inserted by the 106th Amendment) to ensure women's reservation is not delayed until the completion of the 2027 Census cycle.

1.4. CONSTITUTIONAL AMENDMENT BILL

Context:

Recently, the Lok Sabha was adjourned sine die following the defeat of the **Constitution (131st Amendment) Bill, 2026**, which failed to secure the mandatory two-thirds "Special Majority" required under Article 368. This legislative proposal sought to increase the strength of the Lok Sabha to **850 members** and decouple the implementation of **women's reservation** from the post-2026 census requirements.

1. **Constitutional Source and Power**
   - The power to amend the Constitution is enshrined in **Article 368** of **Part XX**.
   - It grants Parliament the "constituent power" to add, vary, or repeal any provision.
   - However, as per the **Kesavananda Bharati Case (1973)**, this power is not absolute and cannot be used to alter the **"Basic Structure"** of the Constitution.
2. **Procedure for Amendment**

   The procedure for a Constitutional Amendment Bill (CAB) is distinct from ordinary bills in the following ways:
   - **Initiation:** A CAB can only be initiated in **either House of Parliament** (Lok Sabha or Rajya Sabha) and not in State Legislatures.
   - **Introduction:** It can be introduced by either a **Minister** or a **Private Member**.
   - **Prior Permission:** Unlike Money Bills, a CAB **does not require** the prior recommendation of the President for its introduction.
   - **Passage:** The Bill must be passed in each House by a **Special Majority** (a majority of the total membership of that House AND a majority of not less than two-thirds of the members present and voting).

- **No Joint Sitting:** There is **no provision for a joint sitting** of the two Houses in case of a deadlock over a CAB. Each House must pass it separately.
- **State Ratification:** If the Bill seeks to amend the **federal features** of the Constitution (e.g., election of the President, Seventh Schedule, representation of states in Parliament), it must also be ratified by the legislatures of **half of the states** by a **simple majority**.
- **Presidential Assent:** Once passed by both Houses (and ratified by states if necessary), the President **must give assent** to the Bill. The **24th Amendment Act of 1971** made it obligatory for the President to give his assent; he can neither withhold assent nor return the Bill for reconsideration.

3. Types of Amendments

The Constitution provides for three categories of amendments, though Article 368 specifically deals with the latter two:

Type of Amendment	Requirement	Examples
Simple Majority	Majority of members present and voting. (Not deemed as amendment under Art 368).	Admission of new states; Abolition/ Creation of Legislative Councils; Quorum in Parliament.
Special Majority (Art 368)	Total Membership (>50%) + 2/3rd Present & Voting.	Fundamental Rights; Directive Principles of State Policy (DPSP).
Special Majority + State Ratification	Special Majority + Consent of 1/2 of State Legislatures.	Distribution of legislative powers; Supreme Court & High Courts; Goods and Services Tax Council (Art 279A).

Q. With reference to the Constitution (Amendment) Bill, consider the following statements:

1. The prior recommendation of the President of India is required for the introduction of a Constitution Amendment Bill in the Parliament.
2. In case of a disagreement between the Lok Sabha and the Rajya Sabha, there is a provision for a joint sitting to resolve the deadlock.
3. The President of India is bound to give his assent to a Constitution Amendment Bill and cannot return it for reconsideration.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Answer: c

- **STATEMENT 1 IS INCORRECT:** A Constitution Amendment Bill can be introduced in either House of Parliament without the prior recommendation of the President.

- **STATEMENT 2 IS INCORRECT:** Article 368 does not provide for a joint sitting of the two Houses. Each House must pass the Bill separately by the prescribed special majority.
- **STATEMENT 3 IS CORRECT:** Under the 24th Constitutional Amendment Act, 1971, it was made compulsory for the President to give his assent to a Constitution Amendment Bill. The President cannot withhold assent or return the Bill to Parliament.

1.5. PETROLEUM AND NATURAL GAS REGULATORY BOARD (PNGRB)

Context:

- **Recently**, the Petroleum and Natural Gas Regulatory Board (PNGRB) has moved toward the final stages of awarding bids for four major LPG pipelines spanning approximately 2,500 km, an initiative aimed at eliminating road-based bulk LPG transportation by 2030.
- Furthermore, the board has been in the news for implementing the **Unified Tariff Regime (effective January 2026)**, which operationalizes the "One Nation, One Grid, One Tariff" model to make natural gas more affordable for distant consumers and industrial hubs across India.

PNGRB
Petroleum and Natural Gas Regulatory Board

1. **Origin and Legal Status**

   The PNGRB is a **statutory body** established under the **Petroleum and Natural Gas Regulatory Board Act, 2006**. It operates under the aegis of the Ministry of Petroleum and Natural Gas (MoPNG).

2. **Composition of the Board**
   - The Board consists of a **Chairperson**, a **Member (Legal)**, and three other members.
   - All members are appointed by the Central Government based on the recommendations of a Search Committee.

3. **Regulatory Mandate and Scope**

   The PNGRB's jurisdiction is primarily focused on the **downstream and midstream** sectors.
   - **What it Regulates:** Refining, processing, storage, transportation, distribution, marketing, and sale of petroleum, petroleum products, and natural gas.
   - **What it DOES NOT Regulate:** The **production (upstream)** of crude oil and natural gas is outside the purview of the PNGRB.
   - **Key Responsibilities:** Registering entities to market notified petroleum products and operate LNG terminals.
     - Authorizing the laying of pipelines (Common Carriers) and City Gas Distribution (CGD) networks.
     - Ensuring competitive markets and preventing restrictive trade practices.
     - Setting technical standards and safety specifications for the sector.

4. **Quasi-Judicial Powers and Appeal Mechanism**

The PNGRB functions as a **quasi-judicial body** with powers equivalent to a **Civil Court** for the purpose of adjudicating disputes.

- **Dispute Resolution:** It can decide on matters between entities or between an entity and any other person regarding the transport or marketing of gas.
- **Appeals:** Any person aggrieved by an order or decision of the Board can file an appeal with the **Appellate Tribunal for Electricity (APTEL)**, established under the Electricity Act, 2003.

5. **Recent Policy Initiatives (2025–2026)**

- **Unified Tariff Regime:** PNGRB replaced the multiple-layered tariff system with a unified structure. This ensures that customers located far from gas sources do not pay prohibitively high transportation costs.
- **Compressed Bio-Gas (CBG) Integration:** Mandatory blending obligations for CBG in CNG and PNG segments commenced from **FY 2025-26** to support the SATAT initiative.
- **LPG Interoperability:** The Board is facilitating digital and physical infrastructure to allow consumers more flexibility in choosing LPG service providers.

Q. With reference to the Petroleum and Natural Gas Regulatory Board (PNGRB), consider the following statements:

1. It is a statutory body tasked with regulating both the production of crude oil and the distribution of natural gas in India.
2. The Board possesses the powers of a Civil Court and can adjudicate disputes between entities in the petroleum sector.
3. Appeals against the decisions of the PNGRB are heard by the Appellate Tribunal for Electricity (APTEL).

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Answer: B

- **STATEMENT 1 IS INCORRECT:** While PNGRB is a statutory body, its mandate **excludes the production (upstream sector)** of crude oil and natural gas. Production is typically overseen by the Directorate General of Hydrocarbons (DGH).
- **STATEMENT 2 IS CORRECT:** Under the PNGRB Act, 2006, the Board is a quasi-judicial body with powers similar to a Civil Court for adjudicating disputes and complaints.
- **STATEMENT 3 IS CORRECT:** According to Section 30 of the PNGRB Act, any person aggrieved by an order of the Board may prefer an appeal to the Appellate Tribunal for Electricity (APTEL).

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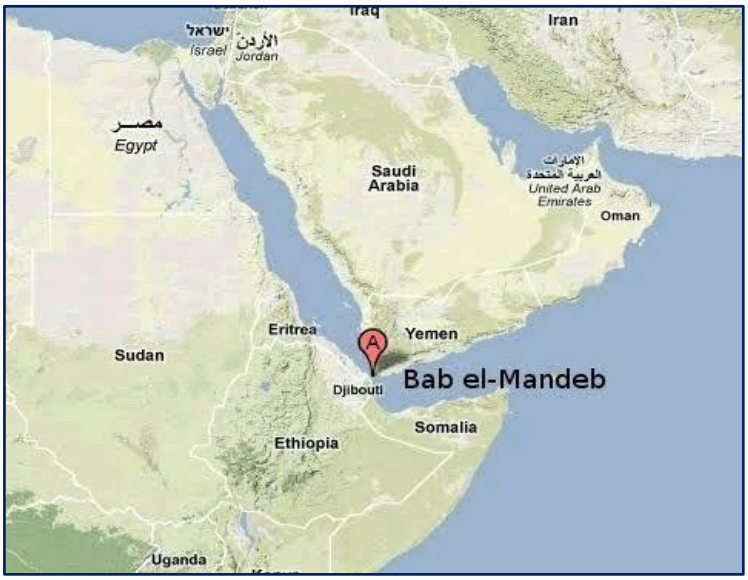
2.1. RED SEA & BAB AL-MANDEB

Context:



Recently, the Red Sea region has faced a critical escalation as Iran's central military command (Khatam al-Anbiya) warned it would "completely block" the **Bab al-Mandeb Strait** and the **Strait of Hormuz** if the United States continues its naval blockade of Iranian ports.

1. **The Red Sea**

   The Red Sea is a narrow seawater inlet of the **Indian Ocean**, lying between Africa and the Arabian Peninsula.

