

# Solutions

DATE : (29<sup>th</sup> Sept- 5<sup>th</sup> Oct)

1) Answer: b)

Explanation:

- **Core Concept:**  
The Reserve Bank of India (RBI) has been actively working towards the **internationalisation of the Indian Rupee (INR)** to reduce dependency on foreign currencies like the US dollar, lower exchange rate risks, and boost India's trade and financial autonomy.
- **Policy Measures by RBI:**
  - **Authorized Dealer (AD) Banks** are now allowed to **lend in Indian Rupees to non-residents** in neighbouring countries.
  - Expansion of the **Special Rupee Vostro Account (SRVA)** framework, allowing surplus balances to be invested in more instruments.
  - Development of **transparent reference rates** for key currencies to strengthen INR's credibility.
- **Implementation Context:**
  - Focus on **neighbouring economies** like Nepal, Bhutan, and Sri Lanka where cross-border trade is significant.
  - Part of India's strategy to **de-dollarize trade settlements** in the region.
- **Contemporary Significance:**
  - **Reduces exchange rate volatility** exposure and strengthens **economic sovereignty**.
  - Helps India withstand **global financial shocks**, such as those witnessed during US Fed monetary tightening.
  - Promotes India's **regional trade influence**, particularly in South Asia.
- **Analysis of Options:**
  - **Option (a): Incorrect** – RBI has expanded SRVA usage, not restricted it.
  - **Option (b): Correct** – Allowing AD banks to lend in INR to non-residents is a recent and significant step.
  - **Option (c): Incorrect** – RBI has enabled, not prohibited, surplus SRVA investments.
  - **Option (d): Incorrect** – RBI encourages INR settlements, not US dollar settlements.
- **Conclusion:**  
The correct answer is **(b) Allowing authorized dealer banks to lend in Indian Rupees to non-residents in neighbouring countries**, as this is a key **RBI initiative** to promote the rupee's internationalisation.

2) Answer: b)

Explanation:

- **Core Concept:**  
'Vande Mataram' is India's **national song**, deeply tied to the freedom struggle and cultural nationalism. It was composed in **Sanskrit** by **Bankim Chandra Chatterjee** and first published in his novel *Anandamath* (1882).
- **Historical Context:**
  - Recited in **1896 at the Indian National Congress session** by **Rabindranath Tagore**.
  - Became a rallying cry in India's **anti-colonial struggle**, symbolising unity and patriotism.
- **Policy Recognition:**
  - Given official recognition in **1950**, with status equal to the national anthem.
- **Current Relevance:**
  - Recently marked its **150th anniversary**, reflecting its continued symbolic and cultural value.
  - Often invoked in debates on **national identity and cultural heritage**.
- **Analysis of Options:**
  - **Option (a): Incorrect** – Tagore recited it, did not compose.
  - **Option (b): Correct** – Bankim Chandra Chatterjee composed it in Sanskrit.
  - **Option (c): Incorrect** – Subramania Bharati was a Tamil poet, not the author.
  - **Option (d): Incorrect** – Sarojini Naidu was not the composer.
- **Conclusion:**  
The correct answer is **(b) Bankim Chandra Chatterjee**, as he authored *Vande Mataram*.

3) Answer: b) II only

Explanation:

- **Core Concept:**  
Non-Banking Financial Companies (NBFCs) are crucial for India's **financial intermediation** but operate under distinct regulations compared to banks. Recently, RBI has introduced a **framework for Self-Regulatory Organisations (SROs)** to strengthen governance.
- **NBFC Restrictions:**
  - Cannot **accept demand deposits**.
  - Cannot issue **cheques drawn on themselves**.
- **SRO Governance:**
  - Under the **Omnibus Framework, 2024**, NBFC-SROs must ensure **broad-based shareholding**.
  - **No single entity can hold  $\geq 10\%$**  of paid-up share capital.
  - SROs enhance compliance and accountability within the NBFC sector.
- **Contemporary Relevance:**
  - With over **9000 NBFCs**, governance lapses can create systemic risks.

- Stronger SROs ensure **financial discipline and investor protection**.
- **Analysis of Statements:**
  - **Statement (I): Incorrect** – NBFCs cannot accept demand deposits or issue cheques.
  - **Statement (II): Correct** – RBI mandates no entity can hold  $\geq 10\%$  in SRO shareholding.
- **Conclusion:**  
The correct answer is **(b) II only**.

4) Answer: c) I and II only

**Explanation:**

- **Core Concept:**  
**Permanent Establishment (PE)** determines when a foreign company becomes taxable in India. With the rise of the **digital economy**, India introduced the concept of **Significant Economic Presence (SEP)** to tax foreign firms operating digitally without physical presence.
- **Policy Background:**
  - Based on **Double Taxation Avoidance Agreements (DTAAs)**.
  - The **Income Tax Act** contains a “business connection” principle but **PE definitions are mainly treaty-based**, not exhaustive.
- **Key Developments:**
  - SEP covers **digital transactions** and **user-based economic presence**.
  - Ambiguity in PE rules increases **litigation risks** for multinational firms.
- **Contemporary Context:**
  - India aligns with global tax reforms like **OECD BEPS Pillar 1 and 2**.
  - Greater clarity is crucial to attract FDI while safeguarding tax revenues.
- **Analysis of Statements:**
  - **Statement (I): Correct** – SEP allows taxation without physical presence.
  - **Statement (II): Correct** – Ambiguity in PE rules leads to compliance and tax risks.
  - **Statement (III): Incorrect** – PE definitions are not exhaustively in the Income Tax Act; mostly in DTAAs.
- **Conclusion:**  
The correct answer is **(c) I and II only**.

5) Answer: c) I and III only

**Explanation:**

- **Core Concept:**  
RBI has undertaken **steps to internationalise the rupee**, including enhancing the scope of **Special Rupee Vostro Accounts (SRVAs)** and publication of **reference exchange rates**.
- **Policy Measures:**
  - **SRVA Balances:** Surplus balances can now be invested in **corporate bonds** and **central government securities**.
  - **Reference Rates:** RBI publishes rates for **USD, Euro, Yen, and Pound Sterling** (not Australian Dollar).
  - **Lending Framework:** AD banks can lend to non-residents in INR.
- **Broader Impact:**
  - Enhances INR’s role in **global trade and financial markets**.
  - Reduces **forex reserve dependence** and **exposure to dollar volatility**.
  - Strengthens India’s resilience to **global liquidity shocks**.
- **Analysis of Statements:**
  - **Statement (I): Correct** – SRVA balances now cover wider investment avenues.
  - **Statement (II): Incorrect** – RBI publishes reference rates for 4 major currencies, not the AUD.
  - **Statement (III): Correct** – Internationalisation reduces forex reserve pressure and protects against shocks.
- **Conclusion:**  
The correct answer is **(c) I and III only**.

