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for

IAS EXAMINATION

From

25th May to 30th May 2026

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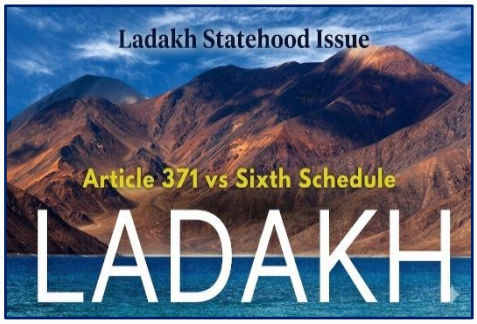
POLITY & GOVERNANCE

1.1. COMPARATIVE ANALYSIS: SIXTH SCHEDULE VS. ARTICLE 371

Context:



- Recently, the Union Ministry of Home Affairs proposed a unique governance model for the Union Territory of Ladakh that promises legislative protection under **Article 371** of the Indian Constitution alongside a Union Territory with a legislature. This constitutional compromise has emerged because the Central Government remains hesitant to grant full **Sixth Schedule** status or immediate Statehood to the entire region, leading to continued deliberations with local civil society groups like the Leh Apex Body (LAB) and the Kargil Democratic Alliance (KDA).

1. **The Sixth Schedule of the Indian Constitution**
    - **Constitutional Basis and Scope:** Enacted under **Article 244(2) and Article 275(1)**, the Sixth Schedule provides for the administration of tribal areas in the Northeastern states of Assam, Meghalaya, Tripura, and Mizoram.
    - **Autonomous Districts and Regional Councils:** It permits the creation of **Autonomous District Councils (ADCs)** and Regional Councils, which function as legislative, judicial, and administrative bodies within their designated boundaries.
    - **Legislative and Financial Autonomy:** ADCs possess the constitutional power to frame laws on specific subjects, including land administration, forest management, inheritance of property, marriage, and social customs, subject to the assent of the Governor.
    - **Judicial Powers:** These councils can constitute village councils or courts to try suits and cases between scheduled tribes, significantly insulating traditional customary laws from regular judicial hierarchies.
2. **Article 371 (Special Provisions for States)**
    - **Constitutional Basis and Scope:** Located within **Part XXI** of the Constitution ("Temporary, Transitional and Special Provisions"), Articles 371 to 371-J provide tailor-made safeguards to meet the unique economic, cultural, and political requirements of specific states.
    - **Mechanisms of Safeguard:** Unlike the uniform institutional framework of the Sixth Schedule, Article 371 provisions vary significantly by state. For instance, **Article 371A (Nagaland)** and **Article 371G (Mizoram)** dictate that no Act of Parliament respecting religious or social practices, customary law, or transfer of land shall apply to the state unless its Legislative Assembly so decides.
    - **Development Boards:** In states like Maharashtra and Gujarat (Article 371), the President can mandate the establishment of separate development boards for specific underdeveloped regions (e.g., Vidarbha, Marathwada, Saurashtra, and Kutch).
    - **Flexibility for Ladakh:** The application of a new clause under Article 371 for Ladakh would allow the Parliament to dynamically customize protections specifically targeting local employment quotas, land ownership restrictions, and environmental conservation without necessitating an ADC framework.

Q. Consider the following statements regarding the Sixth Schedule and Article 371 of the Constitution of India:

1. The Sixth Schedule applies uniformly to tribal areas across all Indian States and Union Territories that possess a tribal population exceeding fifty percent.
2. Under Article 371A (Nagaland) and Article 371G (Mizoram), Acts of Parliament relating to the ownership and transfer of land do not apply automatically without the concurrence of the respective State Legislative Assembly.
3. Autonomous District Councils constituted under the Sixth Schedule possess the legal power to establish village courts and try civil disputes based on tribal customary laws.

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

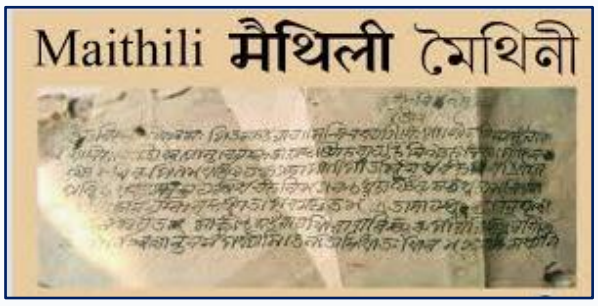
Solution

Correct Answer: B (2 and 3 only)

- **STATEMENT 1 IS INCORRECT:** The Sixth Schedule does not apply automatically to all tribal regions across India based on population thresholds. It is strictly restricted by the constitutional text under Article 244(2) to specific tribal areas within four Northeastern states: **Assam, Meghalaya, Tripura, and Mizoram**. Tribal areas in other states are administered under the Fifth Schedule.
- **STATEMENT 2 IS CORRECT:** Articles 371A and 371G provide a powerful form of asymmetric federalism. They explicitly state that parliamentary legislation concerning Naga or Mizo customary law, religious practices, civil/criminal justice procedures, and the ownership or transfer of land cannot apply to those states unless voted upon and approved by their respective state assemblies.
- **STATEMENT 3 IS CORRECT:** Autonomous District Councils enjoy judicial autonomy under the Sixth Schedule. They are constitutionally empowered to constitute village councils or courts for the trial of suits and cases arising between members of Scheduled Tribes, operating in accordance with the established customary law of the region.

1.2. INCLUSION OF MAITHILI IN CBSE CURRICULUM

Context



- The Central Board of Secondary Education (CBSE) has announced the inclusion of the **Maithili language** in its curriculum from Class 1 up to the secondary level, starting from the next academic session. Bihar Chief Minister Samrat Choudhary hailed the move as a historic step for the linguistic and cultural preservation of the **Mithilanchal** region.

1. **Key Regional Details**
   - **Geographical Spread:** Mithila or Mithilanchal is a cultural region spread across northern Bihar (comprising districts like Darbhanga, Madhubani, Sitamarhi, among others) and extended into parts of neighboring **Nepal**.
   - **Cultural Significance:** The region is historically identified as the birthplace of Goddess Sita.
2. **Basics of Maithili Language**
   - **Language Family:** Maithili belongs to the **Indo-Aryan** language family.
   - **Script:** Historically, it was written in its native script called **Tirhuta** or **Mithilakshara** (which has similarities to Bengali and Assamese scripts) and Kaithi. However, in modern times, it is predominantly written in the **Devanagari** script.
   - **Official Recognition:** It is one of the 22 officially recognized languages of India listed under the **Eighth Schedule of the Constitution**. It is also an official secondary language in the state of Jharkhand.
3. **Constitutional Status of Languages in India**
   - **Part XVII** of the Indian Constitution deals with the Official Languages under **Articles 343 to 351**.
   - **The Eighth Schedule: Originally:** The Constitution featured **14** languages in the schedule. **Currently:** There are **22** recognized languages.
4. **Landmark Constitutional Amendments for Official Languages**

Amendment Act	Year	Language(s) Added
21st Constitutional Amendment Act	1967	**Sindhi**
71st Constitutional Amendment Act	1992	**Konkani, Manipuri, and Nepali** *(Mnemonic: KMN)*
92nd Constitutional Amendment Act	2003	**Bodo, Dogri, Maithili, and Santhali** *(Mnemonic: BDMS)*

Note: Odia was renamed from "Oriya" by the 96th Constitutional Amendment Act, 2011.

5. **Other Crucial Constitutional Provisions for Languages**
   - **Article 29:** Protects the interests of minorities, stating that any section of citizens with a "distinct language, script or culture" has the right to conserve it.
   - **Article 343(1):** Declares Hindi in Devanagari script as the official language of the Union.
   - **Article 350A (Facilities for instruction in mother-tongue at primary stage):** Directs every state to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups.
   - **Article 351 (Directive for development of the Hindi language):** Directs the Union to promote the spread and development of the Hindi language so that it may serve as a medium of expression for all components of the composite culture of India.

Q. With reference to Maithili language and constitutional provisions related to languages in India, consider the following statements:

1. Maithili was added to the Eighth Schedule of the Constitution by the 92nd Constitutional Amendment Act, 2003.
2. Article 350A directs states to provide facilities for instruction in the mother tongue at the primary stage for linguistic minorities.

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) Both 1 and 2

Explanation:

- **Statement 1 is correct** because Maithili was added along with Bodo, Dogri, and Santhali through the 92nd Constitutional Amendment Act, 2003.
- **Statement 2 is correct** because Article 350A provides for mother-tongue instruction facilities for children belonging to linguistic minority groups.

1.3. CORE GOVERNMENT SCHEMES FOR INSTITUTIONAL DELIVERY

Context:

- Recently, the Ministry of Health and Family Welfare released the official report of the National Family Health Survey-6 (NFHS-6), which reveals that institutional deliveries in India have successfully increased to 90.6% from the 88.6% recorded during the NFHS-5 period.

1. Janani Suraksha Yojana (JSY)

Launched under the National Health Mission, this flagship safe motherhood intervention focuses heavily on lowering maternal and neonatal mortality rates by incentivizing institutional deliveries among underprivileged pregnant women.

- **Financial Modality:** It operates as a 100% Centrally Sponsored Scheme that integrates demand-side cash assistance with systematic post-delivery clinical care.
- **Targeted Categorization:** The scheme divides Indian states into two explicit groups to optimize resource allocation:
  - **Low Performing States (LPS):** Covers states with low institutional delivery rates, namely Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Odisha, and Jammu and Kashmir. In these states, all pregnant women delivering in government or accredited private health facilities are eligible for cash assistance irrespective of age or number of children.

- **High Performing States (HPS):** Encompasses all remaining states and Union Territories. Financial benefits are specifically restricted to women from Below Poverty Line (BPL) households, Scheduled Castes (SC), and Scheduled Tribes (ST).
- **ASHA Integration:** The initiative utilizes the Accredited Social Health Activist (ASHA) network as an effective community link, provisioning performance-linked cash incentives to workers who mobilize expectant mothers for timely antenatal checkups and institutional delivery.

2. Janani Shishu Suraksha Karyakram (JSSK)

Introduced to complement existing cash-transfer models, JSSK targets the elimination of out-of-pocket expenditure for pregnant women and sick infants accessing public health institutions.

- **Entitlements for Pregnant Women:** It provides a legal entitlement to completely free and cashless deliveries, including surgical Caesarean sections.
- **Comprehensive Coverage Component:** The scheme guarantees free access to essential drugs, diagnostics, blood transfusions, and dietary provisions during the hospital stay.
- **Transport Safety Net:** It delivers fully institutionalized, zero-cost transport facilities from home to the health center, between medical facilities in case of high-risk complications, and back home after discharge.
- **Infant Extension:** All identical benefits—including free treatment, diagnostics, and transport—are statutorily extended to sick newborns and infants accessing public facilities up to one year after birth.

3. Pradhan Mantri Matru Vandana Yojana (PMMVY)

Administered by the Ministry of Women and Child Development, PMMVY functions as a Direct Benefit Transfer (DBT) maternity benefit scheme.

- **Primary Objective:** The scheme compensates for wage loss encountered during advanced pregnancy and lactation periods, enabling women to take adequate rest before and after childbirth while promoting optimal health seeking behavior.
- **Targeted Assistance:** It offers conditional cash incentives directly to the bank or post office accounts of pregnant and lactating mothers.
- **Inclusion Scope:** Beneficiaries receive a total structured cash incentive of ₹5,000 for the first living child, disbursed in installments tied to pregnancy registration, antenatal checkups, and child immunization. Crucially, to check female foeticide and improve the sex ratio at birth, the scheme extended an enhanced financial assistance of ₹6,000 for the birth of a second child, provided the newborn is a girl.
- **Exclusion Criteria:** Women employed with the Central Government, State Governments, or Public Sector Undertakings (PSUs), or those in receipt of similar benefits under any existing law, are strictly excluded from its purview.

4. Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

A highly focused reproductive health campaign designed to bring diagnostic precision to the antenatal care ecosystem.

- **Fixed-Day Strategy:** The program guarantees a dedicated, assured, and comprehensive package of free antenatal care (ANC) services on the **9th day of every single month**.

- **Universal Applicability:** Every pregnant woman across India, entering her second or third trimester, is eligible to receive standard clinical evaluation regardless of socio-economic status.
- **High-Risk Pregnancy Identification:** Medical officers utilize a systematic color-coded sticker protocol on maternal health tracking cards to visually distinguish high-risk complications immediately, ensuring streamlined referral pathways to specialist obstetricians.

5. LaQshya Initiative (Labour Room Quality Improvement Initiative)

An institutional quality-upgrade framework focused entirely on intrapartum and immediate postpartum care.