   - **Bordering Countries (Littoral States):**
     - **Eastern Shore:** Saudi Arabia, Yemen.
     - **Western Shore:** Egypt, Sudan, Eritrea, Djibouti.
     - **Northern Extremity:** Bordered by the **Sinai Peninsula**, the Gulf of Aqaba, and the Gulf of Suez (connecting to the Mediterranean via the Suez Canal).
   - **Physical Characteristics:** It is one of the **hottest and saltiest** bodies of water in the world due to high evaporation rates and low freshwater inflow from rivers.
   - **Geological Origin:** It occupies part of the **Great Rift Valley** and was formed by the divergence of the Arabian and African tectonic plates.

2. **The Bab al-Mandeb Strait**

   Known as the **"Gate of Tears"** (Bab al-Mandeb), it is a strategic chokepoint between the Horn of Africa and the Middle East.

   - **Connection:** It connects the **Red Sea** (Northwest) to the **Gulf of Aden** and the Arabian Sea (Southeast).
   - **Bordering Nations:** It separates **Yemen** on the Arabian Peninsula from **Djibouti and Eritrea** in Africa.
   - **Key Feature:** The strait is divided into two channels by **Perim Island** (Mayyun Island), which belongs to Yemen. The western channel is wider and deeper, facilitating the movement of large oil tankers.

Strategic and Economic Importance

I. Global Trade Chokepoint

The Red Sea-Suez Canal-Bab al-Mandeb corridor is the shortest maritime route between **Europe and Asia**. If this passage is blocked, ships must travel an additional 6,000 nautical miles around Africa, increasing transit time by **14 to 20 days**.

II. Energy Security

It is a critical transit point for crude oil and Liquefied Natural Gas (LNG) from the Persian Gulf to European and American markets. Any disruption here causes an immediate spike in global **Brent crude prices**.

III. Importance for India

- **Exports:** Over 50% of India's exports to Europe and the US East Coast pass through this route.
- **Energy:** While India gets much of its oil from Russia and the Gulf via the Strait of Hormuz, the Red Sea remains vital for refined petroleum exports.
- **Security:** The Indian Navy often conducts "Anti-Piracy" and "Maritime Security Operations" (like **Operation Sankalp**) in this region to protect Indian-flagged vessels.

Q. Consider the following statements regarding the geography of the Red Sea region:

1. The Red Sea is connected to the Mediterranean Sea through the Bab al-Mandeb Strait.
2. Ethiopia is one of the littoral countries that shares a direct coastline with the Red Sea.
3. The Bab al-Mandeb Strait separates the Arabian Peninsula from the Horn of Africa.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 3 only

(c) 1 and 3 only

(d) 1, 2, and 3

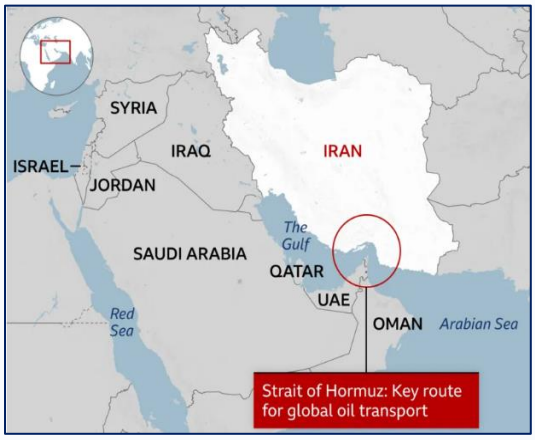
Answer: B

- **STATEMENT 1 IS INCORRECT:** The Red Sea is connected to the Mediterranean Sea via the **Suez Canal** (North). The Bab al-Mandeb connects the Red Sea to the **Gulf of Aden** (South).
- **STATEMENT 2 IS INCORRECT: Ethiopia is a landlocked country.** It lost its Red Sea coastline when Eritrea gained independence in 1993. The littoral countries are Egypt, Sudan, Eritrea, Djibouti, Saudi Arabia, and Yemen.
- **STATEMENT 3 IS CORRECT:** The Bab al-Mandeb Strait acts as a maritime border between Yemen (Arabian Peninsula) and Djibouti/Eritrea (Horn of Africa).

2.2. STRAIT OF HORMUZ

Context:

- **Recently**, the Strait of Hormuz has re-emerged as a major global concern due to escalating tensions between the United States and Iran since February 2026.
- The situation intensified following **military strikes, naval blockades, and threats to close the strait**, raising serious fears of disruption in global oil and gas supplies.



- The region has witnessed **missile and drone attacks on vessels, mining threats, and restrictions on shipping**, significantly impacting global energy markets and trade flows.

1. **What is a Maritime Chokepoint?**
   - A **maritime chokepoint** is a **narrow water passage** that connects major seas or oceans.
   - It serves as an **alternative or shorter route for shipping**.
   - Disruption in chokepoints can:
     - Delay shipping
     - Increase transport costs
     - Disrupt global trade and energy flows
2. **Why is the Strait of Hormuz Critical?**
   - Located between **Persian Gulf and Gulf of Oman**.
   - Acts as the **only sea passage** for oil exports from major producers like:
     - Saudi Arabia
     - Iran
     - Iraq
     - UAE
     - Kuwait
   - **Width:** ~21 nautical miles (38 km) at narrowest point.
3. **Energy Significance**
   - Around **21 million barrels/day of oil** pass through → **~1/5th of global oil consumption**.
   - Also major route for **Liquefied Natural Gas (LNG)**, especially from **Qatar**.

   Key Importers:
   - India
   - China
   - Japan
   - South Korea
4. **Other Key Global Chokepoints**

   I. **Strait of Malacca**
      - Connects **Indian Ocean & South China Sea**
      - Major route for trade between **Asia and Europe**

   II. **Bab el-Mandeb Strait**
      - Connects **Red Sea to Gulf of Aden**
      - Important for access to **Suez Canal**

   III. **Suez Canal**
      - Artificial waterway in **Egypt**

- Connects **Mediterranean Sea & Red Sea**
- Shortens Europe–Asia trade route

IV. **Panama Canal**

- Connects **Atlantic & Pacific Oceans**
- Avoids long journey around South America

5. International Law (UNCLOS)

- Governed by **United Nations Convention on the Law of the Sea (UNCLOS)**

Key Principle: Transit Passage

- Applies to **international straits** like Hormuz
- Allows:
  - Continuous and **uninterrupted navigation**
  - Applies to **all ships and aircraft**

Limitations: Countries along the strait can regulate shipping for safety and environmental reasons, but they **cannot stop ships from passing** through or impose selective restrictions.

Q. With reference to the Strait of Hormuz and international law, consider the following statements:

1. Under the United Nations Convention on the Law of the Sea, the Strait of Hormuz is classified as an international strait where the right of transit passage applies.
2. Transit passage allows continuous and uninterrupted navigation for all ships and aircraft through such straits.
3. Coastal states have the authority to suspend transit passage in international straits for security reasons.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: A

Statement 1 is Correct: Under the **United Nations Convention on the Law of the Sea (UNCLOS)**, the **Strait of Hormuz** is classified as a "strait used for international navigation." For such straits, the regime of **Transit Passage** applies, allowing vessels and aircraft to move through the territorial waters of coastal states (Iran and Oman) for the purpose of continuous and expeditious transit between one part of the high seas (or an EEZ) and another.

Statement 2 is Correct: Transit Passage is a more liberal regime than "Innocent Passage." It allows for continuous and uninterrupted navigation or overflight solely for the purpose of transit. Crucially, for submarines, it implies the right to transit **submerged**, and for aircraft, it includes the right to fly through the international airspace above the strait.

Statement 3 is Incorrect: Under UNCLOS (specifically **Article 44**), coastal states bordering international straits **shall not hamper or suspend** transit passage. Unlike "Innocent Passage" in a country's territorial sea (which can be suspended temporarily for security), the right of transit passage through international straits is **non-suspendable**.

2.3. INDIA-ZAMBIA BILATERAL RELATIONS & CRITICAL MINERALS

Context:

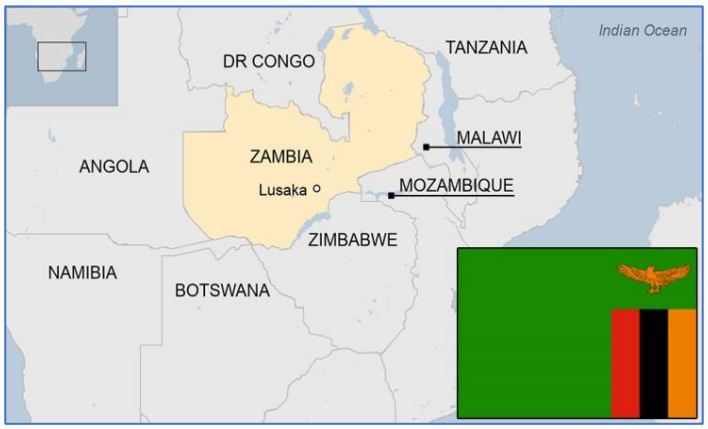
India's diplomatic and economic efforts to secure a supply chain for critical minerals have hit a roadblock. Talks with Zambia have stalled due to a lack of specific assurances regarding long-term mining rights.