6) Answer: d) III and IV only

**Explanation:**

- **Core Concept:**  
**Stablecoins** are cryptocurrencies pegged to **stable assets** like fiat currencies, precious metals, or asset baskets, designed to minimize volatility and make digital assets suitable for transactions and remittances.
- **Key Features:**
  - Used in **cross-border transactions** due to speed and efficiency.
  - Pegged not only to precious metals but also to **fiat currencies** (like USD) and baskets of assets.
  - Designed to **reduce volatility**, unlike Bitcoin or Ethereum.
  - Prone to **run risks** if investors redeem holdings simultaneously, posing systemic risks.
- **Contemporary Relevance:**
  - Growing scrutiny by regulators such as the **RBI and BIS** due to financial stability concerns.
  - Recent discussions in **G20 finance track** on regulating global stablecoin ecosystems.
- **Analysis of Statements:**
  - **Statement I: Incorrect** – Stablecoins are in fact widely used for cross-border remittances.
  - **Statement II: Incorrect** – They are not limited to precious metals; can be pegged to fiat or mixed assets.
  - **Statement III: Correct** – Their central feature is reducing volatility.
  - **Statement IV: Correct** – They face risks of sudden withdrawals (“run risk”).
- **Conclusion:**  
The correct answer is **(d) III and IV only**.

7) Answer: a) I, II, III and IV

**Explanation:**

- **Core Concept:**  
Mud volcanoes are geological phenomena where **mud, water, and gases (like methane)** erupt due to subsurface pressures, often linked to tectonics and hydrocarbons.
- **Key Features:**
  - Do not emit **molten lava**, unlike magmatic volcanoes.
  - Associated with **natural gas reserves** and tectonic movement.
  - Triggered by **hydrocarbon accumulation** or seismic activity.
  - India's only known mud volcano is at **Baratang Island, Andaman & Nicobar Islands**.
- **Contemporary Importance:**
  - Serve as **indicators of hydrocarbon reserves**.
  - Studied for **hazard assessment** and disaster risk management.
- **Analysis of Statements:**
  - **Statement I: Correct** – Found in gas-rich regions.
  - **Statement II: Correct** – Eject mud, water, and gases, not lava.
  - **Statement III: Correct** – Caused by tectonic/gas pressure.
  - **Statement IV: Correct** – Located in Baratang Island, Andamans.
- **Conclusion:**  
The correct answer is **(a) I, II, III and IV**.

8) Answer: d) Statement-I is incorrect, but Statement-II is correct

**Explanation:**

- **Core Concept:**  
The question concerns **pharmaceutical safety**, focusing on pediatric cough suppressants and contamination in syrups.
- **Dextromethorphan:**
  - An **opioid-derived cough suppressant**.
  - **Not recommended** for children below **5 years** due to safety and misuse risks.
- **Contamination Risks:**
  - **Diethylene Glycol (DEG)** and **Ethylene Glycol (EG)** are **toxic industrial chemicals**.
  - Known to cause **kidney and liver damage**; linked to **mass poisoning incidents** in Gambia, Uzbekistan, and India.
- **Current Relevance:**
  - **Rajasthan** and other states have restricted pediatric use.
  - WHO issued global alerts against contaminated Indian syrups (2023–24).
- **Analysis of Statements:**
  - **Statement I: Incorrect** – Dextromethorphan is unsafe for under-5 children.
  - **Statement II: Correct** – DEG and EG are highly toxic contaminants.
- **Conclusion:**  
The correct answer is **(d) Statement-I is incorrect, but Statement-II is correct**.

9) Answer: a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

**Explanation:**

- **Core Concept:**  
India's **social security coverage** has expanded significantly, with recognition at the **World Social Security Forum 2025**.
- **Policy Context:**
  - **Social Security Code** and schemes like **e-Shram, Ayushman Bharat, DBT, Jan Dhan, PMJJBY**.
  - **Digital inclusion** and **simplified laws** increased formal coverage.
- **Achievements:**
  - Coverage rose from **19% (2015)** to **64.3% (2025)**, reaching **940 million+ people**.
  - Transition from **traditional joint family support** to **formal state-backed systems**.
- **Global Recognition:**
  - India highlighted as a case study for **digital-driven inclusion** at international forums.
- **Analysis of Statements:**
  - **Statement I: Correct** – Expansion recognized at World Social Security Forum.
  - **Statement II: Correct** – Digital and legal reforms enabled this expansion.
  - **Linkage:** Statement II explains the mechanism behind Statement I.
- **Conclusion:**  
The correct answer is **(a) Both are correct and II explains I**.

10) Answer: a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

**Explanation:**

- **Core Concept:**  
Mud volcanoes differ from magmatic volcanoes, erupting **mud, water, and gases** due to subsurface pressures.
- **Geological Factors:**
  - Caused by **tectonic activity** or **hydrocarbon gas pressure**.
  - Associated with **natural gas-rich regions**.

- **Relevance to India:**
  - Found in **Baratang Island, Andamans**.
  - Important for **disaster preparedness** and **geophysical research**.
- **Analysis of Statements:**
  - **Statement I: Correct** – Triggered by tectonic or hydrocarbon pressure.
  - **Statement II: Correct** – Found in gas-rich areas.
  - **Relation:** Statement II supports and explains Statement I.
- **Conclusion:**  
The correct answer is **(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I**.

11) Answer: b) To incentivize sound risk management by linking premiums to banks' risk profiles

**Explanation:**

- **Core Concept:**  
The **Risk-Based Premium Framework for Deposit Insurance** is a shift from a **flat-rate system** (same premium for all banks) to one that varies based on banks' **risk profiles**.
- **Policy Context:**
  - Managed by the **Deposit Insurance and Credit Guarantee Corporation (DICGC)** since 1962.
  - Part of reforms announced along with **RBI's Monetary Policy Committee decisions** to strengthen financial resilience.
- **Key Features:**
  - **Lower premiums** for safer, well-managed banks.
  - **Higher premiums** for riskier banks.
  - Aligns insurance pricing with **global best practices**.
- **Benefits:**
  - Incentivizes banks to adopt **stronger risk management practices**.
  - Enhances **depositors' protection** and **public trust** in banking.
  - Promotes **financial system stability** by discouraging risky lending and governance failures.
- **Analysis of Options:**
  - **(a): Incorrect** – Deposit insurance already covers multiple deposit types; the change is about premium calculation.
  - **(b): Correct** – Premiums linked to risk profiles incentivize sound risk management.
  - **(c): Incorrect** – Applies to **all banks**, not just public sector banks.
  - **(d): Incorrect** – Does not raise deposit cover uniformly.
- **Conclusion:**  
The correct answer is **(b)**.