- **Operational Mandate:** The program explicitly aims to reduce preventable maternal and newborn mortality, morbidity, and stillbirths by upgrading the quality of care in Labour Rooms (LR) and Maternity Operation Theatres (OT).
- **Target Facilities:** Implementation is focused on high-burden public medical institutions, including Government Medical College Hospitals, District Hospitals, and designated First Referral Units (FRUs).
- **Key Interventions:** It mandates the adherence to standard clinical protocols, establishes respectful maternity care practices, prevents institutional abuse, and introduces an independent national certification framework based on strict quality indicators.

Comparative Matrix of Key Institutional Delivery Interventions

Scheme Feature	Janani Suraksha Yojana (JSY)	Janani Shishu Suraksha Karyakram (JSSK)	Pradhan Mantri Matru Vandana Yojana (PMMVY)
Nodal Ministry	Ministry of Health and Family Welfare	Ministry of Health and Family Welfare	Ministry of Women and Child Development
Primary Mechanism	Demand-side cash transfer to promote institutional delivery.	Entitlement-led elimination of out-of-pocket expenses.	Conditional Direct Benefit Transfer for wage compensation.
Target Population	Low Performing States: All women. High Performing States: BPL/SC/ST women.	Every pregnant woman and sick infant using public health facilities.	Pregnant and lactating mothers, excluding government/PSU employees.
Cash Component	Varies by region (Rural/Urban) and performance tier of the state.	No direct cash; provides complete elimination of medical expenses.	₹5,000 for the first child; ₹6,000 for a second child if it is a female.
Key Enabler	Deeply relies on community-level ASHA workers for mobilization.	Relies on robust supply chains, free diagnostics, and ambulance networks.	Managed via dedicated portal tracking with linked bank accounts.

Q. Consider the following statements regarding the institutional delivery and maternal health schemes in India:

1. Under the Janani Suraksha Yojana (JSY), all pregnant women delivering in government health facilities across all states are entitled to unconditional cash assistance irrespective of their socio-economic status.
2. The Janani Shishu Suraksha Karyakram (JSSK) provides completely cashless delivery entitlements to pregnant women, but the free transport and diagnostic facilities do not extend to infants post-delivery.
3. The Pradhan Mantri Matru Vandana Yojana (PMMVY) provides an enhanced cash incentive specifically for the birth of a second child, provided the second newborn is a girl.

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

Solution

Correct Answer: B) 3 only

- **STATEMENT 1 IS INCORRECT:** The Janani Suraksha Yojana (JSY) differentiates its cash assistance eligibility criteria based on geographic health performance. In Low Performing States (LPS), all pregnant women delivering in government institutions are covered. However, in High Performing States (HPS), the cash entitlement is strictly restricted to pregnant women belonging to Below Poverty Line (BPL), Scheduled Caste (SC), and Scheduled Tribe (ST) categories. Hence, universal unconditional cash assistance across all states is not provisioned under the scheme guidelines.
- **STATEMENT 2 IS INCORRECT:** The Janani Shishu Suraksha Karyakram (JSSK) explicitly covers both the mother and the newborn child. The entitlement explicitly guarantees entirely free treatment, diagnostics, blood components, drugs, and institutional transport facilities to all sick neonates and infants accessing public healthcare infrastructure up to one full year after their birth.
- **STATEMENT 3 IS CORRECT:** The guidelines of the Pradhan Mantri Matru Vandana Yojana (PMMVY) mandate a structural maternity benefit incentive of ₹5,000 for the first living child. To actively discourage female foeticide and address the adverse child sex ratio across communities, the scheme provides an enhanced direct cash benefit of ₹6,000 to the mother during her second pregnancy, strictly on the condition that the second child born is female.

1.4. EQUIVALENT RANK HIERARCHY OF THE INDIAN ARMED FORCES

Context

- Recently, Vice-Admiral Ajay Kochhar assumed charge as the 48th Vice-Chief of the Naval Staff. The newly appointed Vice-Chief, who previously spearheaded high-level naval combat readiness during Operation Sindoor, marked this milestone in a distinguished naval career spanning more than 37 years by paying tribute to the nation's fallen heroes at the National War Memorial in New Delhi.

1. Commissioned Officer Ranks (Top to Bottom Hierarchy)

The table below illustrates the exact corresponding ranks across the three branches, from the highest active operational profile down to the entry-level operational rank.

Rank Level	Indian Army	Indian Navy	Indian Air Force
4-Star (Chief)	General	Admiral	Air Chief Marshal
3-Star	Lieutenant General	Vice Admiral	Air Marshal
2-Star	Major General	Rear Admiral	Air Vice Marshal
1-Star	Brigadier	Commodore	Air Commodore
Senior Level	Colonel	Captain	Group Captain
Mid-Senior Level	Lieutenant Colonel	Commander	Wing Commander
Intermediate	Major	Lieutenant Commander	Squadron Leader
Junior Level	Captain	Lieutenant	Flight Lieutenant
Entry Level	Lieutenant	Sub-Lieutenant	Flying Officer

2. Honorary and Wartime Five-Star Ranks

Five-star ranks are ceremonial positions of honor awarded for exceptional wartime leadership and outstanding service. Officers who receive these ranks hold them for life and are considered active personnel until their demise.

- **Indian Army: Field Marshal** (Conferred upon Sam Manekshaw and K.M. Cariappa).

- **Indian Navy: Admiral of the Fleet** (No naval officer has been conferred this rank to date).
- **Indian Air Force: Marshal of the Indian Air Force** (Conferred upon Arjan Singh).

Non-Officer Cadre and Junior Structures

Below the commissioned officer ranks are the personnel who manage ground-level discipline, execution, and specialized equipment handling.

1. **Junior Commissioned Officers (JCOs)**

   Junior Commissioned Officers act as a critical bridge between the commissioned officers and the enlisted troops. The Indian Army and Indian Navy utilize distinct titles for this cadre, whereas the Indian Air Force classifies equivalent senior non-commissioned positions under Warrant Officer categories.

   - **Indian Army:** Subedar Major, Subedar, and Naib Subedar.
   - **Indian Navy:** Master Chief Petty Officer 1st Class, Master Chief Petty Officer 2nd Class, and Chief Petty Officer.
   - **Indian Air Force:** Master Warrant Officer, Warrant Officer, and Junior Warrant Officer.

2. **Non-Commissioned Officers (NCOs) and Enlisted Personnel**

   This cadre constitutes the bedrock of operational forces, responsible for executing tactical tasks and maintaining unit discipline.

   - **Indian Army:** Havildar, Naik, Lance Naik, and Sepoy.
   - **Indian Navy:** Petty Officer, Leading Seaman, Seaman 1st Class, and Seaman 2nd Class.
   - **Indian Air Force:** Sergeant, Corporal, Leading Aircraftsman, and Aircraftsman.

Q. Consider the following statements regarding the rank structure of the Indian Armed Forces:
Statement I: A Wing Commander in the Indian Air Force holds an equivalent rank to a Lieutenant Colonel in the Indian Army and a Commander in the Indian Navy.
Statement II: Five-star ranks across the three branches of the Indian military are active operational posts that are regularly assigned during peacetime structural rotations.
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.
Correct Answer: (c)

- **STATEMENT I is CORRECT:** According to the established rank-equivalence matrix of the Indian Armed Forces, the mid-senior selection grade officer ranks correspond directly across services. A Wing Commander (Indian Air Force), a Lieutenant Colonel (Indian Army), and a Commander (Indian Navy) are equivalent designations sharing the same salary scale, protocol position, and responsibilities within their respective wings.

- **STATEMENT II is INCORRECT:** Five-star ranks, which include the Field Marshal in the Army, Admiral of the Fleet in the Navy, and Marshal of the Indian Air Force, are strictly ceremonial and honorary titles. They are not routine peacetime appointments nor do they feature in standard administrative rotations. They are conferred only under extraordinary wartime circumstances for monumental leadership, and the officers retain the rank for life without entering active tactical command structures during peacetime.

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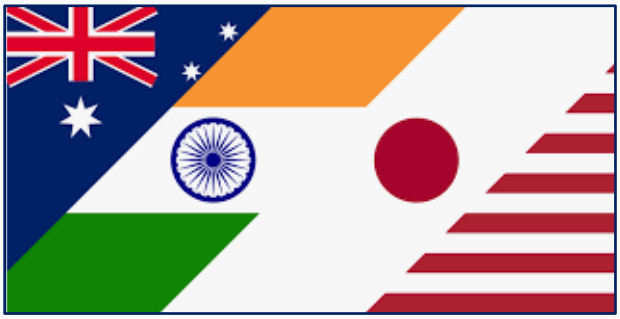
2.1. QUAD FRAMEWORK & REGIONAL DYNAMICS



Context

- Recently, the Quadrilateral (Quad) Foreign Ministers' Meeting was held in New Delhi, hosted by India's External Affairs Minister S. Jaishankar and attended by ministers from the Japan, United States, and Australia. The meeting gained attention amid debates over the Quad's relevance due to limited mention in recent strategic policy documents of member countries.

1. **Key Agenda Items**
   - **Critical Minerals Initiative:** "Cooperation over critical minerals" needed for green energy and high technology is a top priority. **Japan is currently working on critical minerals projects in India**, pushing for improved infrastructure, tax subsidies, and intellectual property (IPR) protection.
   - **Geopolitical Flashpoints:** The grouping is actively taking stock of:
     - The conflict in **West Asia** and supply chain disruptions.
     - The **Strait of Hormuz** blockade.
     - The torpedoing of the Iranian ship *IRIS Dena* in the Indian Ocean.
   - **POWERR Asia:** Japan proposed the **"Partnership On Wide Energy and Resources Resilience" (POWERR Asia)**. This initiative aims to coordinate oil, gas, and renewables procurement, financing, and storage mechanisms to mitigate energy crises resulting from West Asian conflicts.
   - **Free and Open Indo-Pacific (FOIP):** The core diplomatic driving philosophy behind the grouping to **ensure maritime security, economic security, and cyber security**.
2. **Basics of QUAD**

   I. What is the Quad?

   The **Quadrilateral Security Dialogue (Quad)** is an informal strategic forum comprising four democracies: **India, the United States, Japan, and Australia**.

   II. Evolution of the Grouping

   - **2004:** The concept originated as a cooperative response to the devastating Indian Ocean Tsunami (Tsunami Core Group).
   - **2007:** Formally initiated by Japanese Prime Minister Shinzo Abe. However, it lost momentum shortly after due to Australian hesitation regarding Chinese pushback.
   - **2017:** Resurrected and rebranded as "Quad 2.0" during the ASEAN Summit, shifting focus firmly toward maintaining a rules-based order in the Indo-Pacific region.
   - **2021:** The first-ever virtual Leaders' Summit was held, elevating the dialogue from official/ministerial levels to the head-of-state level.

III. Key Characteristics & Objectives

- **Not a Military Alliance:** Unlike NATO, the Quad is **not** a formal, institutionalized military alliance with mutual defense pacts. It describes itself as a "diplomatic partnership."
- **Primary Objective:** To support a "**Free and Open Indo-Pacific**" that is inclusive, rules-based, and free from coercion (subtly countering China's aggressive expansion in the South China Sea and Indian Ocean).
- **The "Spirit of the Quad":** Focuses on functional cooperation across six core working groups:

1. Vaccine Partnership and Global Health Security
2. Climate Change and Clean-Energy Supply Chains
3. Critical and Emerging Technologies (including Critical Minerals)
4. Space Cooperation
5. Cyber Security
6. Maritime Domain Awareness (MDA)

Q. With reference to the Quadrilateral Security Dialogue (Quad), consider the following statements:

1. The Quad is a formal military alliance similar to NATO.
2. The Quad was initially formed in response to the 2004 Indian Ocean Tsunami.
3. One of the major objectives of the Quad is to promote a Free and Open Indo-Pacific (FOIP).
4. China is a founding member of the Quad.

Which of the statements given above are correct?

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

Answer: (b) 2 and 3 only

Explanation:

- **Statement 1 is incorrect:** Quad is not a formal military alliance like NATO.
- **Statement 2 is correct:** It originated from cooperation after the 2004 Indian Ocean Tsunami.
- **Statement 3 is correct:** FOIP is a core objective of the Quad.
- **Statement 4 is incorrect:** China is not a member of the Quad.

2.2. ABRAHAM ACCORDS

Context

- Recently, U.S. President Donald Trump stated that normalization of ties with Israel should be mandatory for Saudi Arabia and other prominent Muslim-majority nations—including Qatar, Pakistan, Egypt, Turkiye, and Jordan—by simultaneously signing onto the Abraham Accords.

- This demand has been positioned as a core requirement to advance protracted peace negotiations and finalize a deal to end the conflict with Iran that erupted in late February, adding a fresh layer of diplomatic complexity to West Asian geopolitical dynamics.