1. **Key Minerals in Focus**
   - **Cobalt: Significance:** A vital component for lithium-ion batteries used in Electric Vehicles (EVs) and mobile phones.
     - **Global Context:** Zambia is one of the world's largest producers of cobalt (often as a byproduct of copper mining).
   - **Copper: Significance:** Essential for power generation, electronics, renewable energy infrastructure, and construction.
     - **Strategic Need:** As India pushes for "Green Energy" and infrastructure growth, copper demand is surging.
2. **Current Status of the Agreement**
   - **Land Allocation:** India was previously allocated **9,000 square kilometers** in Zambia for mineral exploration.
   - **Exploration Progress:** A team of Indian geologists has already visited the site and collected mineral samples for analysis.
   - **Timeline:** The exploration phase was intended to span **three years**.
   - **Private Sector Involvement:** New Delhi intends to invite private Indian companies to participate in extraction once the exploration phase is successful and mining rights are legally secured.
3. **The Stumbling Block: Mining Rights**
   - **Issue:** The primary reason for the "stall" in talks is the lack of clear assurances from the Zambian government (Lusaka) regarding **Mining Rights**.
   - **Legal Security:** Without guaranteed rights to extract the minerals they find, India is hesitant to commit further investment or involve private players, as exploration is capital-intensive and risky.

4. Key Important Minerals

Mineral	Key Uses	Major Global Producers
Cobalt	EV batteries (Li-ion cathode), mobile phones, aerospace alloys	DRC (~70%), Zambia, Russia
Lithium	EV batteries, grid storage, ceramics	Australia, Chile, Argentina ("Lithium Triangle")
Copper	Power generation, electronics, construction, EVs	Chile, Peru, DRC, Zambia
Graphite	EV battery anodes, lubricants, nuclear reactors	China (~95% of processing)
Rare Earth Elements	Wind turbines, EV motors, defence electronics, magnets	China (~90% of processing)
Nickel	Stainless steel, EV batteries (NMC cathode), plating	Indonesia, Philippines, Russia
Platinum Group (PGE)	Catalytic converters, hydrogen fuel cells, jewellery	South Africa, Russia, Zimbabwe
Silicon	Solar PV cells, semiconductors, electronics	China, Russia, Brazil
Titanium	Aerospace, defence, medical implants, white pigment	China, Russia, Japan
Tungsten	Hard metal tools, armour-piercing ammunition, filaments	China (~80% of global supply)

5. About Zambia



- **Location:** Southern Africa, bordered by eight nations (Angola, DRC, Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Namibia).
- **Capital:** Lusaka.
- **Part of the Copperbelt region** — one of world's richest copper/cobalt zones (shared with DRC)
- **Global significance**: 2nd largest cobalt producer globally (after DRC)
- **Major copper exporter** — key to India's energy transition supply chain
- **Member of African Union.**
- **Key Landmarks:** Victoria Falls (border with Zimbabwe), Lake Kariba, and the Zambezi River.

Q. Consider the following statements:

1. Zambia shares its Copperbelt region with the Democratic Republic of the Congo.
2. Zambia is a landlocked country bordered by only five countries.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: A

Statement 1: Correct

The **Central African Copperbelt** is a major geological and mineral region that spans the border between northern **Zambia** and the southern **Democratic Republic of the Congo (DRC)**. It is one of the world's most significant sources of copper and cobalt, which explains the high strategic interest from countries like India.

Statement 2: Incorrect

While Zambia is indeed a **landlocked** country, it is bordered by **eight** countries, not five. Its neighbors include:

1. **Democratic Republic of the Congo** (North/Northwest)
2. **Tanzania** (Northeast)
3. **Malawi** (East)
4. **Mozambique** (Southeast)
5. **Zimbabwe** (South)
6. **Botswana** (South - meeting at a single point/quadripoint)
7. **Namibia** (Southwest)
8. **Angola** (West)

2.4. ROHINGYA MARITIME CRISIS

Context:

Recently, the **United Nations High Commissioner for Refugees (UNHCR)** highlighted that **2025** was the deadliest year on record for Rohingya refugees. Nearly **900 individuals** died or went missing in the **Bay of Bengal** and **Andaman Sea**. This crisis underscores the desperate humanitarian situation in Myanmar's Rakhine State and the overcrowded camps in Cox's Bazar, Bangladesh.

I. Key Geographic & Conflict Zones

- **Source Points:** Most maritime movements originate from **Cox's Bazar** (Bangladesh) and **Rakhine State** (Myanmar).
- **Transit Routes:** The journeys cross the **Bay of Bengal** and the **Andaman Sea**.
- **Destination Points:** Refugees primarily aim for **Malaysia** and **Indonesia** seeking better livelihood opportunities.
- **Geographic Risk:** The maritime route is described as an "unmarked graveyard," with over **5,000 deaths** recorded in the last decade.

II. Drivers of Migration (The "Push" Factors)

- **Funding Shortfalls:** Reduced international aid in Bangladesh has led to food and security crises in camps.
- **Lack of Prospects:** Limited access to education and legal employment in refugee camps.
- **Statelessness:** The Rohingya remain the world's largest stateless population, denied citizenship by Myanmar's **1982 Citizenship Law**.
- **Vulnerable Demographics:** Over **50%** of those on boats are women and children, making them prime targets for **human trafficking** and exploitation.

III. About the UNHCR (UN Refugee Agency)

1. Evolution and Mandate

- **Established:** 1950, by the UN General Assembly to help millions of Europeans who had fled or lost their homes during **World War II**.
- **HQ:** Geneva, Switzerland.
- **Mandate:** To lead and coordinate international action to protect refugees and resolve refugee problems worldwide. It also has a mandate for **Stateless Persons** (under the 1954 and 1961 Conventions).
- **Governance:** Reports to the **UN General Assembly (UNGA)** and the **Economic and Social Council (ECOSOC)**.
- **Awards:** Won the Nobel Peace Prize twice (1954, 1981).

2. Key Legal Pillars

- **1951 Refugee Convention:** Defines who a refugee is and sets out the rights of individuals and the legal obligations of states.
- **Principle of Non-Refoulement:** A core tenet of international law (and Article 33 of the 1951 Convention) which prohibits states from returning a refugee to a territory where their life or freedom is threatened.

3. India's Standing with UNHCR

- **Non-Signatory:** India is **not** a signatory to the 1951 Refugee Convention or the 1967 Protocol.
- **Administrative Relationship:** Despite not being a signatory, India works closely with the UNHCR. The agency handles "mandate" refugees (like Afghans and Myanmarese) in urban

areas, while the Government of India directly manages other groups (like Sri Lankan Tamils and Tibetans).

- **Legal Framework in India:** In the absence of a specific refugee law, refugees are governed under the **Foreigners Act, 1946**, the **Registration of Foreigners Act, 1939**, and the **Passport Act, 1967**.

Q. The principle of 'Non-Refoulement' is a cornerstone of international refugee law. What does this principle primarily prohibit?

(a) The return of a refugee to a country where they face a threat to their life or freedom

(b) The denial of humanitarian aid to registered refugees

(c) The granting of citizenship to stateless individuals

(d) The mandatory detention of asylum seekers upon arrival

Answer: A

Prohibition of Forced Return: The principle strictly prohibits states from expelling or returning ("refouler") a refugee to the frontiers of territories where his or her life or freedom would be threatened on account of race, religion, nationality, membership of a particular social group, or political opinion.

***

3.1. INDIA'S FISHERIES SECTOR

Context:

The **Union Budget 2026-27** emphasizes the integrated development of fisheries in **500 reservoirs** and **Amrit Sarovars** to enhance the income of fish farmers and strengthen market access through cooperatives and Fish Farmer-Producer Organisations (FFPOs). This initiative aligns with the **Blue Revolution** and **Viksit Bharat@2047** vision.

1. **India's Global Position and Production Trends**
   - **Rank:** India is the **second-largest fish producer** in the world and the **second-largest globally in aquaculture production**.
   - **Growth:** National fish production witnessed a **106% increase** since 2013-14.
   - **Total production** ≈ 197.75 lakh tonnes (2024–25).
   - **Sectoral Share: 75%** of India's fish production comes from **inland fisheries** (freshwater, brackish, and saline water resources).
   - **Productivity:** Fish productivity in reservoirs has increased from 50 kg per hectare (2006) to **100 kg per hectare** today. ICAR-CIFRI suggests a potential of up to 300 kg per hectare.
2. **Geographical Distribution in India**
   - **Maximum Area under Reservoirs:** Rajasthan topped the list of Indian states by reservoir area, followed by Madhya Pradesh, which ranked second.
   - **Highest Number of Reservoirs:** Tamil Nadu (over 8,000).
   - **Regional Significance:** Reservoirs are primarily located in eastern, central, and peninsular regions, serving as lifelines for economically backward and water-scarce areas.
3. **Technological Interventions: Cage Culture**

   - **Mechanism:** Floating or stationary cages made of synthetic netting/mesh. They allow natural water flow, ensuring oxygen and nutrient exchange.
   - **Advantages:** Facilitates easier feeding, monitoring, and disease management.
   - **Species Focus:**
     - **Indian Major Carps:** Catla, Rohu, Mrigal (core species).
     - **Additional Species:** Tilapia, Pangasius.
     - **Ornamental Fish:** Stocking in specific projects like Amrit Sarovars in Arunachal Pradesh.

4. Government Initiatives on India's Fisheries Sector

- **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** A flagship scheme providing budgetary support for cage culture and quality seed stocking.
- **National Fisheries Development Board (NFDB):** Implementing a **cluster-based strategy** to enhance competitiveness.
- **Reservoir Clusters:** Announced for **Halali and Indra Sagar dams** in Madhya Pradesh to address sectoral gaps and enhance economies of scale.
- **Blue Revolution 2.0:** Focuses on the "Integrated Development and Management of Fisheries."
- **Kisan Credit Card (KCC) Extension:** The government extended **KCC facilities to fishers and fish farmers**.
- **Mission Amrit Sarovar:** Focuses on conserving surface and groundwater in district ponds.
    - Standard: Each Sarovar has a minimum pondage area of **one acre** with a capacity of **10,000 cubic metres**.