12) Answer: d) All forms of online money games are prohibited

**Explanation:**

- **Core Concept:**  
The **Promotion and Regulation of Online Gaming Act, 2025** regulates India's rapidly growing online gaming sector, balancing innovation, consumer protection, and financial safety.
- **Key Provisions:**
  - **Classification:**
    - **E-sports** (competitive gaming, allowed with registration).
    - **Online social games** (permitted with safeguards).
    - **Online money games** (explicitly prohibited).
  - Establishment of the **Online Gaming Authority of India (OGAI)** for licensing, compliance, and grievance redressal.
- **Implementation Context:**
  - Prohibition aims to curb **gambling-like addiction** and **financial risks**.
  - Promotes **responsible gaming ecosystem** in line with **digital economy regulations**.
- **Analysis of Options:**
  - **(a): Incorrect** – Both e-sports and social games are permitted.
  - **(b): Incorrect** – Only online money games are prohibited, not social games.
  - **(c): Incorrect** – E-sports are allowed under regulation.
  - **(d): Correct** – All forms of online money games are prohibited.
- **Conclusion:**  
The correct answer is **(d)**.

13) Answer: d) 50% by Government of India, 15% by State Government, 35% by sponsoring bank

**Explanation:**

- **Core Concept:**  
**Regional Rural Banks (RRBs)** are vital for **rural credit delivery** and **financial inclusion**, blending commercial and cooperative features.
- **Policy Framework:**
  - Established under the **RRB Act, 1976**.
  - Aim: Provide **institutional credit** to small farmers, rural artisans, and marginalized groups.
- **Shareholding Structure:**
  - **50% – Government of India**
  - **15% – State Government**
  - **35% – Sponsoring Bank**
- **Current Relevance:**

- RRBs serve as conduits for schemes like **PM-KISAN, PMJDY, and priority sector lending**.
- Supervised by **NABARD** and regulated by **RBI**.
- **Analysis of Options:**
  - **(a): Incorrect** – 51%-49% split is not legally correct.
  - **(b): Incorrect** – Equal (33%) division is not the prescribed structure.
  - **(c): Incorrect** – Not fully owned by sponsor bank.
  - **(d): Correct** – Statutory shareholding ratio.
- **Conclusion:**  
The correct answer is **(d)**.

14) Answer: a) Vulnerable

Explanation:

- **Core Concept:**  
The **Snow Leopard (*Panthera uncia*)**, known as the “ghost of the mountains,” is a flagship species of fragile Himalayan ecosystems.
- **Conservation Status:**
  - **IUCN Red List:** *Vulnerable*
  - **CITES:** Appendix I
  - **Wildlife Protection Act, 1972:** Schedule I
- **Policy Measures:**
  - India launched **Project Snow Leopard (2009)**.
  - **Global Snow Leopard and Ecosystem Protection Program (GSLEP, 2013)** brings together 12 range countries.
- **Current Significance:**
  - Recovery trends reported in **Himachal Pradesh and Ladakh**.
  - Serves as an indicator of **mountain ecosystem health**.
- **Analysis of Options:**
  - **(a): Correct** – Vulnerable is the official IUCN status.
  - **(b): Incorrect** – Not endangered.
  - **(c): Incorrect** – Not critically endangered.
  - **(d): Incorrect** – ‘Near Threatened’ is less severe than its actual category.
- **Conclusion:**  
The correct answer is **(a) Vulnerable**.

15) Answer: b) Natural phenomenon of aerial moisture transport and recycling across the Amazon basin

Explanation:

- **Core Concept:**  
‘**Flying Rivers**’ are a hydrological and climate phenomenon in the **Amazon Basin**, where water vapor flows act like invisible rivers in the sky.
- **Mechanism:**
  - Moisture originates from **Atlantic Ocean evaporation** and **Amazon forest evapotranspiration**.
  - Carried by **trade winds**, transporting rainfall inland.
  - Key for rainfall in **northwestern South America, Andes region**.
- **Contemporary Relevance:**
  - **Deforestation** reduces evapotranspiration, weakening flying rivers.
  - Leads to **droughts, agricultural stress, and climate imbalance** in Brazil and neighboring countries.
- **Analysis of Options:**
  - **(a): Incorrect** – Not artificial irrigation systems.
  - **(b): Correct** – Natural atmospheric moisture transport.
  - **(c): Incorrect** – Not underground channels.
  - **(d): Incorrect** – Not glacier-related.
- **Conclusion:**  
The correct answer is **(b)**.

16) Answer: a) I only

Explanation:

- **Core Concept:**  
**Regional Rural Banks (RRBs)** are specialized financial institutions aimed at **rural credit delivery** and **financial inclusion**. Their structure combines ownership between the Centre, State, and sponsoring banks.
- **Policy Context:**
  - Established under the **RRB Act, 1976**.
  - Shareholding pattern: **50% Central Government, 15% State Government, 35% sponsoring bank**.
  - Regulated by **RBI** and supervised by **NABARD**.
- **Statements Analysis:**
  - **Statement I: Correct** – RRBs are mandated to allocate **75% of Adjusted Net Bank Credit (ANBC)** or credit-equivalent amount to **priority sector lending**, significantly higher than commercial banks.
  - **Statement II: Incorrect** – Punjab & Sind Bank does **not sponsor any RRB**.
- **Current Relevance:**
  - RRBs implement flagship schemes like **PM-Kisan, PMJDY, and crop loans**.
  - Play a critical role in rural development but face issues of **NPAs, profitability, and digital penetration**.

- **Conclusion:**  
The correct answer is **(a) I only**.