1. **Conceptual Framework & Signatories**
    - **The Core Mechanism:** Brokered by the United States in September 2020, the Abraham Accords are a series of joint bilateral agreements aimed at normalizing diplomatic, economic, and strategic relations between Israel and Arab-Muslim nations.
    - **The Original Architecture:** * **Initial Signatories (2020):** The **United Arab Emirates (UAE)** and **Bahrain** were the first to sign the accords at the White House.
    - **Subsequent Entrants (Late 2020/2021): Morocco** officially joined the normalization process (linked with US recognition of Moroccan sovereignty over Western Sahara), and **Sudan** signed the declarative section of the accords.
    - **The 2026 Expansion Directive:** The latest diplomatic push seeks to institutionalize a multi-nation, simultaneous expansion of the framework to include non-signatories and traditional regional powers like Saudi Arabia, Qatar, and Pakistan, alongside existing treaty states like Egypt and Jordan.
2. **Paradigm Shift in West Asian Geopolitics**
    - **Bypassing the Arab Peace Initiative (2002):** Historically, Arab states adhered to the Saudi-led 2002 initiative, which stated that formal recognition of Israel would *only* happen after the creation of an independent Palestinian state based on 1967 borders. The Abraham Accords decoupled these issues, prioritizing immediate strategic alignment over the resolution of the two-state conflict.
    - **The Counter-Iran Axis:** The underlying security architecture of the accords functions to consolidate a regional front against Iran's ballistic missile capabilities, nuclear program, and regional asymmetric proxy networks.
3. **High-Yield Strategic Implications for India**
    - **The I2U2 Grouping:** The diplomatic space created by the Abraham Accords directly enabled the formation of the **I2U2** framework (**I**ndia, **I**srael, the **U**AE, and the **U**S), focusing on joint space, energy, water, and food security projects.
    - **Connectivity Corridors:** This normalization provides the foundational political stability required for major trans-continental infrastructure projects like the **India-Middle East-Europe Economic Corridor (IMEC)**.
    - **De-hyphenated Bilateralism:** The alignment allows India to deepen its defense and technology partnerships with Israel while scaling up commercial and energy ties with the Gulf Cooperation Council (GCC) nations without political friction.

Q. Consider the following statements regarding international diplomacy in West Asia:
STATEMENT I: The Abraham Accords represents a series of normalization agreements between Israel and Arab-Muslim nations brokered by the United States.
STATEMENT II: Egypt and Jordan were the original Arab states to pioneer the signing of the Abraham Accords framework in September 2020.

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

Solution & Explanation

Correct Answer: (c)

- **STATEMENT I IS CORRECT:** The Abraham Accords are a US-brokered diplomatic framework initiated in 2020 designed to establish full diplomatic recognition, economic ties, and security collaboration between Israel and participating Muslim-majority states.
- **STATEMENT II IS INCORRECT:** The pioneering Arab countries to sign the Abraham Accords in September 2020 were the **United Arab Emirates (UAE)** and **Bahrain**. Egypt (1979) and Jordan (1994) had already established independent bilateral peace treaties with Israel decades prior to the creation of the Abraham Accords architecture.

2.3. DECODING THE INDIA-OMAN CEPA

Context:

- Recently, ahead of the official implementation of the India-Oman Comprehensive Economic Partnership Agreement (CEPA), the pharma exporters' body Pharmexcil highlighted the major trade opportunities coming up for Indian pharmaceuticals, AYUSH, and wellness sectors.

Core Concepts and Key Features

1. **CEPA vs. FTA: What is the Difference?**
   - A standard **Free Trade Agreement (FTA)** is basic—it primarily focuses on cutting import taxes (tariffs) on physical items like electronics or clothing.
   - A **Comprehensive Economic Partnership Agreement (CEPA)** is much deeper. It covers physical goods, services, cross-border investments, intellectual property, and rules for how easily working professionals can move between the two countries.
2. **Instant Tax Cuts for Indian Exports**
   - Oman has agreed to eliminate import duties on **98.08% of its tariff lines**, which opens the door for **99.38% of India's exports** to enter Oman entirely duty-free from day one.
   - Before this deal, most Indian goods faced a flat 5% import tax in Oman. This tax cut instantly makes Indian products more price-competitive against global rivals.
   - India has reciprocated by opening up **77.79% of its own tariff lines** for Omani imports, keeping a protective guard up for sensitive domestic sectors.

3. **Big Wins for Medicine and Healthcare**
    - **Fast-Track Medicines:** Indian pharmaceutical drugs that are already approved by top global regulators (like the USFDA) will receive a quick 90-day clearance window to enter the Omani market.
    - **AYUSH Recognition:** This is the first time a foreign country has made formal trade commitments to legally recognize and accept traditional Indian medicine systems (AYUSH).
    - **Jobs for Healthcare Workers:** Oman has relaxed its professional quotas, raising the cap for hiring qualified Indian nurses from 20% to 50%.
4. **Why Oman is a Vital Strategic Partner**
    - **Energy Anchor:** Oman is a primary, highly reliable supplier of crude oil, liquefied natural gas (LNG), and urea fertilizers, which are critical to India's energy and food security.
    - **Choke Point Control:** Oman sits right at the mouth of the **Strait of Hormuz**, the world's most critical maritime oil transit bottleneck.
    - **Gateway Ports:** Access to deep-sea Omani ports like **Duqm and Salalah** allows Indian ships to bypass congested Gulf transit points and easily connect with African and European markets.

Q. Consider the following statements regarding the India-Oman Comprehensive Economic Partnership Agreement (CEPA):

1. Unlike a standard FTA, this agreement includes specific legal commitments regarding the mobility of service professionals and the fast-tracking of pharmaceutical approvals.
2. Under the terms of this deal, India has completely eliminated import duties on a larger percentage of its goods compared to the tariff concessions granted by Oman.
3. Oman is strategically significant to India because of its geographical location next to the Strait of Hormuz.

Which of the statements given above are correct?

(a) Only one statement
(b) Only two statements
(c) All three statements
(d) None of the statements

Solution

Correct Answer: (b) Only two statements

- **STATEMENT 1 IS CORRECT:** A CEPA goes beyond simple tariff cuts on goods to include services, intellectual property, and professional mobility. The India-Oman CEPA specifically guarantees a fast-track 90-day approval for Indian medicines and increases hiring quotas for Indian healthcare workers.
- **STATEMENT 2 IS INCORRECT:** Oman is the party offering larger concessions here, lifting duties on 98.08% of its tariff lines for India. India has taken a more conservative approach, cutting duties on 77.79% of its lines to safeguard local domestic industries from sudden foreign competition.
- **STATEMENT 3 IS CORRECT:** Oman sits directly on the Arabian Sea and commands the entrance to the Strait of Hormuz, making it a critical maritime security partner for safeguarding India's energy trade lanes.

2.4. NATO

Context

- Recently, Germany and the Netherlands announced a joint initiative to establish a tactical military command center in the Baltic region—specifically focusing on Estonia and Latvia—to coordinate forces on NATO's eastern flank and deter potential Russian aggression. This new joint headquarters, developed from the German-Netherlands Corps (1GNC), will be capable of controlling up to 50,000 troops to strengthen alliance cohesion and streamline regional defense planning.

Core Institutional Framework of NATO

1. **Origin and Foundational Basics**
   - **Establishment:** The North Atlantic Treaty Organization is an intergovernmental military alliance established by the North Atlantic Treaty, which is also popularly known as the **Washington Treaty**.
   - **Signing Date:** The foundational treaty was signed on **April 4, 1949**.
   - **Headquarters:** The political and administrative headquarters of the alliance are located in **Brussels, Belgium**.
   - **Allied Command Operations (ACO):** The strategic military headquarters, known as Supreme Headquarters Allied Powers Europe (SHAPE), is located near **Mons, Belgium**.
2. **Original Purpose**
   - The alliance was forged in the immediate aftermath of World War II to guarantee the collective security of Western European nations against the perceived geopolitical expansion and military threat of the Soviet Union (USSR).
   - It acted as a counter-weight to communist influence, which later led the Soviet bloc to form its own collective military alliance called the **Warsaw Pact** in 1955.

Membership Matrix and Geographical Spread

The 32 Member Nations

As of 2026, NATO comprises exactly **32 member countries** spanning North America and Europe.

1. **Geopolitical Edge Cases & Boundaries**
   - **The Transatlantic Character:** All members are European nations, except for the United States and Canada.
   - **The Russian Border Expansion:** With the inclusion of Finland, NATO added an 832-mile direct border with the Russian Federation, doubling its existing boundary line with Russia overnight.
   - **Six members share a direct land border with Russia:** Norway, Finland, Estonia, Latvia, Lithuania, and Poland.

Key Operational Protocols of the Treaty

1. **Article 5: Collective Defence**
    - This article constitutes the absolute core of the Washington Treaty.
    - It states that an armed attack against one or more member states in Europe or North America shall be considered an attack against them all.
    - **Invoked Only Once:** In the history of the alliance, Article 5 has been invoked exactly once, which occurred in response to the September 11, 2001, terrorist attacks against the United States.
2. **Article 4: Formal Consultation**
    - This article allows any member state to call for formal consultations among the alliance partners whenever they feel their territorial integrity, political independence, or security is threatened.
    - It does not trigger direct military action but acts as a collaborative mechanism to build consensus on emerging security crises.
3. **Article 10: The "Open Door" Policy**
    - This framework dictates how new European states can be invited to join the alliance.
    - **Unanimity Rule:** The admission of any new nation into the alliance requires the **unanimous consent** of all existing 32 member states. A single veto from any member can block an aspiring nation's entry.

India's Engagement Matrix with NATO

- **Non-Member Status:** India is not a member of NATO and has consistently maintained its long-standing strategic autonomy.
- **NATO Plus Architecture:** The United States has occasionally proposed expanding the "NATO Plus" security grouping—which currently includes NATO members alongside Australia, Japan, New Zealand, Israel, and South Korea—to include India.
- **India's Official Stand:** The Government of India has rejected the idea of joining "NATO Plus". The external affairs leadership has explicitly stated that the NATO template does not fit India's geopolitical requirements, and India is fully capable of managing its security challenges through bilateral ties and flexible partnerships like the Quad.

Q. Consider the following statements regarding the North Atlantic Treaty Organization (NATO):
Statement-I: The admission of any new sovereign country into NATO requires the unanimous ratification and consensus of every existing member state of the alliance.
Statement-II: India has officially integrated into the "NATO Plus" institutional security platform to enhance its counter-terrorism capabilities in the Indo-Pacific region.
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.

Correct Answer: C

Solution Breakdown

- **STATEMENT-I IS CORRECT:** Under Article 10 of the Washington Treaty, NATO operates on the "Open Door Policy". Any decision to invite a European state to join the alliance must be approved by absolute consensus, meaning all existing member countries must unanimously agree to it.
- **STATEMENT-II IS INCORRECT:** India has explicitly rejected proposals to join the "NATO Plus" arrangement. The Indian government maintains that its security framework operates independently of global military alliances, choosing instead to rely on strategic partnerships that do not compromise its fundamental policy of strategic autonomy.

2.5. INDIA-CHINA BORDER

Context

- Recently, India and China held the 35th meeting of the Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC) in Beijing. During this meeting, the Indian delegation led by Sujit Ghosh, Joint Secretary (East Asia), and the Chinese delegation led by Hou Yanqi, Director-General, conducted constructive and forward-looking discussions explicitly focusing on border delimitation, boundary management issues, mechanism building, and cross-border cooperation.

Structural Segmentation of the India-China Border

The border between India and China spans a total length of approximately 3,488 kilometers. It is not an officially demarcated international boundary but is functionally divided into three distinct geographic operational sectors separated by Nepal and Bhutan.

1. **The Western Sector (Ladakh)**
    - **Geographic Span:** This segment covers about 1,597 kilometers along the Union Territory of Ladakh and the Chinese autonomous region of Xinjiang.
    - **The Line of Actual Control (LAC):** The boundary here is completely non-demarcated and arose from the ceasefire line following the 1962 war. Overlapping claims lead to recurring patrolling face-offs.
    - **Historical Cartographic Claims:**
    - **Johnson Line (1865):** Proposed by the British civil servant W.H. Johnson, this boundary placed the entire Aksai Chin region within the princely state of Jammu and Kashmir. India considers this its rightful historical stance.

- **MacDonald Line (1899):** Also known as the Macartney-MacDonald Line, this alternative British alignment placed Aksai Chin under Chinese sovereignty. Beijing historically preferred variations of this boundary.
- **Critical Friction Locations:** Depsang Plains, Galwan Valley, Hot Springs, Gogra Post, and the northern/southern banks of Pangong Tso.