Q. With reference to the integrated development of fisheries in reservoirs, consider the following statements:

1. India is currently the second-largest producer of fish in the world and ranks second globally in aquaculture production.
2. Inland fisheries, which include freshwater, brackish, and saline water resources, account for 75% of India's total fish production.
3. Under the cluster-based strategy for reservoir ecosystems, Tamil Nadu has the maximum area under reservoirs in India.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Correct Answer: (a)

Explanation:

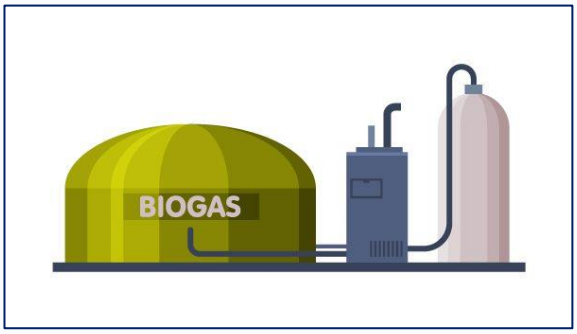
Statement 1 is Correct: India is among the top global fish producers and ranks **second in aquaculture production** after China.

Statement 2 is Correct: Inland fisheries (mainly freshwater, along with brackish water systems) contribute about **75% of India's total fish production**.

Statement 3 is Incorrect: The **largest reservoir area is not in Tamil Nadu**; states like **Rajasthan, Madhya Pradesh, Telangana, and Karnataka** have significantly larger reservoir resources under the cluster-based strategy.

3.2. MODERN BIOMASS STOVES AS AN ALTERNATIVE TO LPG

Context:



The ongoing LPG crisis has driven many rural households — especially in rural regions — back to firewood for cooking. This has renewed policy interest in improved biomass cookstoves as a sustainable, affordable, and cleaner alternative.

1. The Problem: LPG Crisis and Return to Firewood

- Many areas, especially **rural regions**, have reported going back to **firewood** due to rising LPG costs.
- Firewood use is seen as **increasing drudgery for women** and causing:
  - **Air pollution**
  - **Health hazards** (indoor air quality concerns)
- Traditional **chulhas** (mud stoves) waste most of their heat through **poor airflow** and have an efficiency of barely **10%**.

2. Comparison: Traditional Chulhas vs. Improved Cookstoves (ICS)

Feature	Traditional Chulha	Modern Improved Cookstoves (ICS)
Thermal Efficiency	Barely **10%**	**38% to 45%**
Fuel Consumption	High (wasteful airflow)	Cuts fuel use by up to **two-thirds** (66%).
Emissions	High soot, smoke, and health hazards.	Dramatically reduced smoke and harmful gases.
Key Technology	Open combustion.	**Secondary aeration** (catches soot before it turns to smoke).

3. Sustainability and Fuel Diversification

- **Firewood as a Renewable Resource:** It remains sustainable only if the **rate of extraction** does not exceed the **rate of regrowth**.
- **Alternative Biomass Fuels:** Modern stoves are versatile and can run on:
  - **Pellets** and **Briquettes** (made from sawdust).
  - **Agricultural Waste** (reduces pressure on raw firewood).

4. Economics and Financing Mechanisms

- **Upfront Costs:** Household models are affordable (starting below **₹2,000**), while commercial systems can exceed ₹20,000.
- **Operating Costs:** Firewood remains highly cost-effective compared to LPG during price surges.

- **Carbon Finance:** Emission savings from ICS can be tracked and converted into **Carbon Credits**. This creates a funding stream to make stoves even more affordable for lower-income families.
- **Financing Partners:** Microfinance, Corporate Social Responsibility (**CSR**) programs, and carbon finance are crucial for large-scale deployment.

5. Key Government Initiative

- **Pradhan Mantri Ujjwala Yojana (PMUY):** Launched in May 2016 by the Ministry of Petroleum and Natural Gas, PMUY provides LPG to rural poor households, reducing health and environmental risks from traditional fuels.
- **National Biogas and Manure Management Programme (NBMMP):** The Central Sector Scheme on NBMMP, launched in 1981–82, promotes family-type biogas plants through State Nodal Agencies, District Rural Development Agencies (DRDAs) and Khadi and Village Industry Commission (KVIC) centres.

Q. With reference to clean cooking and related initiatives in India, consider the following statements:

1. Pradhan Mantri Ujjwala Yojana aims to provide LPG connections to rural and deprived households to reduce dependence on traditional fuels.
2. The National Biogas and Manure Management Programme promotes large-scale industrial biogas plants exclusively for urban areas.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: A

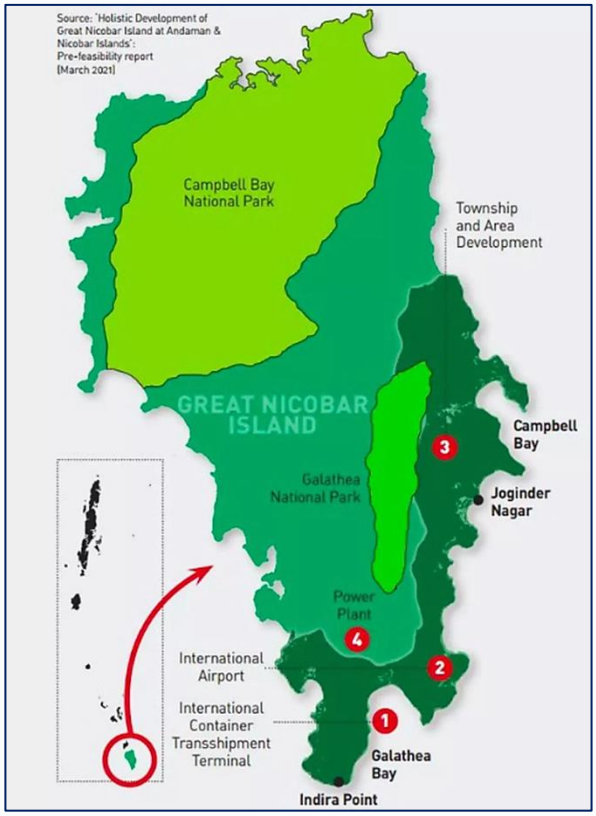
Statement 1 is Correct: Launched in May 2016, the **Pradhan Mantri Ujjwala Yojana (PMUY)** is a flagship scheme of the Ministry of Petroleum and Natural Gas. Its primary objective is to safeguard the health of women and children by providing clean cooking fuel (LPG) to BPL (Below Poverty Line) and deprived households, thereby reducing the reliance on traditional fuels like firewood and coal which cause heavy indoor air pollution.

Statement 2 is Incorrect: The **National Biogas and Manure Management Programme (NBMMP)**—now part of the **Biogas Programme Phase-II**—is primarily a **Central Sector Scheme** aimed at setting up **family-type biogas plants**. Its focus is largely on **rural and semi-urban areas** to benefit farmers and households by providing clean fuel for cooking and enriched organic manure for agriculture. It is not "exclusively for urban areas," nor is it limited to "large-scale industrial plants" (industrial-scale biogas is more closely associated with the **SATAT** or **GOBAR-dhan** initiatives).

3.3. THE GREAT NICOBAR ISLAND (GNI) HOLISTIC DEVELOPMENT PROJECT

Context:

The Union government is fast-tracking a ₹92,000 crore mega-infrastructure project to transform Great Nicobar Island into a major port and tourism-led economy. The project is strategically positioned to leverage the island's location at the western entrance of the **Malacca Strait**.



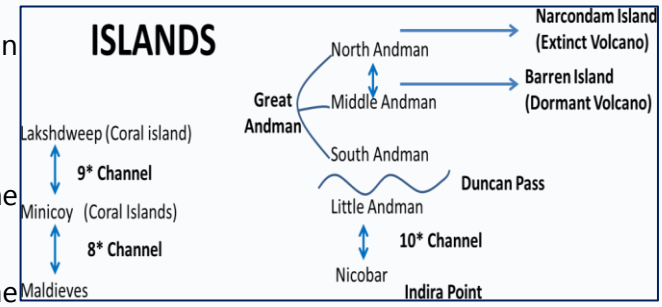
1. **Key Components of the Project**
   - **International Container Transshipment Port (ICTP):** Aimed at capturing a significant share of global sea trade.
   - **Greenfield International Airport:** To support both tourism and logistics.
   - **Power Plant:** To provide necessary energy infrastructure for the planned urban center.
   - **Township/Social Infrastructure:** Envisions healthcare, education, and biodiversity tourism facilities.
   - **Target Demographics:** A projected population of **3.36 lakh by 2055**, with an expected tourist inflow of one million annually.
   - **Promoting Body:** NITI Aayog
   - **Implementing Agency:** Andaman and Nicobar Islands Integrated Development Corporation Limited (ANIIDCO)
     - ANIIDCO was incorporated on 28th June 1988 under the Companies Act 1956 for rapid economic growth of the Islands.
   - **Operates under:** Ministry of Home Affairs
2. **Geographical and Strategic Significance**
   - **Location:** Great Nicobar is the southernmost island of the Andaman and Nicobar archipelago.
   - **Maritime Importance:** Its proximity to the **Malacca Strait** is vital for India's maritime security and economic interests in the Indo-Pacific region.
   - **Economic Goal:** To facilitate transshipment, reducing India's dependence on foreign ports like Colombo or Singapore.
3. **Indigenous Groups and Social Concerns**

   The project impacts two primary Particularly Vulnerable Tribal Groups (PVTGs) and local indigenous communities:
   - **The Shompen:** A nomadic hunter-gatherer tribe living in the interior forests of GNI.
   - **The Nicobarese:** An indigenous community primarily residing along the coasts.