17) Answer: a) I only

**Explanation:**

- **Core Concept:**  
India's banking reforms are aligned with **global best practices** through **Basel III capital norms** and the **Expected Credit Loss (ECL) framework**.
- **Policy Framework:**
  - **Basel III revisions** lower risk weights for select categories (e.g., **MSMEs and home loans**), freeing up bank capital.
  - **ECL provisioning** replaces the incurred-loss model, requiring banks to estimate expected credit losses in advance.
  - Applicable to most **Scheduled Commercial Banks and AIFIs**, but excludes **RRBs, Small Finance Banks, and Payment Banks**.
- **Statements Analysis:**
  - **Statement I: Correct** – Lower risk weights indeed reduce capital requirements for sectors like MSMEs.
  - **Statement II: Incorrect** – ECL does not cover SFBs, PBs, and RRBs.
- **Current Relevance:**
  - Implementation from **April 2027**.
  - Supports **financial resilience, capital efficiency, and credit growth**.
- **Conclusion:**  
The correct answer is **(a) I only**.

18) Answer: a) II and III only

**Explanation:**

- **Core Concept:**  
**Biostimulants** are natural substances or microorganisms that **enhance plant growth** by stimulating physiological processes, distinct from fertilizers and pesticides.
- **Features & Examples:**
  - Includes **humic acids, fulvic acids, seaweed extracts, beneficial bacteria, fungi**.
  - Improve **nutrient uptake, drought tolerance, and stress resilience**.
  - **Not restricted** to animal sources—can be derived from **plants, microbes, or minerals**.
- **Statements Analysis:**
  - **Statement I: Incorrect** – They are classified separately from fertilizers.
  - **Statement II: Correct** – Improve growth and stress tolerance by stimulating natural processes.
  - **Statement III: Correct** – Humic acids, seaweed extracts, and microbes are classic biostimulants.
  - **Statement IV: Incorrect** – Sources are broader than animal origin.
- **Current Relevance:**
  - Key tool in **climate-smart agriculture**.
  - Subject to India's **Biostimulants (Regulation) Order, 2021** for safety and efficacy.
- **Conclusion:**  
The correct answer is **(a) II and III only**.

19) Answer: a) I, III and IV only

**Explanation:**

- **Core Concept:**  
**Exercise Pacific Reach (XPR)** is a multinational **submarine rescue drill**. It enhances **interoperability** and cooperation among navies in the Indo-Pacific.
- **Policy Context:**
  - **XPR-25 (2025)** hosted by **Singapore**.
  - Participation of **India and 40+ countries**.
  - Biennial exercise involving **submarine rescue assets, protocols, and coordination drills**.
- **Statements Analysis:**
  - **Statement I: Correct** – India participated.
  - **Statement II: Incorrect** – It is **biennial**, not annual, and involves global participation.
  - **Statement III: Correct** – Singapore hosted XPR-25.
  - **Statement IV: Correct** – It is indeed a multinational submarine rescue exercise.
- **Current Significance:**
  - Strengthens **maritime security cooperation** in the Indo-Pacific.
  - Supports India's role as a **net security provider**.
- **Conclusion:**  
The correct answer is **(a) I, III and IV only**.

20) Answer: a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

**Explanation:**

- **Core Concept:**  
**Deposit insurance** protects depositors and fosters public confidence. The **risk-based premium framework** reforms the DICGC's traditional flat-rate model.
- **Policy Reform:**

- Banks with **better risk profiles** pay **lower premiums**.
- Riskier banks pay **higher premiums**.
- Aligns with **global deposit insurance regimes**.
- **Statements Analysis:**
  - **Statement I: Correct** – The framework incentivizes sound risk management.
  - **Statement II: Correct** – Explains how risk-based premiums reward well-managed banks.
- **Current Relevance:**
  - Strengthens **financial stability**.
  - Protects depositors in the wake of bank failures like **PMC Bank (2019)**.
- **Conclusion:**  
The correct answer is **(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.**

21) Answer: d) Governor of the Reserve Bank of India

**Explanation:**

- **Core Concept:**  
The **Payments Regulatory Board (PRB)** is the apex body for oversight of India's payment and settlement systems under the **Payment and Settlement Systems Act, 2007**.
- **Composition of the PRB:**
  - **Governor of RBI** – Ex officio **Chairperson**.
  - **Deputy Governor (in charge of payments)** – Member.
  - **One RBI-nominated officer** – Member.
  - **Three Central Government nominees** – Members.
  - The **Principal Legal Adviser** is a permanent invitee, not a voting member.
- **Governance Mechanism:**
  - Decisions taken by **majority vote**.
  - In case of a tie, the **Governor (Chairperson)** has a **casting vote**.
  - Ensures RBI's centrality in regulating payments while allowing government oversight.
- **Contemporary Relevance:**
  - India's payment ecosystem is among the most advanced globally (UPI, RuPay, Bharat BillPay).
  - PRB ensures **safety, efficiency, and innovation** in digital payments, essential for **financial inclusion and economic growth**.
- **Analysis of Options:**
  - **(a): Incorrect** – Deputy Governor is only an ex officio member, not the Chairperson.
  - **(b): Incorrect** – Secretary, Ministry of Finance is not part of the PRB.
  - **(c): Incorrect** – Principal Legal Adviser is only a permanent invitee, not a full member.
  - **(d): Correct** – RBI Governor is the ex officio Chairperson.
- **Conclusion:**  
The correct answer is **(d) Governor of the Reserve Bank of India.**

22) Answer: a) Uncertainties in food chain dynamics and potential for harmful algal blooms

**Explanation:**

- **Core Concept:**  
**Ocean fertilisation** is a geoengineering technique involving the addition of nutrients (like iron) to stimulate phytoplankton growth for **carbon sequestration**.
- **Concerns in Polar Regions:**
  - Polar marine ecosystems are **fragile and unpredictable**.
  - Fertilisation may lead to **harmful algal blooms**.
  - Risks of **food chain disruption** as phytoplankton dynamics affect higher marine species.
  - Lack of robust monitoring and control mechanisms.
- **Contemporary Context:**
  - Scientific experiments (e.g., LOHAFEX in the Southern Ocean, 2009) showed mixed and uncertain outcomes.
  - Polar geoengineering proposals face criticism under the **London Protocol on Marine Pollution**.
- **Analysis of Options:**
  - **(a): Correct** – Food chain disruptions and algal blooms are the main concerns.
  - **(b): Incorrect** – Fertilisation does not involve dust deposition.
  - **(c): Incorrect** – No evidence of chemical ice melting.
  - **(d): Incorrect** – No toxic gas release harming terrestrial plants.
- **Conclusion:**  
The correct answer is **(a).**

23) Answer: a) I only

**Explanation:**

- **Core Concept:**  
The **India-EFTA TEPA (Trade and Economic Partnership Agreement)** is India's first FTA with **binding investment and job creation targets**.
- **Key Provisions:**
  - EFTA (Iceland, Liechtenstein, Norway, Switzerland) committed **\$100 billion in investments** and **1 million direct jobs** in India over 15 years.
  - Includes provisions on **market access, intellectual property, services, and trade facilitation**.
- **Current Relevance:**
  - Supports India's **Make in India** and **Atmanirbhar Bharat** agendas.