2. **The Middle Sector (Himachal Pradesh & Uttarakhand)**
   - **Geographic Span:** This is the least disputed segment, extending approximately 545 kilometers across Himachal Pradesh and Uttarakhand.
   - **Border Attributes:** The border here is broadly aligned with the natural high-altitude watershed. Maps have been largely exchanged for this sector, and both nations agree on its rough alignment, making it the most tranquil zone.
   - **Key Passes:** Shipki La (Himachal Pradesh), Lipulekh, Mana Pass, and Niti Pass (Uttarakhand).
3. **The Eastern Sector (Sikkim & Arunachal Pradesh)**
   - **Geographic Span:** This sector stretches across roughly 1,326 kilometers along the states of Sikkim and Arunachal Pradesh.
   - **The McMahon Line:** Drawn during the **Shimla Accord of 1914** between British India and Tibet, this boundary defines the formal frontier. While India adheres strictly to the McMahon Line as the legal international boundary, China rejects its validity, claiming that Tibet lacked the sovereign authority to sign a treaty and categorizing Arunachal Pradesh as "South Tibet."
   - **Key Friction Points:** Naku La (Sikkim), Tawang Sector, Bum La, and the Yangtse region of Arunachal Pradesh.

Major Institutional Border Management Mechanisms

To sustain operational stability and manage tactical frictions, India and China utilize a multi-layered diplomatic and military architecture:

- **Working Mechanism for Consultation and Coordination (WMCC):** Established in 2012, this institutional platform is led by Joint Secretary-level diplomats from the Ministry of External Affairs (India) and the Ministry of Foreign Affairs (China). It addresses peace and tranquility on the ground and coordinates border management.
- **Special Representatives (SR) Dialogue:** Formed in 2003, this higher-level forum features India's National Security Advisor (NSA) and China's Foreign Minister. The SR framework is mandated to seek a political settlement to the overarching boundary question through a three-stage process: guiding principles, framework agreements, and final line demarcation.
- **Border Personnel Meetings (BPM):** Conducted at designated border locations—such as Chushul-Moldo (Ladakh), Nathu La (Sikkim), and Bum La (Arunachal Pradesh)—to quickly defuse localized, tactical patrolling friction between military field commanders.

India's Counter-Strategy and Infrastructure Developments

To offset aggressive cartographic developments and infrastructure asymmetric advantages along the border, India has heavily ramped up development initiatives through institutional channels:

- **Vibrant Villages Programme (VVP):** A Centrally Sponsored Scheme introduced by the Ministry of Home Affairs targeting the holistic development of border villages across Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, and Ladakh. The objective is to mitigate out-migration by upgrading connectivity, livelihood opportunities, and power access, thereby securing the frontline perimeter.
- **Border Roads Organisation (BRO) Upgrades:** India has accelerated strategic projects such as the **Darbuk-Shyok-Daulat Beg Oldie (DS-DBO) Road** in eastern Ladakh, the **Sela Tunnel** in Arunachal Pradesh (providing all-weather connectivity to Tawang), and the **Atal Tunnel** beneath the Rohtang Pass to ensure year-round, swift logistics and defense deployment capability.

Q. Consider the following statements regarding the border frameworks and geography between India and China:

STATEMENT I: The Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC) is a high-level political dialogue led specifically by the National Security Advisor of India and the Foreign Minister of China to negotiate a permanent settlement to the boundary question.

STATEMENT II: The McMahon Line was firmed up during the Shimla Accord of 1914 to delineate the frontier between British India and Tibet along the highest watershed ridge line of the Eastern Himalayas.

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

Correct Answer: (d)

Explanation

- **STATEMENT I is INCORRECT:** The statement inaccurately describes the leadership and core mandate of the Working Mechanism for Consultation and Coordination (WMCC). The WMCC is a **diplomatic joint-secretary level mechanism** established in 2012 to look after border management, maintain on-ground peace, and resolve active friction along the border. It is *not* led by the National Security Advisor and Foreign Minister; that specific political mandate belongs exclusively to the **Special Representatives (SR) Dialogue** platform.
- **STATEMENT II is CORRECT:** The McMahon Line serves as the functional frontier separating the eastern sector of India (Arunachal Pradesh) from Tibet. It was formally negotiated and firmed up during the **Shimla Accord of 1914** between the British administrator Sir Henry McMahon and Tibetan plenipotentiaries, utilizing the geographic principle of the highest Himalayan watershed line. While India considers this an immutable international boundary, China continues to dispute its legal validity.

Therefore, Statement I is incorrect, but Statement II is completely correct.

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3.1. DEEPENING THE CORPORATE BOND MARKET

Context:

- The Securities and Exchange Board of India (SEBI) is exploring structural changes to expand India's corporate bond ecosystem. SEBI Chairperson announced that the regulator is working to develop **Bond Exchange-Traded Funds (ETFs)**, **derivatives on corporate bond indices**, and create a **distinct regulatory classification for debt brokers** to increase retail investor participation, reduce entry barriers, and provide institutional hedging mechanisms.

1. **Key Instruments and Intermediaries**
   - **Bond ETFs (Exchange-Traded Funds):** A Bond ETF is a basket of **fixed-income securities** traded on stock exchanges, investing mainly in government bonds, corporate bonds, treasury bills, and PSU bonds.
   - A Bond ETF combines the features of:
     - **Mutual Funds** → diversified portfolio
     - **Stocks** → traded throughout the day on exchanges
   - **How Does a Bond ETF Work?**
     - Investors buy units of the ETF from the stock exchange.
     - The fund manager invests the pooled money in a basket of bonds.
     - **Returns come from**: Interest income from bonds and Capital appreciation due to bond price changes.
   - **Bond ETFs and Monetary Policy; Bond ETFs are influenced by:**
     - RBI repo rate changes
     - Inflation trends
     - Government borrowing
     - Interest rate movements

Advantages	Disadvantages
Diversification: Reduces risk by investing in many bonds.	**Interest Rate Risk**: When interest rates rise, bond prices fall.
Liquidity: Can be traded anytime during market hours.	**Liquidity Risk:** Some bond ETFs may have low trading volume.
Lower Risk: Generally safer than equity investments.	**No Guaranteed Return of Principal (No Maturity Date):** Unlike individual bonds with fixed maturity and assured face value

	repayment, most Bond ETFs are perpetual and trade at market prices
Regular Income: Provides periodic interest-based returns	**Tracking Error:** Due to the illiquid nature of some corporate bonds, the ETF might not perfectly mirror the performance of its underlying index.
Low Expense Ratio: Cheaper compared to actively managed debt funds.	**Credit Risk:** Issuer may default on payments.

- **Corporate Bond Index Derivatives:** Corporate Bond Index Derivatives are **financial contracts** whose value is derived from a **corporate bond index** rather than from individual bonds.
- These derivatives allow investors to hedge risk, speculate on interest rates, or gain exposure to the corporate bond market without directly buying bonds.
- **Common Types**
  - **Futures Contracts** – Agreements to buy/sell a bond index at a future date.
  - **Options** – Provide the right, but not the obligation, to trade the index.
  - **Swaps** – Contracts to exchange cash flows linked to bond index performance.
- **How It Works?**
  - **Corporate Bond:** A loan given by investors to companies. In return, the company pays interest and repays the amount later.
  - **Index:** A benchmark that tracks the performance of a group of corporate bonds, similar to how the NIFTY 50 tracks major stocks.
  - **Derivative:** A financial contract whose value depends on the corporate bond index, allowing investors to benefit from price movements without owning the actual bonds.

2. Why Does India Need a Deeper Corporate Bond Market?

- **Reduces Dependence on Banks:** Companies in India rely heavily on bank loans. A strong corporate bond market provides an alternative source of funding.
- **Supports Infrastructure Growth**: Large infrastructure projects need long-term finance, which corporate bonds can provide more effectively than short-term bank lending.
- **Improves Financial Stability**: Diversifying sources of finance reduces pressure on the banking sector and lowers systemic risk.
- **Encourages Investment**: It attracts domestic and foreign investors by offering more investment opportunities.
- **Enhances Liquidity and Price Discovery:** A deeper bond market improves trading activity and helps determine fair interest rates.
- **Boosts Economic Growth:** Efficient capital allocation through bond markets supports industrial expansion and economic development.

Consider the following statements regarding Corporate Bond Market reforms in India:

1. Bond ETFs combine features of mutual funds and stocks, allowing investors to trade diversified bond portfolios on stock exchanges.
2. Corporate Bond Index Derivatives require investors to directly own the underlying corporate bonds before participating in the market.

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. 1 only

Explanation:

- **Statement 1 is correct:** Bond ETFs provide diversification like mutual funds and are traded on exchanges like stocks.
- **Statement 2 is incorrect:** Corporate Bond Index Derivatives allow exposure to bond indices without directly owning the underlying bonds.

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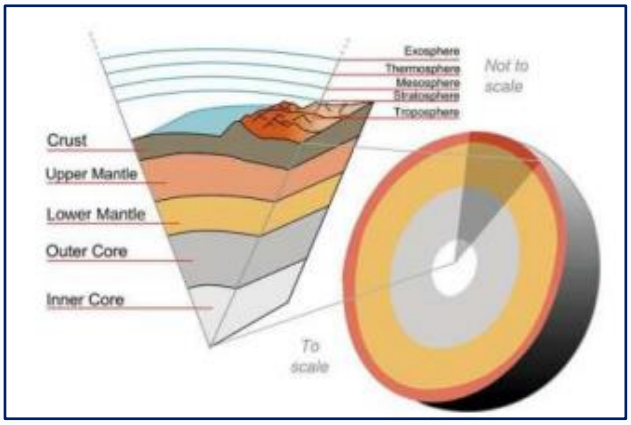
ENVIRONMENT & GEOGRAPHY

4.1. EARTH'S CORE DYNAMICS

Context:

- Recently, researchers from the University of Edinburgh and the British Geological Survey tracked 27 years of iron movement inside the Earth's outer core using satellite and ground data. They found that the **liquid iron layer changes direction** much faster than previously believed, helping explain sudden changes or **"geomagnetic jerks"** in Earth's magnetic field.



1. **Key Discoveries**
   - **The 2010 Reversal:** Around 2010, liquid iron below the equatorial Pacific Ocean **abruptly changed direction** from a slow westward crawl to a rapid **eastward surge**.
   - These sudden changes help explain geomagnetic jerks.
2. **What are Geomagnetic Jerks?**
   - Sudden and rapid changes in Earth's magnetic field.
   - Caused by abrupt movement of molten iron in the outer core.
   - These jerks can influence:
     - Satellite operations
     - GPS and navigation systems
     - Communication networks
3. **Outer Core vs. Inner Core**

   A. The Outer Core (The Dynamo)
   - **State of Matter:** It is a **voluminous liquid layer** composed primarily of iron and nickel (along with trace lighter elements like sulfur and oxygen).
   - **Depth:** It lies around 2,800 km beneath the surface.
   - **The Geodynamo Effect:** Because the liquid iron is constantly churning and moving due to convection currents (driven by heat loss from the inner core), **it acts like a massive electrical generator**. This movement creates electric currents, which generate the **Earth's magnetic field (Magnetosphere)**.
   - **Significance:** The generated magnetic field shields the planet from harmful solar radiation and solar winds, making life on Earth possible.
   - **Westward Drift:** Historically, the main pattern (accounting for 95% of movement) has been a steady **westward flow**, explaining why the Earth's magnetic field traditionally drifted west.

B. The Inner Core (The Solid Anchor)

- **State of Matter:** Unlike the outer core, the inner core is **solid**, despite experiencing extremely high temperatures (estimated to be around 5,400°C—comparable to the surface of the Sun).
- **Why is it solid?** It remains solid because the immense **crushing gravitational pressure** at the center of the Earth prevents the iron atoms from melting.
- **Composition:** Primarily an iron-nickel alloy (NiFe).
- **Depth:** Extends from the boundary of the outer core (5,150 km) to the very center of the Earth (approximately 6,371 km).

3. High-Yield Facts

- **Seismic Wave Behavior: P-waves (Primary waves)** slow down drastically when passing through the liquid outer core because liquids are less rigid than solids. They speed back up upon hitting the solid inner core.
    - **S-waves (Secondary waves)** cannot travel through liquids at all. Therefore, S-waves are completely blocked by the liquid outer core, creating a massive **S-wave shadow zone** (between 105° and 145° from an earthquake epicenter), which is how scientists originally discovered the outer core was liquid.
- **Discontinuities:**
    - The boundary between the Lower Mantle and Outer Core is called the **Gutenberg Discontinuity**.
    - The boundary between the Outer Core and Inner Core is called the **Lehmann Discontinuity**.

Q. With reference to Earth's core, consider the following statements:

1. Earth's magnetic field is generated by the movement of molten iron in the outer core.
2. S-waves can pass through the liquid outer core.