- **Rights Issues:** Concerns regarding the settlement of forest rights and the potential relocation of these communities to make way for infrastructure.

4. About Andaman and Nicobar Islands (ANI)

- ANI is a UT with 572 islands (Bay of Bengal), of which 38 are inhabited.
- **Comprises two groups:** Andaman Islands and Nicobar Islands, divided by the 10° Channel.
- **Duncan Passage** separates Little Andaman from South Andaman.
- **Closer to equator**: Located between 6° to 14°
- Separated from Thailand and Myanmar by the **Andaman Sea**.
- Island chain is a submerged extension of the **Arakan Mountains.**



- **Dugong** (sea mammal) is the official animal, endemic to the Indo-Pacific coast, especially Andaman.
- In 2018, three islands were renamed to honour **Subhas Chandra Bose**:
  - Ross → Netaji Subhash Chandra Bose Island
  - Neil → Shaheed Island
  - Havelock → Swaraj Island
- In September 2024, the capital of the ANI (Port Blair) was renamed **Sri Vijaya Puram.**

5. Hotspot Status and biodiversity:

- Nicobar fall under the Sundaland Biodiversity Hotspot.
- **Great Nicobar Biosphere Reserve:** It covers 885 km² across **Campbell Bay and Galathea National Parks (core zone).**

Q. Consider the following statements with reference to the Great Nicobar Island (GNI) Project:

1. The Great Nicobar Project, initiated by Ministry of Ports, Shipping and Waterways, aims to leverage the island's strategic location near the Malacca Strait.
2. The core components of the GNI Project include; an International Container Transshipment Terminal (ICTT), a dual-use military civilian airbase, and a mega solar–gas hybrid power plant.
3. Galathea Bay, included in the project region, is a nesting site of the Leatherback turtle.

Which of the above statements is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 3 only

Answer: C

- The Great Nicobar Island (GNI) Development project, officially named the **"Holistic Development of Great Nicobar Island,"** is a massive infrastructure plan spearheaded by NITI Aayog and executed by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO). **So, statement 1 is not correct.**
- The Great Nicobar Island Development Project includes an International Container Transshipment Terminal (ICTT), a greenfield international airport, two greenfield cities, a coastal mass rapid transit system, and a free trade zone. **So, statement 2 is correct**
- Key concerns: Great Nicobar, over 85% rainforest-covered, is a biodiversity hotspot; Galathea Bay, a Ramsar wetland, is a key nesting site for endangered Leatherback turtles. **So,statement 3 is correct.**

3.4. CORPORATE AVERAGE FUEL EFFICIENCY (CAFE-III) NORMS

Context:

Recently, the Ministry of Power, through the **Bureau of Energy Efficiency (BEE)**, finalized the draft for the third phase of fuel efficiency standards, known as **CAFE-III norms**, which are set to take effect from **April 1, 2027**. This move comes as the government seeks to balance India's ambitious "Net Zero 2070" goals with the practical challenges faced by the domestic automobile industry, particularly regarding the revival of the small car segment and the transition to electric mobility.

1. **What are CAFE Norms?**

   CAFE stands for **Corporate Average Fuel Efficiency**. These are regulations aimed at lowering the fuel consumption (and thus CO_2 emissions) of a manufacturer's entire fleet of vehicles rather than focusing on a single model.

   - **Mechanism:** It is a "sales-weighted average." A manufacturer can sell high-emission vehicles (like heavy SUVs) as long as they balance them by selling enough low-emission vehicles (like EVs or Hybrids) to keep the average within the prescribed limit.
   - **Legal Basis:** These norms are notified by the Ministry of Power under the **Energy Conservation Act, 2001**.
   - **Applicability:** They apply to passenger vehicles weighing less than **3,500 kg**, including petrol, diesel, CNG, LPG, hybrids, and electric vehicles.

2. **Key Features of CAFE-III (2027–2032)**

   The CAFE-III phase introduces several strategic shifts compared to its predecessors:

   - **Stricter Emission Targets:** The fleet-wide CO_2 emission target is proposed to be reduced significantly. While CAFE-II (2022-2027) set a limit of **113 g/km**, CAFE-III aims for approximately **91.7 g/km**.
   - **The "Super Credit" System:** To incentivize green technology, manufacturers earn "super credits" for selling EVs and hybrids. In the calculation of the fleet average:
     - **Electric Vehicles (EVs):** Counted as **3 units**.

- **Plug-in Hybrids:** Counted as **2.5 units**.
- **Strong Hybrids:** Counted as **2 units**.

- **Incentives for Small Cars:** To revive the declining small car market, a relaxation of up to **9 g/km** of CO_2 is provided for compact cars (under 4m length, <1200cc engine, and <909 kg weight).
- **Emissions Pooling:** Up to three automakers can form a "pool" to meet targets jointly. This allows a company lagging in EV tech to partner with an EV-only manufacturer to avoid penalties.
- **Block Period Compliance:** Unlike the annual assessment in CAFE-II, CAFE-III proposes a **3-year block period** (followed by a 2-year phase), allowing manufacturers more flexibility to time their new model launches.

3. CAFE Norms vs. Bharat Stage (BS) Norms

Feature	CAFE Norms	Bharat Stage (BS) Norms
Primary Focus	Fuel efficiency and **CO_2** emissions.	Toxic pollutants (**NOx, PM, CO, SOx**).
Measurement	**Fleet-wide** sales-weighted average.	**Individual** vehicle exhaust testing.
Objective	Reduce oil imports & climate impact.	Improve air quality & public health.
Nodal Agency	Bureau of Energy Efficiency (**BEE**).	Central Pollution Control Board (**CPCB**).

Q. With reference to the Corporate Average Fuel Efficiency (CAFE) norms in India, consider the following statements:

1. These norms are notified by the Ministry of Environment, Forest and Climate Change (MoEFCC) under the Environment Protection Act, 1986.
2. Under the CAFE-III norms, a "Super Credit" system exists where a single Electric Vehicle sold is counted as three units for the purpose of fleet average calculation.
3. CAFE norms focus on the reduction of individual vehicle pollutants like Nitrogen Oxides (NOx) and Particulate Matter (PM).

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Answer: B

- **STATEMENT 1 INCORRECT:** CAFE norms are notified by the **Ministry of Power** under the **Energy Conservation Act, 2001**, not the MoEFCC.
- **STATEMENT 2 CORRECT:** The draft CAFE-III norms provide a multiplier (Super Credit) of **3** for Battery Electric Vehicles to encourage their adoption.

- **STATEMENT 3 INCORRECT:** CAFE norms focus on **CO_2 emissions and fuel efficiency** of the entire fleet. The reduction of individual pollutants like NOx and PM is the primary objective of **Bharat Stage (BS) norms**.

3.5. SULPHUR EXPORT

Context:

- **Recently**, the Indian government has begun considering a proposal to restrict the export of sulphur to ensure domestic availability. This move comes in response to soaring global prices and severe supply disruptions from the Middle East, particularly due to the ongoing **Iran war** which has impacted shipping through the Strait of Hormuz.
- Additionally, the domestic industry has raised concerns as other major players, like **China**, are also set to restrict sulphuric acid exports, and **Turkey** has implemented similar bans, creating a tightening global market for this critical mineral.

1. **Physical and Chemical Properties**
   - **Element:** Sulphur is a non-metallic chemical element (Atomic Number 16).
   - **Appearance:** In its elemental form, it is a bright yellow, brittle solid at room temperature.
   - **Abundance:** It is the **10th most abundant** element by mass in the universe and the **5th most common** on Earth.
   - **Biogeochemical Cycle:** It follows a **sedimentary cycle** (Sulphur Cycle), primarily stored in rocks and salts or buried deep in the ocean.
2. **Sources and Extraction**
   - **Natural Deposits:** Found near volcanoes and hot springs (native sulphur).
   - **By-product of Fossil Fuels:** Most modern sulphur is obtained as a by-product of **petroleum refining** and **natural gas processing** to remove hydrogen sulphide.
   - **Frasch Process:** A method used to extract elemental sulphur from underground deposits by using superheated water to melt the mineral.
   - **Industrial By-product:** It is also recovered during the smelting of sulphide ores (like copper, zinc, and lead).

Applications of Sulphur

1. **Agriculture (The "Fourth Major Nutrient")**

   Sulphur is often considered the fourth major plant nutrient after Nitrogen (N), Phosphorus (P), and Potassium (K).

   - **Fertilizers:** It is a key ingredient in **Single Super Phosphate (SSP)**, **Ammonium Sulphate**, and **Ammonium Phosphate Sulphate**.
   - **Plant Physiology:** It is essential for the synthesis of oils, vitamins, and chlorophyll. It is a constituent of three amino acids (methionine, cystine, and cysteine) which are the building blocks of proteins.
   - **Soil Health:** Used as a soil conditioner to reduce the pH of highly alkaline soils.

2. Industrial Uses

- **Sulphuric Acid:** About 90% of sulphur is converted into sulphuric acid, the most widely used industrial chemical globally.
- **Mining:** Used in the leaching process for metals like copper and nickel.
- **Refining:** Critical in the manufacturing of detergents, plastics, and explosives.

India's Sulphur Dynamics

- **Import Dependency:** India imports over **50%** of its annual sulphur requirement (approx. 2 million metric tons), primarily from the Middle East (Qatar, UAE, Oman).
- **Domestic Production:** India produces sulphur as a by-product in its oil refineries.
- **Policy Intervention:** The government has recently prioritized the supply of refinery sulphur to domestic fertilizer companies to stabilize prices for farmers ahead of the **Kharif season**.