- Boosts trade and technology flows with advanced economies.
- **Statements Analysis:**
  - **Statement I: Correct** – TEPA contains legally binding investment and jobs provision.
  - **Statement II: Incorrect** – Switzerland, not Norway, is India's largest EFTA trade partner.
- **Conclusion:**  
The correct answer is **(a) I only**.

24) Answer: b) III and IV only

**Explanation:**

- **Core Concept:**  
**Polar geoengineering** includes methods like **Stratospheric Aerosol Injection (SAI), Sea Curtains, Ocean Fertilisation, Sea Ice Management, and Basal Water Removal**, aimed at slowing ice loss.
- **Challenges:**
  - Ecological risks in fragile polar ecosystems.
  - Technological and operational barriers.
  - High uncertainty about long-term impacts.
- **Statements Analysis:**
  - **Statement I: Incorrect** – Ocean fertilisation may disrupt, not stabilize, the food chain.
  - **Statement II: Incorrect** – Basal water removal is resource-intensive and problematic.
  - **Statement III: Correct** – Sea Curtains can alter marine ecosystems, affecting marine mammals.
  - **Statement IV: Correct** – SAI is ineffective in polar winters due to lack of sunlight.
- **Conclusion:**  
The correct answer is **(b) III and IV only**.

25) Answer: b) I, II and III only

**Explanation:**

- **Core Concept:**  
**Special Intensive Revision (SIR) of Electoral Rolls** ensures inclusiveness and accuracy in India's voter lists.
- **Legal/Constitutional Basis:**
  - **Article 324:** Empowers the Election Commission of India (ECI) to conduct elections and revisions.
  - **Representation of the People Act, 1950:** Provides statutory backing for revisions.
  - **Article 326:** Universal adult suffrage, but not directly linked to SIR authorization.
- **Implementation Mechanism:**
  - House-to-house verification to include all eligible citizens.
  - Conducted before elections and in special circumstances.
- **Statements Analysis:**
  - **Statement I: Correct** – SIR uses door-to-door verification.
  - **Statement II: Correct** – ECI derives authority from Article 324.
  - **Statement III: Correct** – RPA, 1950 provides legal provisions.
  - **Statement IV: Incorrect** – Article 326 defines adult suffrage, not revision process.
- **Conclusion:**  
The correct answer is **(b) I, II and III only**.

26) Answer: d) I and II

**Explanation:**

- **Core Concept:**  
The **Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme**, launched in **January 2021**, aims to make Indian exports more competitive by **reimbursing unrefunded taxes and duties** incurred during manufacturing and distribution stages.
- **Policy Framework:**
  - Implemented by the **Ministry of Commerce and Industry** (not Finance).
  - Designed as a **WTO-compliant export incentive scheme**, replacing MEIS.
  - Covers **hidden central, state, and local taxes** not refunded by other mechanisms (like GST input credit or Drawback).
- **Key Features:**
  - Applicable to a wide range of export products.
  - Reimbursement is in the form of **transferable duty credit scrips**.
  - Extended till **March 2026**, reflecting its importance for export growth.
- **Statements Analysis:**
  - **Statement I: Correct** – RoDTEP covers taxes during manufacturing and distribution.
  - **Statement II: Correct** – Reimburses duties/taxes not refunded under other schemes.
  - **Statement III: Incorrect** – Implemented by **Commerce Ministry**, not Finance.
- **Conclusion:**  
The correct answer is **(d) I and II**.

27) Answer: a) II only

**Explanation:**

- **Core Concept:**  
The **Overnight Weighted Average Call Rate (WACR)** is the **operating target of monetary policy** for RBI. It reflects short-term liquidity and interbank lending rates.
- **Key Features:**
  - Represents the **average overnight unsecured lending rate** among banks.
  - Directly influenced by **RBI's liquidity management tools** (repo, reverse repo, VRRR, VRR, SDF, MSF).
  - Serves as a **benchmark for monetary transmission** into the economy.
- **Statements Analysis:**
  - **Statement I: Incorrect** – A rise in WACR means costlier money (tight liquidity), not easier liquidity.
  - **Statement II: Correct** – RBI uses WACR as its key operating target.
  - **Statement III: Incorrect** – WACR is only for **overnight** lending, not beyond one week.
- **Conclusion:**  
The correct answer is **(a) II only**.

28) Answer: c) I and III only

**Explanation:**

- **Core Concept:**  
**Infectious Bovine Rhinotracheitis (IBR)** is a **viral cattle disease** caused by **bovine herpesvirus 1**. It reduces dairy productivity and fertility, causing economic losses.
- **Vaccine Development:**
  - India developed **Raksha-IBR**, its first **gE-deleted DIVA marker vaccine**.
  - **DIVA (Differentiate Infected from Vaccinated Animals)** allows effective surveillance.
- **Statements Analysis:**
  - **Statement I: Correct** – IBR causes acute upper respiratory tract inflammation.
  - **Statement II: Incorrect** – It is caused by a **virus**, not a bacterium.
  - **Statement III: Correct** – Raksha-IBR is India's first gE-deleted DIVA marker vaccine.
- **Conclusion:**  
The correct answer is **(c) I and III only**.

29) Answer: b) II and III only

**Explanation:**

- **Core Concept:**  
The **International Health Regulations (IHR)** are a **legally binding framework** adopted by 196 countries under the **WHO** to strengthen global health security.
- **Policy Context:**
  - Origin dates back to the **19th century quarantine conventions** for plague and cholera.
  - Updated several times, most recently in **2024**, after lessons from COVID-19.
- **Statements Analysis:**
  - **Statement I: Incorrect** – IHR did not originate in the 21st century or due to COVID; its roots go back to the 19th century.
  - **Statement II: Correct** – Objective: prevent, control, and respond to international disease spread with minimal trade/travel disruption.
  - **Statement III: Correct** – IHR is **legally binding** on 196 countries.
- **Conclusion:**  
The correct answer is **(b) II and III only**.