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

Explanation:

Statement 1 is correct because the movement of molten iron and nickel in the liquid outer core creates Earth's magnetic field through the **Geodynamo Effect**.

Statement 2 is incorrect because **S-waves cannot travel through liquids**, so they are blocked by the liquid outer core.

4.2. ASIATIC LION FATALITIES & BABESIA INFECTION

Context:

- Two Asiatic lion cubs recently died in Gujarat's **Gir National Park** due to a suspected **Babesiosis infection** (a tick-borne parasite). While three other adult lions died around the same time, their deaths were attributed to natural causes and territorial infighting. The State Forest Department has clarified that these are isolated cases, ruling out a widespread disease outbreak.

1. **Key Species: Asiatic Lion**
    - **Current Status & Habitat: Gir National Park and Wildlife Sanctuary** in Gujarat is the **only** natural habitat of Asiatic lions in the world.
    - Their population has faced severe bottlenecks but has been steadily recovering due to strict conservation efforts.
    - **Conservation Status:**
    - **IUCN Red List:** Endangered
    - **Wildlife (Protection) Act, 1972:** Schedule I (affords the highest level of legal protection).
    - **CITES:** Appendix I.
    - **Major Threats:** Inbreeding depression (low genetic diversity), vulnerability to epidemics (like Canine Distemper Virus or Babesiosis), poaching, and territorial conflicts due to shrinking/overlapping habitats.
2. **About the Disease: Babesiosis (Babesia Infection)**
    - **What it is:** It is a disease caused by microscopic **parasites** of the genus ***Babesia*** that infect and **destroy red blood cells** (erythrocytes).
    - **Transmission:** It is a **tick-borne disease**, primarily transmitted through the bite of infected ticks (*Ixodes* species or other hard ticks found on wild animals).
    - **Symptoms in Wildlife:** Causes hemolytic anemia, severe weakness, fever, jaundice, and respiratory distress.
    - **Past Precedent:** In 2018–2020, a combination of **Canine Distemper Virus (CDV)** and **Babesiosis** caused a massive spike in Asiatic lion deaths in Gir, making it a recurring threat monitored heavily by wildlife epidemiologists.
3. **About the Gir National Park**
    - **Location:** Gir National Park is spread over part of **Junagadh, Amreli and Gir Somnath** districts in Gujarat.
    - It is part of the **Kathiawar-Gir dry deciduous forests**. It is also known as "Sasan Gir National Park".

- **Vegetation:** Teak-dominated dry deciduous forests, thorn forests, and savannah-type grasslands.
- **Key Rivers:** The seven major perennial rivers of the Gir region are **Hiran, Shetrunji**, Dhatarvadi, Shingoda, Machhundri, Ambajal and Raval Rivers.
- **Reservoir**: biggest reservoir in the area, the **Kamleshwar Dam**, dubbed 'the lifeline of Gir'.

Q. Consider the following statements regarding the Asiatic Lion:

1. Gir National Park in Gujarat is the only natural habitat of Asiatic lions in the world.
2. The Asiatic Lion is listed as "Critically Endangered" on the IUCN Red List.

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. 1 only

Explanation:

- **Statement 1 is correct:** Gir National Park and Wildlife Sanctuary in Gujarat is the only natural habitat of Asiatic lions globally.
- **Statement 2 is incorrect:** The Asiatic Lion is classified as **Endangered**, not Critically Endangered, on the IUCN Red List.

4.3. WETLANDS (CONSERVATION AND MANAGEMENT) RULES, 2017

Context

- Recently, a Supreme Court bench led by Chief Justice of India Surya Kant issued formal notices to the Union government regarding a public interest litigation challenging the constitutional validity of **Rule 2(g)** of the **Wetlands (Conservation and Management) Rules, 2017**.
- The legal challenge targets the arbitrary domestic exclusion of human-made water bodies and specific artificial structures from environmental protections. Environmental jurists argue that these domestic exemptions directly undermine India's binding international commitments under the Ramsar Convention, threatening the legal safeguard of multiple listed wetlands across the country.

The Domestic Framework – Wetlands Rules, 2017

1. Statutory Genesis and Definition

- **Legal Basis:** The Wetlands (Conservation and Management) Rules, 2017 were notified by the Ministry of Environment, Forest and Climate Change (MoEF&CC) under the provisions of the **Environment (Protection) Act, 1986**. These rules superseded the older regulatory framework established under the Wetlands Rules of 2010.

- **The Regulatory Definition:** Wetlands are defined as areas of marsh, fen, peatland, or water, whether natural or artificial, permanent or temporary, containing static or flowing, fresh, brackish, or salt water, including marine areas where the low-tide depth does not exceed six meters.
- **The Critical Exclusions:** Under Rule 2(g), specific categories are legally exempted from this framework. These exemptions include **river channels, paddy fields, human-made water bodies constructed explicitly for drinking water, aquaculture, salt production, recreation, and irrigation purposes**.

2. **Institutional Architecture**
   - **State Wetland Authorities (SWA):** The 2017 rules decentralized governance by replacing the previous central authority with an SWA in every State and Union Territory. The SWA is headed by the state's **Environment Minister** and includes multi-disciplinary experts in hydrology, ecology, and socio-economics to guide conservation strategies.
   - **National Wetlands Committee (NWC):** Functioning at the apex level under the chairmanship of the **Secretary, MoEF&CC**, the NWC plays an advisory role. It monitors the implementation of the rules, reviews state-level digital inventories, and formally recommends sites for designation as Ramsar sites.
   - **Digital Inventory Mandate:** The rules make it mandatory for all state authorities to prepare a comprehensive digital inventory of all regional wetlands, which must be systematically updated once every 10 years.
3. **Regulated and Prohibited Activities**
   - **Absolute Prohibitions:** The rules ban specific activities within notified wetland boundaries, including **land reclamation, setting up or expanding industries, dumping of solid or hazardous waste, and discharging untreated effluents**.
   - **Regulated Activities:** Activities such as sustainable resource harvesting, domestic water withdrawal, and structural dredging require prior formal approval from the respective State Wetland Authority.

The Global Framework – The Ramsar Convention (1971)

1. **Nature of the Treaty**
   - **Core Mandate:** Signed on February 2, 1971, in the Iranian city of Ramsar, it is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and sustainable utilization of wetlands.
   - **Uniqueness:** It stands as the **only global environmental treaty** dedicated exclusively to a specific ecosystem type. It initially focused on habitats for migratory waterbirds, formally titled *The Convention on Wetlands of International Importance, especially as Waterfowl Habitat*.
2. **The Inclusive Broad Definition**
   - **Contrast with Domestic Law:** In stark contrast to India's domestic 2026 legal contentions, the Ramsar Convention adopts a highly inclusive definition. It explicitly encompasses both **natural and artificial** water systems without distinction. It covers reservoirs, salt pans, fish ponds, and rice paddies provided they perform critical ecological functions.

3. Core Principles and Mechanisms

- **The "Wise Use" Philosophy:** This is the cornerstone of the convention, defined as the maintenance of the ecological character of wetlands through the implementation of ecosystem-based approaches, within the context of sustainable development. It emphasizes that conservation does not mean locking up resources, but using them compatibly with ecosystem health.
- **The 9 Criteria for Designation:** To be designated as a Ramsar Site (Wetland of International Importance), a site must meet at least one of nine specific ecological criteria, such as regularly supporting **20,000 or more waterbirds** or supporting 1% of the individuals in a population of a single species of waterbird.
- **International Organization Partners (IOPs):** The convention works in close collaboration with six global non-governmental organizations: **IUCN, BirdLife International, Wetlands International, WWF International, the International Water Management Institute (IWMI), and the Wildfowl & Wetlands Trust (WWT)**.
- **The Montreux Record:** Maintained as part of the main Ramsar List, it is a register of wetland sites where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution, or other human interference. Currently, two Indian sites are listed on the Montreux Record: **Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur)**. *Chilika Lake (Odisha) was previously placed on it but was successfully removed following exemplary restoration efforts.*

Q. With reference to the conservation of wetlands in India, consider the following statements:

1. The Wetlands (Conservation and Management) Rules, 2017 are statutorily framed under the Wildlife (Protection) Act, 1972.
2. Under domestic rules, the National Wetlands Committee possesses the final authority to notify localized wetland boundaries within individual states.
3. The Ramsar Convention's "Wise Use" approach permits human utilization of wetland ecosystems as long as it remains compatible with preserving their ecological character.
4. If an Indian Ramsar site faces severe ecological degradation due to human interference, it can be placed under the Montreux Record by the convention secretariat.

Which of the statements given above are correct?

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

Solution

Correct Answer: (b) 3 and 4 only

- **STATEMENT 1 IS INCORRECT:** The Wetlands (Conservation and Management) Rules, 2017 are framed under the **Environment (Protection) Act, 1986**, not the Wildlife (Protection) Act, 1972.
- **STATEMENT 2 IS INCORRECT:** The identification, delineation, and notification of localized wetlands fall within the domain of the decentralized **State Wetland Authorities (SWA)**, whereas the National Wetlands Committee (NWC) serves a high-level advisory and monitoring role.

- **STATEMENT 3 IS CORRECT:** The "Wise Use" principle of the Ramsar Convention explicitly advocates for the sustainable use of wetlands in a way that benefits humanity while ensuring the core ecological character of the ecosystem is systematically maintained.
- **STATEMENT 4 IS CORRECT:** The Montreux Record is specifically designated as a global register under the Ramsar Convention to flag and track internationally important wetlands where negative ecological transitions are occurring due to pollution or development.

4.4. RARE EARTH ELEMENTS (REES)

Context:

- Recently, on the sidelines of the 11th Quad Foreign Ministers' Meeting (FMM) in New Delhi, India and the United States firmed up a critical framework titled "Securing of supply in the mining and processing of critical minerals and rare earths" to ensure a steady supply of these vital materials.
- This move follows growing concerns over China's stringent export controls on strategic metals. Parallelly, a separate critical minerals framework was signed among all four Quad nations—India, the U.S., Australia, and Japan—aiming to mobilize approximately $20 billion in government and private-sector support to establish diversified, resilient supply chains and counter global market shortfalls.

1. Core Facts and Chemical Properties

- **The 17 Elements:** REEs include the 15 Lanthanides (atomic numbers 57 to 71) plus Scandium (21) and Yttrium (39). Scandium and Yttrium are included because they occur in the same ore bodies and share nearly identical chemical properties.
- **The Scarcity Myth:** These metals are relatively abundant in the Earth's crust, but they are highly dispersed. They rarely form concentrated, easily mineable veins, making extraction and chemical separation complex and costly.
- **Industrial Breakdown:**

Category	Key Elements	Main Uses
Light REEs (LREEs)	Lanthanum, Cerium, Neodymium	EV batteries, catalytic converters, glass polishing, magnets.
Heavy REEs (HREEs)	Dysprosium, Terbium, Yttrium	Defense radars, fiber optics, missile guidance, high-heat magnets.

Promethium is the only lanthanide that is entirely radioactive and virtually non-existent in nature.

2. **Global and Indian Distribution**
   - **Global Monopoly:** China holds nearly 50% of global rare earth reserves, controls over 60% of primary mining, and dominates roughly 92% of mid-stream refining capacity.
   - **India's Placer Deposits:** India's primary rare earth source is **Monazite**, a heavy beach sand mineral found along coastal stretches and inland dunes.
   - **Geographic Locations:** Major monazite reserves lie across the coasts of **Odisha** (Chhatrapur), **Kerala** (Chavara), **Andhra Pradesh**, and **Tamil Nadu**.
   - **Hard-Rock Alternatives:** Inland carbonatite rock reserves have also been mapped in **Gujarat** (Amba Dongar) and **Rajasthan** (Barmer/Sirohi).
3. **Downstream Value Chains**
   - **Permanent Magnets (REPMs):** Neodymium-Iron-Boron (NdFeB) magnets are the strongest permanent magnets commercially available. They maintain high magnetic performance even under intense physical and thermal stress.
   - **Green Energy Anchor:** These magnets are critical components for electric vehicle (EV) traction motors and direct-drive wind turbines, making REEs essential for decarbonization goals.
   - **The New Corridors:** The designated Rare Earth Corridors cluster coastal mining nodes with processing plants to build an end-to-end domestic supply chain, shifting away from exporting raw sand.
4. **Regulatory and Policy Frameworks**
   - **Atomic Energy Act, 1962:** Because monazite contains radioactive **Thorium**, it is classified as a "prescribed substance." Consequently, mining and processing beach sand minerals remain strictly regulated by state-owned companies like IREL (India) Limited.
   - **MMDR Amendment Act:** Recent updates to the Mines and Minerals Development and Regulation Act removed several critical items from the atomic minerals list, allowing private players to bid on exploration licenses for non-radioactive critical ores.
   - **National Critical Minerals Mission:** This initiative coordinates domestic mining block auctions, streamlines environmental clearances for processing facilities, and supports international joint ventures like KABIL to secure mineral assets abroad.