Q. With reference to Sulphur, consider the following statements:

1. It is primarily obtained as a by-product from the processing of natural gas and the refining of crude oil.
2. In the plant life cycle, it is a mobile nutrient, meaning deficiency symptoms first appear in older leaves.
3. India is a net exporter of elemental sulphur and does not rely on imports from the Middle East.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 1 and 2 only

(d) 1, 2 and 3

Answer: A

- **STATEMENT 1 IS CORRECT:** Most elemental sulphur produced globally today is a by-product of removing sulphur-containing contaminants from natural gas and petroleum.
- **STATEMENT 2 IS INCORRECT:** Sulphur is relatively **immobile** within the plant. Therefore, deficiency symptoms (like yellowing) typically appear first on **younger leaves**, unlike Nitrogen where symptoms appear on older leaves first.
- **STATEMENT 3 IS INCORRECT:** India is heavily dependent on imports for sulphur, sourcing nearly **50%** of its requirements from Middle Eastern countries like Qatar and the UAE. While it does export some quantities (mainly to China), it is currently considering restrictions to meet domestic shortages.

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4.1. NATURE'S SIGNALS — SENTINEL SPECIES

Context:

Recently, the **International Union for Conservation of Nature (IUCN)** declared the **Emperor Penguin** an endangered species, bringing the concept of **sentinel species** back into focus.

1. What is a Sentinel Species?

- Sentinel species are organisms—including animals, plants, and microbes—that act as **early warning signals** for environmental degradation, pollution, or ecological imbalance. Their health, population levels, or behavior reflect the overall condition of their ecosystem, providing vital data often before humans notice broader environmental issues.
- They are among the **first to respond to stressors** in their environment such as **pollution, disease, and environmental change**.
- Their response to threats tends to be **more apparent than most other species**.

Key Characteristics

- **High Sensitivity:** They are often among the first to respond to environmental stressors like pollutants, disease, or climate changes.
- **Bioaccumulation:** They often accumulate toxins in their tissues, acting as natural indicators of hazardous levels of pollution.
- **Fixed Territory:** Many sentinel species occupy a specific area, allowing researchers to pinpoint the source of a problem.
- **Physiological Indicators:** Their physiology often amplifies environmental changes, making it easier to detect issues.

2. Examples of Sentinel Species and Their Significance

Species	Ecosystem/Environment	Stressor/Indicator
Frogs (Amphibians)	Aquatic & Terrestrial	Permeable skin absorbs pesticides and pathogens; indicates overall ecological stress.
Canaries	Coal Mines	Faster metabolism makes them succumb to **Carbon Monoxide** before humans notice.
Honeybees	Agricultural Lands	Used to track agricultural chemical loads (pesticides).
Polar Bears	Arctic Region	Monitor the accumulation of Arctic contaminants.
Emperor Penguins	Antarctic Region	Sentinel for **Climate Warming**; their population is projected to halve by the 2080s.
Fish Species	Rivers/Oceans	Used to detect industrial runoff and water pollution.

3. **Emperor Penguin**
   - **IUCN Status:** Endangered (declared April 9, 2025)
   - **Habitat:** Antarctic region
   - **Role:** Sentinel species for **warming in the Antarctic region**
   - **Threat:** Climate change is projected to **halve their population by the 2080s**
   - **Scientific significance:** Their declining population signals broader Antarctic ecosystem stress
4. **Why Scientists Monitor Sentinel Species**
   - They help **detect pollution** (chemical, industrial, agricultural)
   - They serve as **bio-indicators** of ecosystem health
   - Their physiological sensitivity makes them **natural early-warning systems**
   - Monitoring them is **cost-effective** compared to direct environmental testing
   - A declining sentinel population often signals **wider ecological stress** even before other indicators detect the problem
5. **Difference Between Sentinel Species and Indicator Species**

Feature	Sentinel Species	Indicator Species
Primary Goal	**Early Warning:** To alert humans to a specific threat (pollution, disease) before it affects the wider population. **Sentinel = Health Signal:** Think of a medical check-up for the planet. It's about the **physiology** of the animal (e.g., a bird getting a tumor from toxic runoff).	**Assessment:** To reflect the general health, quality, or character of an ecosystem. **Indicator = Presence Signal:** Think of a census. It's about whether the animal **can exist** there (e.g., if the forest is healthy, the Spotted Owl will be there).
Observation	Focuses on the **physical health or physiological changes** in individuals (e.g., getting sick).	Focuses on the **presence, absence, or population density** of the species in a habitat.
Response Time	Responds very rapidly to stressors.	Responds over a period of time as the habitat changes.
Example	**Canaries** in coal mines (dying from gas before humans notice).	**Lichens** on trees (their presence indicates clean air/lack of sulfur dioxide).

Q. With reference to sentinel species, consider the following statements:

I. Sentinel species act as early warning systems by showing physiological or behavioral changes in response to environmental stressors.

II. They are primarily used to indicate only the presence or absence of a species in an ecosystem.
III. Honeybees and frogs are examples of sentinel species used to monitor environmental pollution.
IV. Sentinel species are typically less sensitive than indicator species to environmental changes.

Which of the statements given above is/are correct?

(a) I and III only

(b) II and IV only

(c) I, III and IV only

(d) I, II, III and IV

Answer: A

Statement I is Correct: Sentinel species serve as "early warning systems." Because they are highly sensitive to specific environmental changes (like toxins or pathogens), they exhibit **physiological** (e.g., changes in blood chemistry, tumors) or **behavioral** (e.g., altered nesting habits) changes before those stressors impact the broader ecosystem or human health.

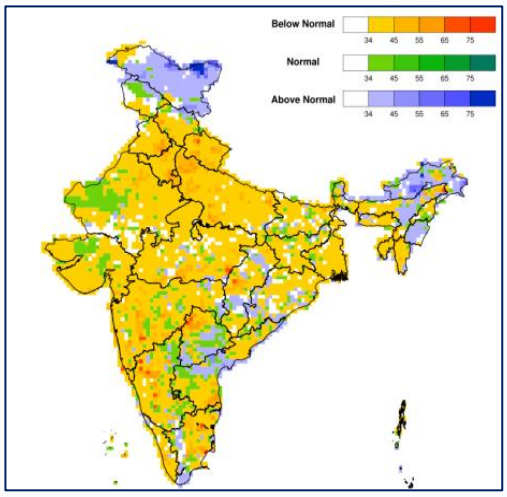
Statement II is Incorrect: This description applies to **Indicator Species**. While indicator species are used to monitor the *presence, absence, or abundance* of a population to reflect habitat quality, sentinel species are specifically monitored for their **health status** and physiological signals.

Statement III is Correct: Both are classic examples. **Honeybees** act as sentinels for agricultural chemical loads (pesticides), and **frogs**, with their permeable skin, serve as sentinels for pathogens and water-borne toxins.

Statement IV is Incorrect: Sentinel species are typically **more sensitive**—or at least show a more **apparent and rapid response**—than other species. Their high sensitivity is the primary reason scientists select them to serve as early warning indicators.

4.2. IMD'S 2026 MONSOON FORECAST AND CLIMATIC VARIABLES

Context:



The India Meteorological Department (IMD) has projected a **"below-normal"** southwest monsoon for 2026, the first such forecast in 11 years. India is expected to receive only **92% of the Long Period Average (LPA)** of 87 cm rainfall this year.

1. **Key Climatic Drivers and Their Impact**

   The monsoon performance in India is heavily influenced by global atmospheric and oceanic phenomena:

   - **El Niño:** Identified as the primary reason for the "below-normal" projection. It involves the periodic warming of the Central Equatorial Pacific. Since 1960, El Niño has emerged in 16 years and depressed Indian monsoon rainfall nine times.
   - **Indian Ocean Dipole (IOD):** A "positive" IOD is likely to develop toward the end of the 2026 monsoon season. This condition refers to oscillations of sea-surface temperatures between the western (near Africa) and eastern (near Indonesia) tropical Indian Ocean. A positive dipole generally tends to bring more rain to India and can offset the negative impact of El Niño.

- **Northern Hemisphere Snow Cover:** The snow cover from January to March 2026 has been slightly below normal. Reduced snow cover is generally associated with better rainfall in India.
- **Transition from La Niña:** At present, the region is transitioning from "weak" La Niña-like conditions (the cooler converse of El Niño) to neutral conditions.

2. Technical Definitions and Standards

- **Long Period Average (LPA):** The Long Period Average (LPA) of rainfall is the average rainfall recorded over a particular region for a specific interval (e.g., month or season) calculated over a long period, typically **50 years.**
  - The benchmark for monsoon rainfall in India, currently set at **87 cm**.
- **"Below-Normal" Rainfall:** Officially defined as rainfall at **90% to 95% of the LPA**.
- **"Deficient" Rainfall:** The IMD refers to rainfall less than **90% of the LPA** as "deficient" rather than using the term "drought".
- **Normal:** Rainfall is considered 'normal' if it lies between 96% and 104% of the Long Period Average.

4. Socio-Economic Implications

- **Agriculture:** Insufficient rain significantly impacts farming, as Indian agriculture remains largely **rainfed**.
- **Input Supply:** Disruptions in fertilizer supply ahead of the **Kharif season** (anticipated due to regional wars) combined with insufficient rain could further impact productivity.

5. Role of Jet Streams

Jet Stream	Season	Effect
Subtropical Westerly Jet	Winter	Brings western disturbances to North India
Tropical Easterly Jet	Summer	Drives and sustains Southwest Monsoon
Somali Jet	Summer	Low-level jet that transports moisture from Arabian Sea to India

Q. With reference to monsoon classifications used by the India Meteorological Department, consider the following:

1. Below-normal rainfall is defined as 90%–96% of LPA.
2. Deficient rainfall is less than 90% of LPA.
3. Deficient rainfall is officially termed as drought by IMD.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Answer: A

Statement 1 is Correct: The India Meteorological Department (IMD) defines **"below-normal"** rainfall as being between **90% and 96%** of the Long Period Average (LPA).