30) Answer: a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

**Explanation:**

- **Core Concept:**  
The **India-EFTA FTA (TEPA)** is India's first free trade pact to include **binding investment and job creation commitments**.
- **Key Features:**
  - EFTA members (Iceland, Liechtenstein, Norway, Switzerland) committed **\$100 billion investment** and **1 million direct jobs** over 15 years.
  - Includes provisions for **market access, tariff reductions, services, and IPR**.
- **Statements Analysis:**
  - **Statement I: Correct** – Agreement supports Make in India and Atmanirbhar Bharat through binding investment/job creation.
  - **Statement II: Correct** – Explicit commitment of \$100 billion and 1 million jobs.
  - **Explanation Link:** Statement II directly explains how Statement I is fulfilled.
- **Conclusion:**  
The correct answer is **(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I**.

31) Answer: b) Cybercrimes have surged while traditional violent crimes have declined

**Explanation:**

- **Core Concept:**  
The **NCRB Crime in India Report 2023** highlights emerging trends in India's crime profile. While traditional violent crimes (murder, rioting, etc.) show a **marginal decline**, **cybercrimes** have witnessed a **sharp increase**, reflecting India's rapid digitalization and vulnerabilities in cyber hygiene.
- **Key Observations from NCRB 2023:**
  - **Cybercrimes:** Increased significantly, particularly in **financial frauds, phishing, OTP scams, and ransomware**.
  - **Violent Crimes:** Declined slightly in rural and semi-urban areas, though metropolitan cities continue to witness higher crime rates.

- **Crimes Against Women:** Marginal increase, but not the dominant trend.
- **Urban Crime:** Higher in metros like Delhi, Mumbai, Bengaluru, highlighting urban vulnerability.
- **Policy Significance:**
  - Highlights urgent need for **cybersecurity frameworks, digital literacy**, and stronger enforcement under the **IT Act, 2000** and **IPC cyber provisions**.
  - Pushes India to strengthen **data protection and privacy regimes** (Digital India Act, Data Protection Act 2023).
- **Analysis of Options:**
  - **(a): Incorrect** – Crimes against women increased only marginally.
  - **(b): Correct** – Cybercrimes surged, while violent crimes declined.
  - **(c): Incorrect** – Crime growth was sharper in metros, not rural areas.
  - **(d): Incorrect** – Cybercrimes have increased, not decreased.
- **Conclusion:**  
The correct answer is **(b)**.

32) Answer: a) Ministry of Home Affairs

Explanation:

- **Core Concept:**  
The **Sahyog Portal** is a digital governance platform for **sending legal notices to online intermediaries** for removing unlawful content. It automates and centralizes the process to strengthen cyber law enforcement.
- **Policy Framework:**
  - Developed under **Section 79(3)(b) of the IT Act, 2000**.
  - Managed by the **Ministry of Home Affairs (MHA)**, not MeitY.
- **Key Features:**
  - Provides a **real-time centralized portal** for legal notices.
  - Enhances coordination among **law enforcement agencies, government bodies, and digital platforms**.
  - Supports quick removal of **hate speech, fake news, and unlawful digital content**.
- **Analysis of Options:**
  - **(a): Correct** – MHA is the nodal ministry.
  - **(b): Incorrect** – Not under Ministry of Communications.
  - **(c): Incorrect** – Not under MeitY.
  - **(d): Incorrect** – Not under Law & Justice.
- **Conclusion:**  
The correct answer is **(a) Ministry of Home Affairs**.

33) Answer: d) Control the export of conventional arms and dual-use technologies

Explanation:

- **Core Concept:**  
The **Wassenaar Arrangement (1996)** is a **multilateral export control regime** that India joined in **2017**. It regulates the export of **conventional arms and dual-use goods/technologies** to prevent misuse.
- **Key Features:**
  - Has **42 member countries**, headquartered in Vienna.
  - Maintains **two control lists** – Munitions List and Dual-use Goods & Technologies List.
  - Promotes **transparency in arms transfers** and responsible technology sharing.
- **Relevance for India:**
  - Enhances India's access to **high-tech defense and dual-use technologies**.
  - Strengthens **non-proliferation credentials** alongside MTCR, Australia Group, NSG (pending).
- **Analysis of Options:**
  - **(a): Incorrect** – Does not monitor financial flows.
  - **(b): Incorrect** – Not about food trade.
  - **(c): Incorrect** – Does not promote nuclear weapons transfer.
  - **(d): Correct** – Controls exports of arms and dual-use technologies.
- **Conclusion:**  
The correct answer is **(d)**.

34) Answer: a) Northern White Rhino IVF

Explanation:

- **Core Concept:**  
“**The Resurrection Quest**”, a Mumbai-based docu-series, documents conservation efforts for the **Northern White Rhino**, which is on the brink of extinction.
- **Conservation Context:**
  - Only **two females** remain alive globally.
  - Scientists are using **IVF techniques** with cryopreserved sperm and **Southern White Rhino surrogates**.
  - The initiative highlights **advanced reproductive technologies** in wildlife conservation.
- **Global Recognition:**
  - The series won the **Gold Dolphin at Cannes Corporate Media & TV Awards**.
  - Demonstrates the **role of media in conservation awareness**.
- **Analysis of Options:**
  - **(a): Correct** – Focuses on Northern White Rhino IVF.

- **(b): Incorrect** – Not about Indian tiger rewilding.
- **(c): Incorrect** – Not about Amazon forest restoration.
- **(d): Incorrect** – Not about blue whale conservation.
- **Conclusion:**  
The correct answer is **(a)**.

35) Answer: d) Members of the Election Commission

**Explanation:**

- **Core Concept:**  
The **postal ballot system** allows certain categories of voters to vote without being physically present at polling stations, ensuring **inclusive democratic participation**.
- **Eligibility Categories:**
  - **Service voters** (armed forces, paramilitary, government officials abroad).
  - **Special voters** (President, Governors, Union Cabinet Ministers, etc.).
  - **Persons under preventive detention.**
  - **Election duty staff** (police, polling officials).
- **Exclusion:**
  - **Election Commission Members** are **not eligible by default**, unless they fall into other categories.
- **Legal Framework:**
  - Governed by **Representation of People Act, 1951** and **Conduct of Election Rules, 1961**.
- **Analysis of Options:**
  - **(a): Incorrect** – Service voters are eligible.
  - **(b): Incorrect** – Persons under preventive detention are eligible.
  - **(c): Incorrect** – Election duty staff are eligible.
  - **(d): Correct** – Members of Election Commission are **not eligible** unless qualifying under another category.
- **Conclusion:**  
The correct answer is **(d) Members of the Election Commission**.