Q. Consider the following statements regarding Rare Earth Elements (REEs):

STATEMENT I: Monazite sand deposits along the Indian coast are classified as prescribed substances under the Atomic Energy Act due to the presence of radioactive Thorium.

STATEMENT II: India possesses a highly balanced rare earth resource profile, where domestic reserves contain an over-abundance of heavy rare earth elements (HREEs) relative to light rare earth elements (LREEs).

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

Solution

Correct Answer: (c)

- **STATEMENT I IS CORRECT:** Monazite is a primary source of rare earths in India. Because it contains radioactive Thorium and Uranium, it is regulated as a prescribed substance under the Atomic Energy Act of 1962 to manage radiation risks and ensure public safety.
- **STATEMENT II IS INCORRECT:** India's rare earth reserves are heavily skewed toward Light Rare Earth Elements (LREEs) like Cerium and Neodymium. The country lacks significant domestic reserves of critical Heavy Rare Earth Elements (HREEs) like Dysprosium, leaving its advanced defense and precision tech sectors reliant on international imports.

4.5. RARE DRAGONY RESURFACES IN ARUNACHAL

Context:

- Recently, a team of citizen scientists recorded the **Long-tailed Duskhawker** (*Gynacantha khasiaca*), a rare species of dragonfly, at Deban on the Miao–Vijoynagar Road inside **Namdapha National Park and Tiger Reserve.**
- This is important because the species has been rediscovered in Arunachal Pradesh after **110 years**. It was last reported in 1914 from the old Abor Hills region.

1. **Key Highlights of Long-tailed Duskhawker**
   - **Taxonomy:** It belongs to the family **Aeshnidae** under the order **Odonata** (which encompasses all dragonflies and damselflies).
   - **Physical Characteristics:**
   - It features **two prominent compound eyes**, each comprising thousands of individual lenses and photoreceptor clusters, providing it with a **near-360° field of vision.**
   - It possesses unique flight capabilities, including the ability to hover completely still mid-air.
   - **Behavior:** It displays **crepuscular behavior** (primarily active during twilight—dawn and dusk) and territorial defense characteristics (e.g., rapid patrolling along forest edges).
   - **IUCN Conservation Status:** Listed as **Data Deficient (DD)** due to sparse historical records and limited distribution tracking.
   - **Geographical Distribution:**
   - **Within India:** Beyond Arunachal Pradesh, it has been historically or newly documented across **Assam, Meghalaya, West Bengal, Uttarakhand, and Maharashtra**.
   - **Global Distribution:** Outside India, it is found in **Bangladesh, Myanmar, and Nepal**.
2. **Ecological Significance of Odonata (Dragonflies & Damselflies)**
   - **Indicator Species:** Because their larval stages are entirely aquatic, they serve as excellent bio-indicators of freshwater ecosystem health and water quality.

- **Trophic Role:** They occupy critical niches in the aquatic food web, serving simultaneously as apex invertebrate predators (consuming mosquito larvae, flies, etc.) and prey for larger birds and amphibians.
- **Biodiversity Data (India vs. Global):**
  - **Global:** 6,442 species across 693 genera.
  - **India:** Home to **504 species and 27 subspecies** across 152 genera and 18 families.
  - **Arunachal Pradesh:** Records **110 species** of Odonata.

3. About Namdapha National Park & Tiger Reserve

- **Location:** Namdapha National Park and Tiger Reserve is located in Changlang district of Arunachal Pradesh, near the **India–Myanmar border**, between the Patkai Range and the Dapha Bum range of the Mishmi Hills in the **Eastern Himalayas**.
  - It is located at the junction of the **Indian Sub-Continent Bio-geographic region and the Indo-China Bio-geographic region.**
- **Hydrology:** It is bisected from east to west by the **Noa-Dihing River**, which originates at the Chaukan Pass on the **Indo-Myanmar border**.
- **Altitudinal Variation & Microclimates:** Ranging sharply from 200m to 4,571m above sea level, it transitions seamlessly through multiple biomes: **Tropical Evergreen Rain Forests, Moist Deciduous, Sub-tropical, Temperate, and Alpine vegetation**.
- **The "Four Big Cats" Phenomenon:** It is widely celebrated as one of the few protected areas hosting four distinct pantherine species occupying different altitudinal niches: **Tiger, Leopard, Clouded Leopard, and Snow Leopard**.
- It was declared as **Tiger Reserve** by the Government in 1983.
- **Primates:** Several primate species are found in the park, including the Assamese macaque, pig-tailed macaque, stump-tailed macaque, and the highly endangered Hoolock Gibbon (Hylobates hoolock), the only ape species found in India.

Q. Consider the following statements regarding dragonflies and damselflies:

1. Dragonflies are considered important bio-indicators of freshwater ecosystems.
2. The larval stage of dragonflies is completely terrestrial in nature.

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) 1 only

Explanation:

- **Statement 1 is correct**: Dragonflies indicate the health of freshwater ecosystems.
- **Statement 2 is incorrect**: Their larval stage is aquatic, not terrestrial.

4.6. CHHARI-DHAND WETLAND CONSERVATION RESERVE

Context:

- Recently, NTPC's proposed solar power project in the **Banni grasslands of Gujarat** has sparked a debate between India's clean energy goals and environmental conservation. The project area lies near the ecologically sensitive **Chhari-Dhand Wetland Conservation Reserve**, one of Asia's important grassland-wetland ecosystems.
- The Banni grasslands are home to the **Maldhari pastoral community**, who have depended on grazing lands for centuries. The region also supports migratory birds, wildlife, and unique biodiversity. Maldharis fear that large-scale solar installations may reduce grazing land, disturb the fragile ecosystem, and affect their traditional livelihood.

1. About the Wetland

- **Ramsar Designation:** Designated as a **Ramsar Site (Wetland of International Importance)**, taking the total number of Ramsar sites in India to **98.**
- **Gujarat's Count:** It is **Gujarat's 5th Ramsar Site** and the **first** in the Kachchh region.
  - **Other 4 sites in Gujarat**: Nal Sarovar, Thol Lake, Khijadiya, and Wadhwana.
- **Legal Status:** It was notified as Gujarat's **first Conservation Reserve** in August 2008 under the **Wildlife (Protection) Act, 1972**.

2. Geographical & Ecological Characteristics

- **Location:** Located in the **Kachchh district** of Gujarat.
- **Ecosystem Convergence:** It lies at a unique ecological intersection of three distinct landscapes:
  1. **Banni Grasslands** (arid/semi-arid grassland ecosystem)
  2. **Tropical Thorn Forests**
  3. **Little Rann Landscape** (salt flats/marshy desert)
- **Hydrology:** It is a **seasonal, saline, desert wetland**. In the local Kutchi language, **"Chhari" means salty and "Dhand" means shallow wetland**. It floods during the monsoon via north-flowing rivers and surrounding hills, creating extensive shallow water bodies in an otherwise arid landscape.

3. Biodiversity & Key Species

The site acts as a critical wintering ground and stopover site along the **Central Asian Flyway (CAF)**. It holds over 35% of Gujarat's total avifaunal diversity.

- **Avifauna (Birds):**
  - **Grey Hypocolius (*Hypocolius ampelinus*):** A globally significant, rare passerine bird. Chhari-Dhand is famously known as one of the few places in India where this bird can be reliably sighted during winters.

- **Common Crane (*Grus grus*):** Huge congregations (up to 30,000–40,000 individuals) winter here annually.
- **Other Threatened/Endangered Birds:** Sociable Lapwing (Critically Endangered), Common Pochard (Vulnerable), Dalmatian Pelican, Oriental Darter, Black-necked Stork, and Indian Skimmer.

- **Flora (Vegetation):** Well-adapted arid vegetation, notably:
- **Indian Bdellium-tree (*Commiphora wightii* / Guggul):** Critically Endangered.
- **Indian Gum Tragacanth (*Sterculia urens*).**
- **Terrestrial Mammals:** Provides a sanctuary for classic arid-zone fauna including **Chinkara, Wolves, Caracal, Desert Cats, and Desert Foxes**.

4. Threats and Conservation Challenges

- **Invasive Species:** The wetland and surrounding Banni grassland face severe ecological pressure from *Prosopis juliflora* (an invasive exotic weed locally known as *Gando Baval*).
- **Anthropogenic Pressures:** Increasing pressure from uncontrolled tourism (including eco-tourism and nearby religious tourism circuits).

Q. Consider the following statements regarding the "Chhari-Dhand Wetland", recently in the news:

1. It is the first Ramsar site to be designated in the state of Gujarat.
2. It is a seasonal desert wetland located adjacent to the Banni Grasslands.
3. It serves as a major wintering habitat for the rare Grey Hypocolius bird along the Central Asian Flyway.

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

Explanation:

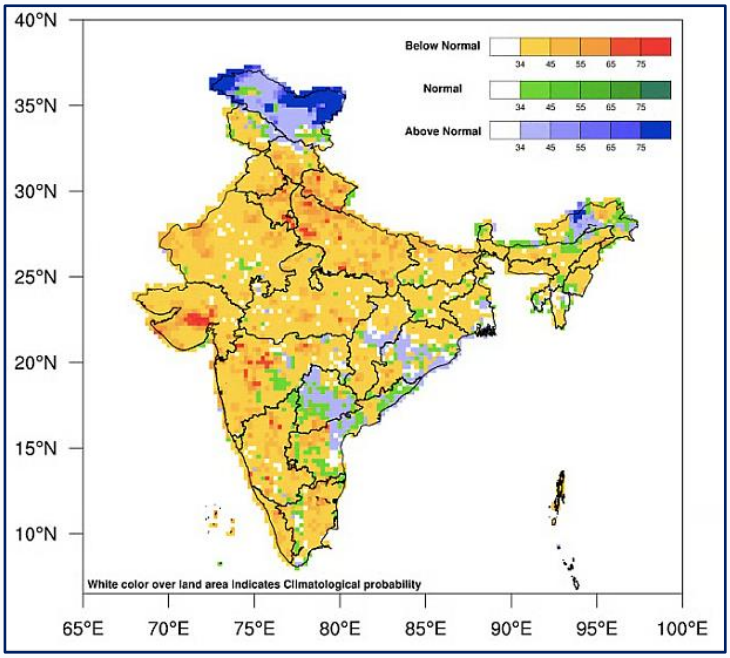
Statement 1 is incorrect: Chhari-Dhand is **Gujarat's 5th Ramsar site** and the first in the Kachchh region. It was designated as a Ramsar site alongside Patna Bird Sanctuary (Uttar Pradesh). The *first* Ramsar site to be designated in Gujarat was **Nal Sarovar Bird Sanctuary** (in 2012). The other three are Thol Lake, Khijadiya, and Wadhwana.

Statement 2 is correct: It is a **seasonal, saline, desert wetland** that sits precisely on the edge of the arid **Banni Grasslands** and the marshy salt flats of the Rann of Kutch. In the local Kutchi language, *"Chhari"* means salty and *"Dhand"* means shallow wetland. It gets swampy primarily during a good monsoon, fed by north-flowing rivers and surrounding hills.

Statement 3 is correct: The wetland is located along the **Central Asian Flyway (CAF)** and serves as a major wintering ground. It is globally renowned for hosting significant congregations of migratory birds, including up to 40,000 Common Cranes and the highly sought-after, rare **Grey Hypocolius** bird.

4.7. IMD LOWERS MONSOON OUTLOOK

Context:



- Recently, the India Meteorological Department revised its forecast for the 2026 Southwest Monsoon, reducing it from **92% to 90% of the Long Period Average** (LPA). This places the monsoon in the below-normal/deficient rainfall category.
- The IMD has also indicated that the monsoon's arrival over the Kerala coast is likely to be delayed, shifting from the earlier expected date of May 26 to the first week of June.

1. Some Key Facts

- **Long Period Average**: The average rainfall received in a region over a long period (usually 30 or 50 years), used as a benchmark for rainfall and monsoon forecasts.
  - The LPA for the monsoon is defined as the average rainfall between 1971 and 2020 and is around 868.6 mm.
- **Deficient Monsoon Definition:** The IMD categorizes a monsoon as "deficient" when total seasonal rainfall falls **under 90% of the LPA**. The current probability of a deficient monsoon for 2026 is pegged at 60%.

Category	Rainfall Range (% of LPA)
Deficient	< 90
Below Normal	> 90 - 95
Normal	96 -104
Above Normal	> 105 -110
Excess	> 110

- **Terminology Distinction:** The IMD does *not* officially use the term "drought" in its regular lexicon; that specific nomenclature is formally used by the **Ministry of Agriculture**.