Statement 2 is Correct: Rainfall is classified as **"deficient"** when the actual precipitation is **less than 90%** of the LPA.

Statement 3 is Incorrect: The IMD's official parlance **does not use the term "drought"** to describe rainfall levels. Instead, it refers to rainfall less than 90% of the LPA simply as **"deficient"**. The term "drought" is generally avoided in their official meteorological forecasts.

4.3. RISING POLLEN LEVELS AND SEASONAL ALLERGIES

Context:

Recently, cities like Kolkata and other parts of India have reported a significant surge in **pollen concentrations**, leading to a spike in seasonal allergies, hay fever, and respiratory issues. This phenomenon is increasingly linked to changing climatic patterns and urban vegetation choices.

1. Understanding Pollen (Biological Basics)

- **Definition:** Pollen consists of microscopic grains discharged from the male part of a flower (anther) or from male cones. They are the male gametophytes of seed plants.
- **Dispersal (Pollination):**
  - **Anemophilous plants:** These are wind-pollinated plants (e.g., grasses, oaks, pines). They produce vast quantities of lightweight pollen, which are the primary cause of allergies.
  - **Entomophilous plants:** These are insect-pollinated plants. Their pollen is usually heavier and stickier, making them less likely to become airborne.

2. The Link with Climate Change

- **Extended Growing Seasons:** Rising global temperatures cause plants to bloom earlier and for longer durations, extending the "pollen season".
- **The CO2 Factor:** Higher atmospheric Carbon Dioxide (CO2) levels act as a "fertilizer" for plants. Studies show that increased CO2 can lead to plants producing **more potent** and a **higher volume** of pollen grains.
- **Urban Heat Island Effect:** Cities stay warmer than rural areas, trapping pollen and pollutants near the ground, worsening the impact on urban populations.

3. Public Health: Pollen and Air Quality

- **Aeroallergens:** Pollen is classified as a biological air pollutant.
- **Thunderstorm Asthma:** A rare but serious phenomenon where a thunderstorm "shatters" pollen grains into much smaller particles. These tiny particles can bypass the nose and enter deep into the lungs, causing acute asthma attacks.

4. **Policy and Urban Planning**
    - **Botanical Sexism:** A term often used to describe urban planning that prioritizes planting **male trees** (to avoid the "litter" of fruits and seeds). Since male trees produce pollen, this practice significantly increases the pollen load in urban air.
    - **Mitigation:** Experts suggest a "biodiverse urban forest" approach, mixing male and female trees and prioritizing insect-pollinated species to reduce airborne allergens.
5. **Scientific Advancement (Predictive Model)**

    A team of researchers from **France and the United States** has developed a **new computational model** to predict how pollen behaves in the air.
    - The study was published in the journal *Physics of Fluids*.
    - The model is called **DF-PIBM (Direct-Forcing Porous Immersed Boundary Method)**.

    This model helps scientists understand:
    - How pollen grains move with wind
    - When and how they are released from trees
    - How far they can travel in the atmosphere

Q. With reference to rising pollen levels and seasonal allergies, consider the following statements:

1. Wind-pollinated plants produce large quantities of lightweight pollen that are more likely to cause allergies.
2. Higher atmospheric carbon dioxide levels can increase the quantity of pollen produced by plants.
3. Thunderstorm asthma occurs when pollen grains are broken into finer particles that can penetrate deeper into the lungs.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Answer: D

Statement 1 is Correct: Wind-pollinated (anemophilous) plants release **large amounts of light, airborne pollen**, which easily spreads in the air and is the **major cause of allergies**.

Statement 2 is Correct: Increased **atmospheric CO_2 acts as a fertilizer**, leading to **greater plant growth and higher pollen production**.

Statement 3 is Correct: In **thunderstorm asthma**, pollen grains absorb moisture and **burst into very fine particles**, which can bypass the nose and **enter deep into the lungs**, triggering severe asthma attacks.

4.4. SUPREME COURT INTERVENTION ON ILLEGAL SAND MINING IN CHAMBAL SANCTUARY

Context:

Recently, the Supreme Court of India took *suo motu* (on its own motion) cognisance of rampant illegal sand mining in the **National Chambal Gharial Sanctuary**.

- **Court Observation:** The Bench (Justices Vikram Nath and Sandeep Mehta) termed it an "environmental crisis" caused by "administrative indifference" and "greed."
- **Key Directives:** Mandatory installation of high-resolution **Wi-Fi-enabled CCTV** cameras at mining routes.
    - Pilot project for **GPS tracking** on all mining-related vehicles in **Morena (MP)** and **Dholpur (Rajasthan)**.
    - Warning to deploy **paramilitary forces** if states fail to take concrete measures by May 11, 2026.

1. The Chambal River System

The Chambal River is unique as it is one of the least polluted rivers in India, primarily due to its rugged "**badland" topography** which historically restricted human settlement.

- **Origin:** Rises in the **Vindhya Range** (Janapav hills near Mhow, Madhya Pradesh).
- **Course:** Flows North-Northeast through MP, runs through Rajasthan, forms the boundary between Rajasthan and MP, and eventually joins the **Yamuna River** in Jalaun district, UP.
- **Tributaries:** The primary tributaries are Banas, Mej, Parvati, Kali Sindh, and Shipra.
- **Topography:** Famous for **Chambal Ravines** (Badland Topography) caused by gully erosion.
- **Dams (Chambal Valley Project):**
    (a) Gandhi Sagar (MP)
    (b) Rana Pratap Sagar (Rajasthan)
    (c) Jawahar Sagar (Rajasthan)
    (d) Kota Barrage (Rajasthan)
- **Famous cities:** Kota, Rawatbhata, Sheopur
- **Famous sites:**
    - Garadia Mahadev Temple: Panoramic river gorge views in Kota.
    - Bhainsrorgarh Fort: Historic fort atop a 250-ft cliff overlooking the river.
    - Bateshwar Temples: Cluster of 200+ ancient sandstone temples near riverbanks.
    - Machkund Temple (Dholpur, Rajasthan): A holy site located about 4 km from Dholpur.

3. Ecology: National Chambal Gharial Sanctuary (NCS)

Established in 1979, this is a **tri-state protected area** (Madhya Pradesh, Rajasthan, and Uttar Pradesh).

Feature	Details
Primary Fauna	**Gharial** (*Gavialis gangeticus*), Red-crowned roof turtle, Ganges River Dolphin.
Gharial Status	**Critically Endangered** (IUCN Red List); Schedule I of Wildlife Protection Act, 1972.
River Dolphin Status	**Endangered** (IUCN Red List).
Vegetation	Kathiar-Gir dry deciduous forest ecoregion; characterized by thorny shrubs.
Other Species	Mugger crocodile, Smooth-coated **otter**, Indian Skimmer (bird).

4. Key Threats & Legal Provisions

- **Sand Mining:** Destroys the **nesting grounds** of gharials and turtles who use sandy banks to lay eggs.
- **Legal Framework:**
  - **Section 35 of Wildlife Protection Act (1972):** Relates to Declaration of National Parks/Sanctuaries.
  - **Environment Protection Act (1986):** Regulates activities in Eco-Sensitive Zones (ESZ).
  - **Sustainable Sand Mining Management Guidelines (2016):** Issued by MoEFCC to promote scientific mining.
  - **Article 142:** It demonstrates the court's ability to issue "**complete justice**" orders, such as mandating the use of GPS and CCTV—technologies not explicitly mentioned in older environmental statutes but necessary for modern enforcement.

Q. Consider the following statements regarding the Chambal River system:

1. It originates in the Vindhya Range and flows into the Yamuna River.
2. It forms part of the boundary between Rajasthan and Madhya Pradesh.
3. Its basin is characterized by fertile alluvial plains with dense agricultural settlement.
4. It is considered one of the least polluted rivers in India.

Which of the statements given above are correct?

(a) 1, 2 and 4 only (b) 1 and 3 only

(c) 2, 3 and 4 only (d) 1, 2, 3 and 4

Answer: A

Statement 1 is Correct: The Chambal River originates in the **Vindhya Range** (specifically the Janapav hills near Mhow, MP). It flows north-northeast and is a major tributary that joins the **Yamuna River** in the Jalaun district of Uttar Pradesh.

Statement 2 is Correct: The river serves as a natural boundary between the states of **Rajasthan and Madhya Pradesh** for a significant stretch of its course.

Statement 3 is Incorrect: This is a classic "trap" statement. The Chambal basin is actually famous for its **Badland Topography**, characterized by extensive **ravines** (gullies) caused by severe soil erosion.

This landscape makes the area largely unsuitable for dense agricultural settlement compared to the fertile plains of the Ganga.