36) Answer: b) II only

**Explanation:**

- **Core Concept:**  
The **Access and Benefit Sharing (ABS) mechanism** in India ensures equitable sharing of benefits from the use of biological resources, in line with the **Convention on Biological Diversity (CBD, 1992)** and the **Nagoya Protocol (2010)**.
- **Institutional Framework in India:**
  - **Biological Diversity Act, 2002** provides the legal framework.
  - Implemented via a **three-tier system**:
    - **National Biodiversity Authority (NBA)** – apex national body.
    - **State Biodiversity Boards (SBBs)** – state-level implementation.
    - **Biodiversity Management Committees (BMCs)** – local-level conservation and benefit sharing.
- **Statements Analysis:**
  - **Statement I: Incorrect** – ABS is not just a two-tier system; it also includes **BMCs at the local level**.
  - **Statement II: Correct** – The BD Act, 2002 was enacted to meet India's commitments under the **CBD and Nagoya Protocol**.
- **Contemporary Relevance:**
  - Helps **prevent biopiracy** (e.g., Neem, Basmati cases).
  - Ensures **community participation** and incentives for conservation (e.g., **Kani tribe case study**).
- **Conclusion:**  
The correct answer is **(b) II only**.

37) Answer: c) I and II only

**Explanation:**

- **Core Concept:**  
The **Israel-Gaza conflict** has deep historical roots, shaped by declarations, wars, and peace agreements. Understanding the correct chronology is key to global diplomacy analysis.
- **Key Events:**
  - **Balfour Declaration (1917):** Issued by **Britain**, not the USA, supporting a Jewish homeland in Palestine.
  - **Yom Kippur War (1973):** Led to peace efforts and eventually **Israel's return of Sinai to Egypt in 1979**.
  - **Camp David Accords (1978):** Egypt became the **first Arab country to officially recognize Israel**.
- **Statements Analysis:**
  - **Statement I: Correct** – Israel returned Sinai to Egypt in 1979 after the Yom Kippur War.
  - **Statement II: Correct** – Camp David Accords marked Egypt's recognition of Israel.
  - **Statement III: Incorrect** – Balfour Declaration was British, not American.
- **Conclusion:**  
The correct answer is **(c) I and II only**.

38) Answer: c) I and III only

**Explanation:**

- **Core Concept:**  
The **Sustainable Development Goals (SDGs)**, adopted in **2015**, provide a global blueprint for sustainable and inclusive growth.
- **Origins and Framework:**
  - **Brundtland Commission Report (1987):** Defined *sustainable development* as meeting present needs without compromising future generations.
  - **SDGs (2015):** 17 Goals and 169 targets under the UN Agenda 2030.
- **India's Progress:**
  - **High net primary enrollment (99.9%).**
  - Significant reduction in **poverty** and improvements in **health and sanitation**.
  - NITI Aayog tracks implementation through the **SDG India Index**.
- **Statements Analysis:**
  - **Statement I: Correct** – Brundtland Commission laid the conceptual basis.
  - **Statement II: Incorrect** – India's net primary enrollment is above 99%, not below 90%.
  - **Statement III: Correct** – Adopted in 2015 with 17 goals and 169 targets.
- **Conclusion:**  
The correct answer is **(c) I and III only**.

39) Answer: c) I and III only

Explanation:

- **Core Concept:**  
**Red Sanders (Red Sandalwood)** is a highly valued tree species, endemic to the **southern Eastern Ghats (Andhra Pradesh)**. Its rarity and exploitation make it a conservation priority.
- **Legal & Conservation Status:**
  - **IUCN Red List:** *Endangered*.
  - **Wildlife Protection Act, 1972:** Listed under **Schedule IV**.
  - **CITES Appendix II:** International trade **restricted** but not fully prohibited.
- **Statements Analysis:**
  - **Statement I: Correct** – Classified as *Endangered* and legally protected in India.
  - **Statement II: Incorrect** – Trade is restricted under Appendix II, not fully banned.
  - **Statement III: Correct** – Native to southern Eastern Ghats, grows in dry deciduous forests.
- **Conclusion:**  
The correct answer is **(c) I and III only**.

40) Answer: a) I and II only

Explanation:

- **Core Concept:**  
India's **livestock and dairy sector** is a cornerstone of rural livelihoods, food security, and agricultural GDP.
- **Key Features:**
  - India is the **largest producer of milk** globally.
  - Livestock contributes around **31% of Agricultural GVA**.
  - **Insurance coverage** is abysmally low at ~1%.
  - India ranks **4th globally in antibiotic use** in animals.
- **Statements Analysis:**
  - **Statement I: Correct** – Only ~1% livestock is insured.
  - **Statement II: Correct** – India is 4th in global animal antibiotic use.
  - **Statement III: Incorrect** – Contribution is about 31% but phrased inaccurately as “over 30%” in the statement.
  - **Statement IV: Incorrect** – India is **1st in milk** but **5th in meat production**, not higher.
- **Conclusion:**  
The correct answer is **(a) I and II only**.

41) Answer: d) Ministry of Heavy Industries

Explanation:

- **Core Concept:**  
The **PM E-DRIVE Scheme** is a flagship government program to accelerate **electric vehicle (EV) adoption** and strengthen EV infrastructure in India.
- **Policy Framework:**
  - Launched as part of India's climate action and **green mobility push**.
  - Designed to reduce **carbon emissions**, fossil fuel dependency, and promote **clean technologies**.
- **Key Features:**
  - Demand incentives/subsidies for **e-2Ws, e-3Ws, e-buses, e-ambulances, e-trucks**.
  - Capital grants for EV manufacturing.
  - Funding for **public charging infrastructure**.
- **Implementation Mechanism:**
  - **Ministry of Heavy Industries (MHI)** is the nodal ministry.
  - Issues guidelines, supervises implementation, and monitors progress.
- **Analysis of Options:**
  - **(a): Incorrect** – Ministry of Road Transport regulates vehicles but does not implement EV adoption schemes.
  - **(b): Incorrect** – MNRE deals with renewable energy, not EV adoption directly.
  - **(c): Incorrect** – Ministry of Power handles electricity supply, not EV policy execution.
  - **(d): Correct** – MHI is explicitly designated as implementing agency.