2. Crucial Meteorological Phenomena

I. El Niño

- **Current Status:** There is a **92% chance of El Niño conditions** persisting during the 2026 season.
- **Impact:** El Niño (the unusual warming of surface waters in the eastern tropical Pacific Ocean) is the primary driver behind the **expected 2026 rainfall shortfall**. It typically weakens the trade winds and suppresses the Indian monsoon.

II. Indian Ocean Dipole (IOD)

- **Current Status:** Currently **absent**.

- **Mechanism:** Often called the "Indian Niño," IOD is an irregular oscillation of sea-surface temperatures in which the western Indian Ocean becomes alternately warmer (Positive phase) or colder (Negative phase) than the eastern part.
- **Impact:** A *Positive IOD* acts as a crucial buffer that can counter the negative impacts of El Niño by bringing more rain to India. Its current absence eliminates this safety net.

III. Madden-Julian Oscillation (MJO)

- **Mechanism:** The MJO is an **eastward-moving band of rain clouds and winds** near the equator that circles the globe every 30 to 60 days.
- **Impact:** It is an **intra-seasonal wildcard**. If a favorable (active) phase of the MJO swings over the Indian Ocean during the season, it can temporarily intensify monsoon rainfall and wind strength, potentially mitigating a deficit.

Q. Consider the following phenomena:

1. El Niño
2. Positive Indian Ocean Dipole
3. Active Madden–Julian Oscillation over the Indian Ocean

Which of the above can significantly influence the Indian Summer Monsoon?

A. 1 only

B. 1 and 2 only

C. 2 and 3 only

D. 1, 2 and 3

Answer: D. 1, 2 and 3

Explanation:

All three phenomena significantly influence the Indian Summer Monsoon:

- **El Niño**
  - Warming of the eastern tropical Pacific Ocean.
  - Generally weakens the Indian monsoon and can lead to below-normal rainfall.
- **Positive Indian Ocean Dipole (IOD)**
  - Warmer western Indian Ocean and cooler eastern Indian Ocean.
  - Enhances moisture transport towards India and can offset the adverse effects of El Niño.
- **Active Madden–Julian Oscillation (MJO)**
  - An eastward-moving band of clouds and rainfall.
  - When active over the Indian Ocean, it strengthens monsoon rainfall and increases convection.

Hence, **all three phenomena can significantly influence the Indian Summer Monsoon.**

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5.1. ORESHNIK MISSILE

Context:

- Recently, Russia deployed its nuclear-capable hypersonic **Oreshnik missile** to launch a massive bombardment against the Ukrainian capital of Kyiv, marking the third time Moscow has utilized this specific weapon system during the course of the war. According to reports from the ground, the strike was part of one of the largest aerial barrages involving an estimated 600 drones and 90 missiles.
- The Russian Army confirmed the deployment, stating it was carried out in response to Ukrainian strikes on civilian infrastructure within Russian-occupied eastern territory, while Ukrainian authorities reported significant damage to residential areas, schools, and utility facilities.

1. **Key Features & Technical Specifications of Oreshnik Missile**
   - **System Classification:** The Oreshnik (meaning "Hazelnut" or "Hazel Shrub" in Russian) is classified as a road-mobile, solid-fueled **Intermediate-Range Ballistic Missile (IRBM)**.
   - **Operational Range:** The missile possesses an estimated range varying between **3,500 kilometers and 5,470 kilometers**. This strategic range enables the system to target nearly all major capital cities across Europe from launch positions located deep within the territory of western Russia.
   - **Hypersonic Velocity:** Upon atmospheric re-entry, the missile reaches speeds exceeding **Mach 10** (which translates to approximately 12,300 kilometers per hour or nearly 13,000 kilometers per hour at peak flight). Because it travels at faster-than-hypersonic speeds through the upper atmosphere, it leaves a minimized reaction window for terminal interception.
   - **Payload Delivery System (MIRV Technology):**
     - The most distinct feature of the Oreshnik is its integration of **Multiple Independently Targetable Reentry Vehicle (MIRV)** capability.
     - During the terminal phase, a specialized maneuvering payload section ("bus") separates and releases **six distinct warheads**.
     - Each of these six warheads can further split into multiple submunitions, enabling a single missile to accurately overwhelm and destroy multiple independent targets simultaneously.
   - **Dual-Capable Warheads:** The system is explicitly designed to function with **dual capability**, meaning it can carry either conventional high-explosive payloads or nuclear warheads.
   - **Structural Lineage:** Global defense experts and intelligence assessments indicate that the Oreshnik is not an entirely novel system, but rather an optimization of the discontinued **RS-26 Rubezh** Intercontinental Ballistic Missile (ICBM) program. By modifying the payload bus and removing a booster stage, engineers effectively reduced the range from intercontinental parameters down to intermediate-range parameters.

Q. Consider the following statements regarding the recently discussed 'Oreshnik' missile system:

1. It is a solid-fueled, air-launched cruise missile engineered primarily for close-range theater support.
2. It incorporates Multiple Independently Targetable Reentry Vehicle (MIRV) technology capable of dispersing multiple submunitions.
3. Its operational range allows it to hit targets at intermediate distances between 3,500 km and 5,500 km.

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

Solution

Correct Answer: (b) (2 and 3 only)

- **STATEMENT 1 IS INCORRECT:** The Oreshnik is explicitly classified as a **road-mobile, ground-launched ballistic missile**, rather than an air-launched cruise missile. Cruise missiles fly continuously within the atmosphere using jet engine propulsion, whereas the Oreshnik follows a ballistic trajectory, reaching high altitudes into the upper atmosphere before descending at hypersonic speeds.
- **STATEMENT 2 IS CORRECT:** The definitive technical feature of the Oreshnik missile system is its integration of a **MIRV payload section**. The missile utilizes a maneuvering "bus" that splits into six separate warheads, each dropping multiple submunitions to saturate air defense networks.
- **STATEMENT 3 IS CORRECT:** The system is categorized precisely as an **Intermediate-Range Ballistic Missile (IRBM)**. Its estimated operational envelope falls between 3,500 km and 5,470 km, filling the strategic gap between shorter medium-range missiles and long-range intercontinental ballistic missiles (ICBMs).

5.2. THE PHYSICS OF THERMOMETERS, TEMPERATURES AND COLD ATOMS

Context

- Recently, advances in atomic physics and ultra-cold atom research have improved the precision of temperature measurement, helping scientists better understand the behavior of matter at extremely low temperatures. Thermometers, one of the most common scientific instruments, work on fundamental principles of heat transfer and atomic motion.

1. What is Temperature?

- Temperature is the measure of the average kinetic energy of particles in a substance.
- When particles move faster, temperature increases; when they move slower, temperature decreases.

- It determines the direction of heat flow—from hotter objects to colder ones.

2. How Does a Thermometer Work?

A thermometer measures temperature using materials that change predictably with heat. Thermometers work on the **principle of thermal expansion**.

I. Liquid Thermometers

- Traditional thermometers use liquids such as **mercury (Mercury is a metal, like iron or aluminium, i.e., which conducts current and shines, but unlike our metallic utensils or spoons, it is in a liquid state)** or **alcohol**.
- When temperature rises, the liquid expands and moves upward in a narrow tube.
- When temperature falls, the liquid contracts and moves downward.

II. Semiconductor / Resistance Thermometers

- Semiconductor resistance thermometers, commonly known as **thermistors**, are temperature sensors that rely on semiconductor materials (Semiconductors are materials that partially conduct electricity, and their conductivity increases with temperature) whose electrical resistance sharply changes with temperature.
- Used in: smartphones, **digital thermometers**, fever strips — compact and highly accurate.

III. Infrared (Contactless) Thermometers

- Every object emits infrared radiation proportional to its temperature.
- These thermometers detect that radiation without touching the object.
- Widely used during COVID-19 screening, industrial monitoring, and in astronomy.

3. The concept of Absolute Zero

- The lowest possible temperature is called **absolute zero**.
- It is equal to **0 Kelvin (−273.15°C)**.
- At this point, all atomic motion theoretically stops (zero kinetic energy).

4. Cold Atoms and Bose-Einstein Condensate (BEC)

I. What are Cold Atoms?

- Cold atoms are atoms cooled to temperatures extremely close to absolute zero.
- At this temperature they stop behaving like ordinary matter.
- Scientists use **lasers and magnetic fields** to slow down atomic motion.
- These ultra-cold atoms help researchers study quantum mechanics with **very high precision.**
- **Application:**
  - Atomic clocks for highly accurate timekeeping
  - GPS and satellite navigation systems
  - Quantum computing and quantum communication
  - Advanced sensors and scientific experiments

II. Bose-Einstein Condensate (BEC)

- **The Fifth State of Matter:** Along with solid, liquid, gas, and plasma, BEC constitutes the fifth fundamental state of matter.
- **Historical Genesis**: In 1924, Indian physicist Satyendra Nath Bose derived the statistical mechanics for light quanta (photons), a breakthrough he shared with Albert Einstein, who extended the theory to massive ideal gas atoms.

Q. Consider the following statements regarding thermometers and temperature:

1. Thermistors are semiconductor devices whose electrical resistance changes with temperature.
2. At absolute zero temperature, particles possess maximum kinetic energy.

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) 1 only

Explanation:

- **Statement 1 is correct** because thermistors use semiconductor materials whose resistance varies sharply with temperature.
- **Statement 2 is incorrect** because at absolute zero (0 K), atomic motion theoretically stops and kinetic energy becomes minimum.

5.3. AMCA FIGHTER PROJECT

Context

- The Ministry of Defence (MoD) has officially issued a **Request for Proposal (RFP)** to three shortlisted domestic private bidders for the development of prototypes for India's indigenous **Advanced Medium Combat Aircraft (AMCA)** programme. This marks a major paradigm shifts toward public-private partnership in advanced combat aviation under the Make in India initiative.

1. Key Highlights of the AMCA Project

- **The Platform:** It is India's most ambitious indigenous aerospace programme aimed at developing a **fifth-generation stealth combat aircraft**.
- **Core Design Elements:** The multi-role aircraft will feature advanced avionics, **super cruise capability** (the ability to fly at supersonic speeds without using fuel-heavy afterburners), and a drastically **reduced radar signature** (stealth).
- **Development Model (AMCA Programme Execution Model):**
  - Designed by the **Aeronautical Development Agency (ADA)**, a premier body functioning under the Department of Defence R&D (DRDO).

- The execution relies heavily on a private industry partnership. The selected private player will collaborate with the ADA to manufacture **five prototypes** for the Indian Air Force (IAF).

- **Exclusion of HAL:** Interestingly, the state-run aerospace giant **Hindustan Aeronautics Limited (HAL)** has been kept out of this specific prototype bidding process to allow private entities to lead.
- **Infrastructure Support:** The foundation stone for a dedicated **₹15,803-crore AMCA infrastructure project** was laid in the **Sri Sathya Sai district of Andhra Pradesh** to build up testing and development facilities.

2. Private Sector Participation

The RFP was issued to three distinct corporate combinations, showcasing the deep indigenisation of defense manufacturing:

1. **Larsen & Toubro (L&T) & Bharat Electronics Limited (BEL)** combine.
2. **Tata Advanced Systems Limited (TASL)**.
3. **Bharat Forge & BEML Limited** consortium.

3. Categorising Fighter Jet Generations

Feature	4th / 4.5 Generation (e.g., LCA Tejas, Rafale)	5th Generation (e.g., AMCA, F-35, Su-57)
Stealth / Radar Signature	High to Moderate radar cross-section. Weapons and fuel tanks are carried externally on wing hardpoints.	Inherent low-observable stealth geometry, radar-absorbent coatings, and **internal weapons bays** to avoid radar detection.
Super cruise	Mostly absent; requires afterburners to sustain supersonic speeds, which rapidly drains fuel.	Inbuilt capability to cruise supersonically without afterburners, increasing operational range.
Sensor Fusion	Multiple separate displays for radar, electronic warfare, and targeting systems.	Advanced integrated networks that fuse data from AESA radars, infrared sensors, and external data links into a single, cohesive situational display.

Q. Consider the following statements regarding the AMCA programme:

1. The AMCA programme is being developed under the Make in India initiative.
2. Hindustan Aeronautics Limited (HAL) has been included in the prototype bidding process.

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) 1 only

Explanation:

- **Statement 1 is correct:** The Advanced Medium Combat Aircraft (AMCA) programme is being developed under the **Make in India** initiative with a strong focus on indigenous defense manufacturing and private sector participation.
- **Statement 2 is incorrect:** Hindustan Aeronautics Limited has **not** been included in the current prototype bidding process. The Ministry of Defence shortlisted private sector combinations for prototype development.