Statement 4 is Correct: Due to the rugged ravine terrain and the lack of industrialization along its banks, the Chambal is widely recognized as one of the **cleanest and least polluted** major rivers in India. This purity is why it supports sensitive species like the Critically Endangered Gharial and the Gangetic River Dolphin

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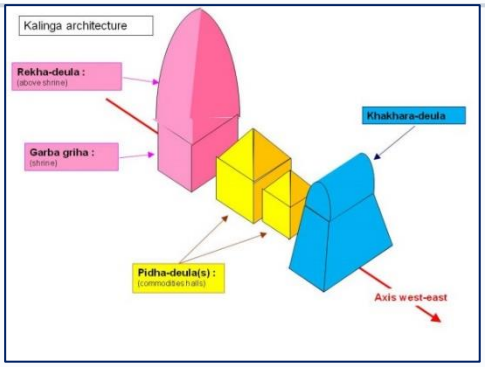
5.1. INVENTORY OF JEWELS IN INNER CHAMBER OF JAGANNATH TEMPLE

Context:

Recently, the **Odisha High Court** ordered an inventory of valuables stored in the **Bhitara Ratna Bhandar** (inner chamber) of the **Shree Jagannath Temple, Puri** — the first such exercise since **1978** (after 48 years). A team of goldsmiths, RBI representatives, and temple priests is conducting this exercise using **3D mapping and colour-coded categorization.**

1. **Historical and Architectural Context**
   - **Temple Era:** The Shree Jagannath Temple was constructed in the **12th century**.
   - **Dynastic Link:** It was commissioned by King **Anantavarman Chodaganga Deva** of the Eastern **Ganga Dynasty.**
   - **Architectural Style:** It is a classic example of **Kalinga Architecture**, specifically the **Rekha Deul** (Sanctum with a curvilinear spire) style.
   - **Deities:** The temple is dedicated to **Lord Jagannath, Lord Balabhadra, and Goddess Subhadra.** Unlike traditional stone idols, these are made of **wood** and are ritually replaced during the *Nabakalebara* ceremony.
   - **The Four Dhams:** It is one of the four holiest pilgrimage sites (**Char Dham**) in Hinduism.
   - **Associated Bhakti Saints:** Many great Vaishnava saints, such as Chaitanya Mahaprabhu, Ramanujacharya, Madhvacharya, Nimbarkacharya, Vallabhacharya and Ramananda were closely associated with the temple.
2. **The Ratna Bhandar and Inventory Process**
   - **Bhitara Ratna Bhandar:** This is the inner chamber of the treasury used to store unused jewelry and ancient valuables of the temple.
   - **Supervision:** The documentation is conducted by a team including goldsmiths, representatives of the **Reserve Bank of India (RBI)**, and temple priests.
   - **Modern Technology:** For the first time, **3D mapping** is being used to document items, along with a systematic weighing and cataloging process.
   - **Color-Coding System:** A specific system is used for storage—gold ornaments are wrapped in **yellow velvet**, while silver and precious stones are stored in **white and red clothing**.
3. **Kalinga Temple Architecture: Key Features**
   - Rekha Deula (Main Shrine): A tall, vertical, sugar-loaf-shaped building covering the sanctum sanctorum, designed to look like a mountain peak. Examples include the main spire of the Lingaraj and Konark Sun temples.

- Pidha Deula (Assembly Hall): A rectangular or square hall featuring a pyramid-shaped roof built with horizontal tiers (pidhas), typically used for the jagamohana (audience hall).
- Khakhra Deula (Shakti Temples): Rare rectangular structures with a barrel-vaulted roof (resembling a pumpkin or gourd), often dedicated to female deities like Shakti (e.g., Baitala Temple).



4. Important Festivals Associated with Jagannath Temple

Festival	Significance
Rath Yatra	Annual chariot procession; deities taken out in three massive chariots — Nandighosa (Jagannath), Taladhwaja (Balabhadra), Darpadalana (Subhadra)
Snana Yatra	Bathing festival of the deities on Jyeshtha Purnima
Nabakalebara	Ritual replacement of wooden deities (Daru Brahma) — occurs once in 8, 12, or 19 years
Chandan Yatra	42-day festival involving boat processions
Bahuda Yatra	Return chariot procession after Rath Yatra

5. UNESCO and Heritage Status

- Jagannath Temple is part of the **Puri Heritage Corridor** project
- Puri is being developed as a **heritage smart city**
- The **Konark Sun Temple** (also in Odisha, Eastern Ganga dynasty) is a **UNESCO World Heritage Site**
- The three major temples of Odisha — Jagannath (Puri), **Lingaraj** (Bhubaneswar), and **Konark** (Sun Temple) — represent the pinnacle of Kalinga architecture

Q. With reference to the religious significance of the Jagannath Temple, consider the following statements:

1. It is one of the Char Dham pilgrimage sites.
2. It is associated with several Bhakti saints like Chaitanya Mahaprabhu.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: C

Statement 1 is Correct: The Shree Jagannath Temple in Puri is one of the four holiest pilgrimage sites in Hinduism, known as the **Char Dham**. The other three sites are Badrinath (North), Dwaraka (West), and Rameswaram (South). These sites were traditionally defined by the 8th-century philosopher and

saint Adi Shankaracharya to unite the diverse geographic regions of India under a shared spiritual identity.

Statement 2 is Correct: The temple has deep roots in the **Bhakti Movement**. It is famously associated with **Chaitanya Mahaprabhu**, the 15th-century saint and founder of Gaudiya Vaishnavism, who spent the last 18 years of his life in Puri worshipping Lord Jagannath. Other prominent Bhakti figures associated with the temple include Ramanujacharya and Jayadeva (author of the *Gita Govinda*).

5.2. RONGALI BIHU

Context:

- **Recently**, the vibrant festivities of Rongali Bihu (also known as Bohag Bihu) have commenced across Assam, marking the onset of the Assamese New Year and the spring seeding season.
- This cultural milestone coincides with several other major harvesting and New Year festivals across India, such as Baisakhi in Punjab, Poila Boishakh in West Bengal, Puthandu in Tamil Nadu, and Vishu in Kerala, reflecting the diverse yet unified agricultural heritage of the nation.

1. Rongali Bihu: The Heart of Assam

Bihu is the most significant cultural festival of Assam, deeply rooted in the agrarian lifestyle of the Brahmaputra Valley. It is celebrated thrice a year to mark different stages of the paddy crop cycle.

The Three Types of Bihu

- **Rongali or Bohag Bihu (April):** This is the most important Bihu, marking the **Assamese New Year** and the beginning of the seeding season. It is a festival of joy ("Rong" means joy) and lasts for seven days (Saat Bihu).
  - **Goru Bihu:** Dedicated to the health and safety of livestock.
  - **Manuh Bihu:** People wear new clothes (including the traditional **Gamosa**) and seek blessings from elders.
- **Kongali or Kati Bihu (October):** A solemn occasion where lamps (*Saaki*) are lit in the paddy fields to pray for the protection of the standing crops during the growing stage.
- **Bhogali or Magh Bihu (January):** Marks the end of the harvesting season. It is characterized by feasting ("Bhoga" means eating). Community feasts are held in temporary thatched structures called **Bhelaghar**, and the festival concludes with the burning of the **Meji** (bonfire).

Cultural Elements

- **Bihu Dance:** An energetic folk dance performed by both men and women. In 2023, it was recognized by **UNESCO** for its unique Intangible Cultural Heritage.
- **Instruments:** Traditional music is played using the **Dhol** (drum), **Pepa** (buffalo horn pipe), **Gogona** (jaw harp), and **Toka** (bamboo clapper).

- **Cuisine:** Special delicacies like *Pitha* (rice cakes), *Laru* (sweet balls), and *Jolpan* are prepared.

2. Harvest Festivals Across India

Harvest festivals in India are generally celebrated when the sun enters the sign of *Mesha* (Aries) or during the transition of the sun into *Makara* (Capricorn), signifying the end of winter or the beginning of a new harvest cycle.

Festival	Region / State	Key Significance
Baisakhi	Punjab & Haryana	Marks the harvest of Rabi crops and the formation of the **Khalsa Panth** (1699).
Vishu	Kerala	Characterized by the *Vishukkani* (first sight in the morning) and the yellow *Kanikkonna* flowers.
Puthandu	Tamil Nadu	The Tamil New Year; houses are decorated with *Kolams* (rice powder patterns).
Poila Boishakh	West Bengal	The Bengali New Year; starts with cleaning houses and traditional business accounting (*Haal Khata*).
Pana Sankranti	Odisha	Also known as Maha Bishuba Sankranti; marks the Odia New Year.
Gudi Padwa	Maharashtra	Marks the New Year; a *Gudi* (decorated pole) is hoisted outside homes to symbolize victory.
Ugadi	Andhra, Telangana, Karnataka	Known for *Ugadi Pachadi*, a dish with six tastes representing different emotions of life.
Nuakhai	Odisha (Western)	Celebration of the "New Rice" harvest, usually held in August/September.
Wangala	Meghalaya (Garo Tribe)	Known as the "100 Drums Festival"; a thanksgiving for a bountiful harvest.

Q. With reference to the traditional festivals of India, consider the following statements:

1. Rongali Bihu marks the completion of the harvesting season in Assam and is celebrated with community bonfires called Mejis.
2. The festival of Vishu in Kerala involves the viewing of 'Vishukkani', which consists of auspicious items like rice, fruits, and flowers.
3. Wangala, also known as the 100 Drums Festival, is a harvest festival celebrated primarily by the Garo tribe in Meghalaya.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Answer: B

- **STATEMENT 1 IS INCORRECT: Rongali Bihu** (or Bohag Bihu) marks the **beginning** of the seeding/sowing season and the New Year. It is **Bhogali Bihu** (Magh Bihu) that marks the completion of the harvest and involves the burning of Mejis.
- **STATEMENT 2 IS CORRECT:** Vishu is the astronomical New Year in Kerala. The ritual of 'Vishukkani' (the first thing seen on waking up) is believed to bring luck for the entire year.
- **STATEMENT 3 IS CORRECT:** Wangala is the post-harvest festival of the Garos in Meghalaya and parts of Assam, dedicated to Saljong, the Sun God of fertility. It is famous for the synchronized beating of a hundred drums.

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