5.4. EBOLA OUTBREAK 2026: THE BUNDIBUGYO STRAIN CHALLENGE

Context:

- Recently, the World Health Organization (WHO) officially designated the expanding Ebola outbreak in Central Africa as a Public Health Emergency of International Concern (PHEIC). This urgent global declaration, reported across major news outlets, comes in response to a sharp rise in cases driven by the rare *Bundibugyo ebolavirus* strain.
- Because this specific strain carries a high fatality rate of up to 50% and completely bypasses existing standard Ebola vaccines, the Government of India has issued a strict advisory urging citizens to avoid non-essential travel to the affected regions.

1. What is Ebola and the Current Strain?

- Ebola Virus Disease (EVD) is a rare but severe, often fatal illness in humans caused by a group of viruses under the genus *Orthobolavirus*.
- There are six known species of the virus, but only three—Zaire, Sudan, and Bundibugyo—commonly cause large, deadly outbreaks in human populations.
- The active outbreak is driven by the **Bundibugyo strain**, a variant that has historically appeared less frequently but is currently causing rapid transmission.

2. How Does It Spread?

- **From Animals to Humans:** The virus naturally lives in fruit bats. It spills over to humans when someone handles or eats infected wild animals (such as bats, monkeys, or apes) found sick or dead in the rainforest.
- **From Human to Human:** The virus spreads strictly through direct contact with the bodily fluids (blood, vomit, feces, or sweat) of a person who is **actively showing symptoms** or has died from the disease.
- **The Incubation Rule:** An infected person cannot spread the virus to others during the incubation period (which lasts between 2 to 21 days); they only become contagious *after* symptoms appear.

3. Symptoms and the Diagnosis Challenge

- The disease begins abruptly with flu-like symptoms, including sudden fever, intense weakness, muscle pain, headache, and a sore throat.

- As the illness worsens, patients suffer from vomiting, diarrhea, kidney and liver failure, and severe internal and external bleeding (hemorrhaging).
- Early diagnosis is difficult because these initial symptoms look identical to other common tropical diseases like malaria, typhoid, and dengue.

4. The Vaccine Problem: No Cross-Protection

- While science successfully created highly effective vaccines (like Ervebo) during past outbreaks, these treatments were engineered exclusively to target the **Zaire strain**.
- Medical data shows that these existing vaccines provide **zero cross-protection** against the Bundibugyo strain causing the current crisis.
- Due to the complete lack of an approved vaccine or targeted antiviral drug for this specific variant, medical care is limited strictly to aggressive supportive therapy, such as intensive rehydration and symptom management.

5. India's Defensive Measures

- No cases of the Bundibugyo Ebola strain have been reported in India.
- To prevent an accidental import of the virus, India's health ministry has reinforced strict health screening corridors at all major international airports, focusing closely on travelers returning from Central African transit routes.

Q. With reference to Ebola Virus Disease (EVD), consider the following statements:

1. A person infected with the virus can easily transmit it to others during the incubation period before any symptoms appear.
2. The current approved vaccines for Ebola are strain-specific and do not offer cross-protection against the active Bundibugyo variant.
3. Fruit bats are considered the natural reservoir hosts that carry and maintain the virus in the wild.

Which of the statements given above are correct?

(a) Only one statement
(b) Only two statements
(c) All three statements
(d) None of the statements

Solution

Correct Answer: (b) Only two statements

- **STATEMENT 1 IS INCORRECT:** A person infected with Ebola is not contagious and cannot spread the virus during the incubation period (2 to 21 days). Transmission only becomes possible after the individual begins to show active, visible symptoms.
- **STATEMENT 2 IS CORRECT:** Existing vaccines like Ervebo were specifically developed to fight the Zaire strain of the virus. They are highly strain-specific and fail to provide any protection against the Bundibugyo strain driving the current emergency.
- **STATEMENT 3 IS CORRECT:** Fruit bats belonging to the *Pteropodidae* family are the scientifically established natural reservoirs for the Ebola virus, harboring it without getting sick. Therefore, two statements (Statements 2 and 3) are correct.

5.5. CHANDRAYAAN-2 FINDINGS ON LUNAR SUB-SURFACE ICE

Context:

- Scientists from the **Physical Research Laboratory (PRL)**, Ahmedabad, using data from India's **Chandrayaan-2 orbiter**, have detected the "possible presence" of **sub-surface water-ice** in the Lunar South Polar Region.

1. **Key Scientific Concepts & Findings**
   - **Permanently Shadowed Regions (PSRs):** These are craters near the lunar poles that never receive direct sunlight due to the tilt of the Moon's spin axis relative to its orbital plane.
   - **Doubly Shadowed Craters:** These are even more shielded pockets within PSRs that remain completely blocked from both direct sunlight and secondary scattered thermal radiation from surrounding crater walls.
   - **Environmental Conditions:** Temperatures in these regions remain extremely cold (dropping to **~25 Kelvin / -248°C**). These ultra-cold temperatures serve as stable "cold traps," allowing water-ice to be preserved over long geological timescales.
   - **Sub-surface Presence:** Unlike surface ice, this finding indicates the presence of ice *beneath* the top layer of the lunar soil.
2. **DFSAR Payload Technology**
   - **Instrument Used: Dual Frequency Synthetic Aperture Radar (DFSAR)**.
   - **Working Mechanism:** It operates in two microwave bands (**L-band and S-band**). This payload sends radar pulses to the Moon's surface and reads the reflected signals using **advanced radar polarimetric analysis**.
   - Synthetic Aperture Radar (SAR) Technology uses **microwave radiation, not visible light.**
   - **Significance:**
     - **All-Weather, Day/Night Imaging**: Unlike optical sensors, **microwave radar** can pierce through thick clouds, rain, smoke, and darkness.
     - **Penetration Capabilities**: Dual bands allow researchers to see beneath the top layer of surfaces like desert sands and snowpacks.
     - **Precision Measurement**: Using interferometry (InSAR), overlapping radar passes can measure surface elevation changes as small as a centimetre.
   - **Applications**
     - Forest and vegetation mapping
     - Soil moisture analysis
     - Glacier and ice-sheet studies
     - Disaster management
     - Coastal and ocean studies

- Agricultural monitoring

3. **Chandrayaan-2 vs. Chandrayaan-3**
   - **Chandrayaan-2 (Launched 2019):** Consisted of an Orbiter, Lander (Vikram), and Rover (Pragyan). While the lander crash-landed, the **Orbiter remains fully functional** in a 100 km lunar orbit and continues to transmit high-resolution data (as seen in this current discovery).
   - **Chandrayaan-3 (Launched 2023):** Was a follow-on mission consisting *only* of a Lander and Rover configuration (using a propulsion module instead of a full scientific orbiter). It successfully soft-landed near the lunar south pole at the **Shiv Shakti Point**.
4. **Why is Lunar Water-Ice Critically Important?**
   - **In-Situ Resource Utilization (ISRU):** Liquid water is heavy and expensive to transport from Earth. Accessing lunar ice means future crewed bases can extract water for drinking.
   - **Rocket Propellant:** Water can be split into Hydrogen (fuel) and Oxygen (oxidizer) to produce rocket propellant on the Moon, turning it into a refueling stepping stone for deep space missions to Mars.

Q. Which of the following are applications of SAR technology?

1. Forest mapping
2. Soil moisture analysis
3. Glacier studies
4. Agricultural monitoring

Select the correct answer:

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1, 2 and 4 only

(d) 1, 2, 3 and 4

Answer: D

Explanation:

SAR (Synthetic Aperture Radar) uses **microwave signals**, so it can work in **all weather and day/night conditions**. Therefore, it is widely used for:

- Forest mapping
- Soil moisture analysis
- Glacier studies
- Agricultural monitoring

Hence, **all are correct**.

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6.1. PADMA AWARDS

Context:

- Recently, President Droupadi Murmu presented the first phase of the prestigious Padma Awards for the year 2026 at a formal Civil Investiture Ceremony held at Rashtrapati Bhavan, conferring honors upon prominent citizens for their exceptional public service across diverse domains. For the current calendar cycle, the President approved a total of 131 decorations across three distinct categories, spotlighting grass-roots achievers, cultural iconoclasts, and veterans posthumously recognized for their foundational legacy.

1. **Classification and Hierarchy**

   Instituted in the year 1954, the Padma Awards constitute the highest civilian honors of the Republic of India alongside the Bharat Ratna. The structural hierarchy is organized into three specific tiers based on the nature of the contribution:

   - **Padma Vibhushan:** Awarded for "exceptional and distinguished service" (the highest tier among the Padma honors).
   - **Padma Bhushan:** Conferred for "distinguished service of high order".
   - **Padma Shri:** Conferred for "distinguished service" in any given field.

2. **Fields of Activity**

   The scope of recognition is extensive and includes disciplines such as Art (music, cinema, painting), Social Work, Public Affairs, Science & Engineering, Trade & Industry, Medicine, Literature & Education, Civil Services, and Sports. It also covers distinct sub-categories such as tribal healthcare, traditional martial arts, agricultural innovation, and ancient craftsmanship.

3. **The Institutional Nomination Process**

   The nomination process follows a structured workflow that transitions from public submissions to final executive approval:

   - **Step 1: Open Submissions:** The process begins with public and self-nominations submitted digitally via the centralized Rashtriya Puraskar Portal.
   - **Step 2: Committee Screening:** All incoming nominations are scrutinized by the Padma Awards Committee, a high-level body constituted afresh every year by the Prime Minister. This committee is structurally headed by the Cabinet Secretary and includes the Home Secretary, the Secretary to the President, and four to six eminent persons drawn from public life.
   - **Step 3: Executive Review:** The recommendations formulated by this panel are submitted directly to the Prime Minister and the President of India for final executive clearance.
   - **Step 4: Public Announcement:** The finalized list of awardees is officially declared on the eve of Republic Day every year.

4. Statutory Rules and Strict Exclusions

1. Institutional Disqualifications

The institutional framework establishes a clear wall of separation to ensure impartiality in selections:

- **Government Servants:** Public servants working with Government Departments or Public Sector Undertakings (PSUs)—including those in scientific, administrative, or technical roles—are **not eligible** for the Padma Awards while in active service.
- **The Structural Exception:** An institutional exception is carved out exclusively for **doctors and scientists**, who remain eligible for nomination despite being employed in state-run medical facilities or public research institutions.

2. Legal Realities: Title vs. Decoration

The constitutional status of these civilian awards was legally scrutinized and settled by the Supreme Court of India in the landmark *Balaji Raghavan v. Union of India (1995)* case.

- **Article 18(1) Alignment:** The Supreme Court ruled that the National Awards (Bharat Ratna and Padma Awards) are valid decorations celebrating merit but **do not** amount to "titles" within the meaning of Article 18(1) of the Constitution of India.
- **Prohibition of Usage:** Consequently, these honors cannot be utilized as prefixes or suffixes to the recipient's name. If an awardee uses the decoration as a prefix or suffix in print, stationery, or public life, they can be structurally stripped of the award.

3. Chronological Rules & Ceiling Limits

- **Numerical Cap:** The total number of Padma awards conferred in any single calendar year cannot exceed **120**. However, this structural ceiling strictly **excludes** awards given posthumously and those conferred upon Non-Resident Indians (NRIs), Overseas Citizens of India (OCIs), and foreigners.
- **Higher Tier Progression:** A recipient of a lower Padma tier can only be considered for a higher category award if a minimum period of **five years** has elapsed since the conferment of the previous Padma honor. However, the regulatory framework permits the selection committee to relax this timeframe under exceptional circumstances.
- **Posthumous Mandate:** The awards are generally not conferred posthumously. Nevertheless, the government can consider highly distinguished cases if the demise of the intended honoure occurred recently, specifically within the year preceding the Republic Day announcement.

Q. Consider the following statements regarding the national civilian honors in India:
STATEMENT I: Public servants working with Public Sector Undertakings and administrative state departments are completely barred from receiving Padma Awards during their active tenure of service, without any institutional exceptions.
STATEMENT II: According to the Supreme Court's ruling in the *Balaji Raghavan* case, civilian awards constitute decorations of merit rather than titles, and their use as a prefix or suffix to an awardee's name is legally prohibited.
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

Solution & Explanation

Correct Answer: (d)

- **STATEMENT I IS INCORRECT:** While it is true that government servants working in public departments and PSUs are generally excluded from the nomination pool during their active service tenure, the structural rules explicitly carve out an institutional exception for **doctors and scientists**, making the absolute claim of "without any institutional exceptions" factually incorrect.
- **STATEMENT II IS CORRECT:** The Supreme Court of India upheld the validity of civilian honors in 1995, declaring that they do not violate Article 18(1) as long as they are treated as decorations. The apex court explicitly stated that these honors cannot be used as a prefix or suffix, and any such unauthorized addition can lead to the forfeiture of the award. Since Statement I is false and Statement II is true, option (d) is the correct choice.

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