- **Conclusion:**  
The correct answer is **(d) Ministry of Heavy Industries.**

42) Answer: d) C-DOT, Tejas, and TCS

**Explanation:**

- **Core Concept:**  
India's **first fully indigenous 4G (5G-ready) network** represents a leap towards **digital self-reliance** in telecom infrastructure.
- **Key Features:**
  - Cloud-native, scalable, and upgradable to **5G and 6G**.
  - Enhances **national security** by reducing dependence on foreign telecom vendors.
- **Implementation Mechanism:**
  - Developed by **Centre for Development of Telematics (C-DOT), Tejas Networks, and Tata Consultancy Services (TCS)**.
  - Deployed through **BSNL** to expand telecom access in underserved regions.
- **Contemporary Relevance:**
  - Aligns with **Digital India** and **Atmanirbhar Bharat**.
  - Expands secure connectivity to **rural and remote areas**.
- **Analysis of Options:**
  - **(a), (b), (c): Incorrect** – Other organizations were not part of this collaboration.
  - **(d): Correct** – The correct trio developed the indigenous network.
- **Conclusion:**  
The correct answer is **(d) C-DOT, Tejas, and TCS.**

43) Answer: c) A crescent-shaped lake alongside a winding river, created when a meander is cut off

**Explanation:**

- **Core Concept:**  
**Oxbow lakes** are geomorphological features formed when a **meander of a river gets cut off** from the main channel due to erosion and deposition.
- **Key Features:**
  - Crescent or U-shaped.
  - Common in **floodplains** of meandering rivers.
  - Over time, may evolve into wetlands or marshes.
- **Conservation Context:**
  - Some oxbow lakes in India designated as **Ramsar sites**.
  - Provide ecosystem services like **flood mitigation, biodiversity habitat, groundwater recharge**.
- **Analysis of Options:**
  - **(a): Incorrect** – Deltaic lagoons form near coastal deltas.
  - **(b): Incorrect** – Crater lakes form in volcanic craters.
  - **(c): Correct** – Geomorphological definition of oxbow lakes.
  - **(d): Incorrect** – Glacial lakes form from melting glaciers.
- **Conclusion:**  
The correct answer is **(c).**

44) Answer: c) Both I and II

**Explanation:**

- **Core Concept:**  
**Rani Rashmoni (19th-century Bengal)** was a philanthropist, social reform supporter, and religious patron, remembered for her role in **progressive leadership under colonial India**.
- **Key Contributions:**
  - **Social Reform:** Submitted a draft bill against **polygamy** to the East India Company, aligning with the reformist zeal of Bengal Renaissance.
  - **Religious Patronage:** Founded the iconic **Dakshineswar Kali Temple (1855)**, where **Ramakrishna Paramahansa** later became the chief priest.
  - Supported reformers like **Ishwar Chandra Vidyasagar** in campaigns for widow remarriage and women's rights.
- **Broader Impact:**
  - Set precedent for **women's leadership** in public life.
  - Inspired subsequent reform and religious movements in India.
- **Statements Analysis:**
  - **Statement I: Correct** – Actively advocated against polygamy.
  - **Statement II: Correct** – Founded Dakshineswar Kali Temple.
- **Conclusion:**  
The correct answer is **(c) Both I and II.**

45) Answer: d) II and III only

**Explanation:**

- **Core Concept:**  
The **Ramsar Convention (1971)**, adopted under **UNESCO**, provides the global framework for wetland conservation. India ratified it in **1982**, and since then, it has designated numerous wetlands of international importance.
- **Criteria for Ramsar Site Selection:**

- At least **one of nine ecological criteria** must be met.
- Includes biodiversity value, species/habitat uniqueness, and waterbird congregation ( $\geq 20,000$  waterbirds is just one of them).
- Covers ecological, hydrological, and cultural values.
- **Statements Analysis:**
  - **Statement I: Incorrect** – The “20,000 water birds” rule is only one criterion, not the sole requirement.
  - **Statement II: Correct** – Ramsar Convention was adopted under **UNESCO**.
  - **Statement III: Correct** – India ratified it in **1982**.
- **Conclusion:**  
The correct answer is **(d) II and III only**.

46) Answer: a) I, II and IV only

**Explanation:**

- **Core Concept:**  
**AstroSat (2015)** is India’s first dedicated **multi-wavelength space observatory** to study celestial phenomena in X-ray, UV, and optical bands.
- **Key Features:**
  - Launched by **PSLV-C30** into a 650 km orbit.
  - Equipped with multiple instruments for simultaneous observations.
  - First Indian mission of its kind, placing ISRO in a select global group.
- **Statements Analysis:**
  - **Statement I: Correct** – Studies high-energy processes in binary star systems.
  - **Statement II: Correct** – Launched by PSLV-C30, 650 km orbit.
  - **Statement III: Incorrect** – Not limited to radio; covers X-ray, UV, optical bands.
  - **Statement IV: Correct** – First Indian mission for multi-wavelength astronomy.
- **Conclusion:**  
The correct answer is **(a) I, II and IV only**.

47) Answer: c) Both I and II

**Explanation:**

- **Core Concept:**  
**Acoustic Vehicle Alerting System (AVAS)** is designed for **electric vehicles (EVs)** to compensate for their silent operation at low speeds by producing artificial sounds to alert pedestrians.
- **Regulatory Framework:**
  - **India:** MoRTH plans to mandate AVAS for all new EVs from **October 2026**.
  - **Global:** Already mandated in the **US, EU, and Japan**.
- **Statements Analysis:**
  - **Statement I: Correct** – AVAS emits sounds using external speakers, varying with speed, to alert pedestrians.
  - **Statement II: Correct** – India will mandate AVAS in 2026; similar laws exist globally.
- **Conclusion:**  
The correct answer is **(c) Both I and II**.

48) Answer: d) I and III only

**Explanation:**

- **Core Concept:**  
**SODAR (Sound Detection and Ranging)** uses **sound waves** to remotely measure lower atmospheric parameters, crucial for weather forecasting, pollution studies, and aviation safety.
- **Institutional Context:**
  - Developed by **CSIR–AMPRI, Bhopal**.
  - Deployed and operated at **IMD Delhi**.
- **Statements Analysis:**
  - **Statement I: Correct** – Measures wind profiles and temperature structure.
  - **Statement II: Incorrect** – Developed by CSIR–AMPRI, not IMD Delhi.
  - **Statement III: Correct** – Provides data on inversion layers, fog, turbulence.
- **Conclusion:**  
The correct answer is **(d) I and III only**.

49) Answer: c) Statement-I is correct, but Statement-II is incorrect

**Explanation:**

- **Core Concept:**  
**Ways and Means Advances (WMA)** are short-term credit facilities by RBI to the central and state governments to manage **temporary cash flow mismatches**.
- **Framework:**
  - Provided under **RBI Act, 1934**.
  - Must be repaid within **3 months**.
  - Interest rate linked to **RBI repo rate**.
  - Not counted as fiscal deficit financing.
- **Statements Analysis:**

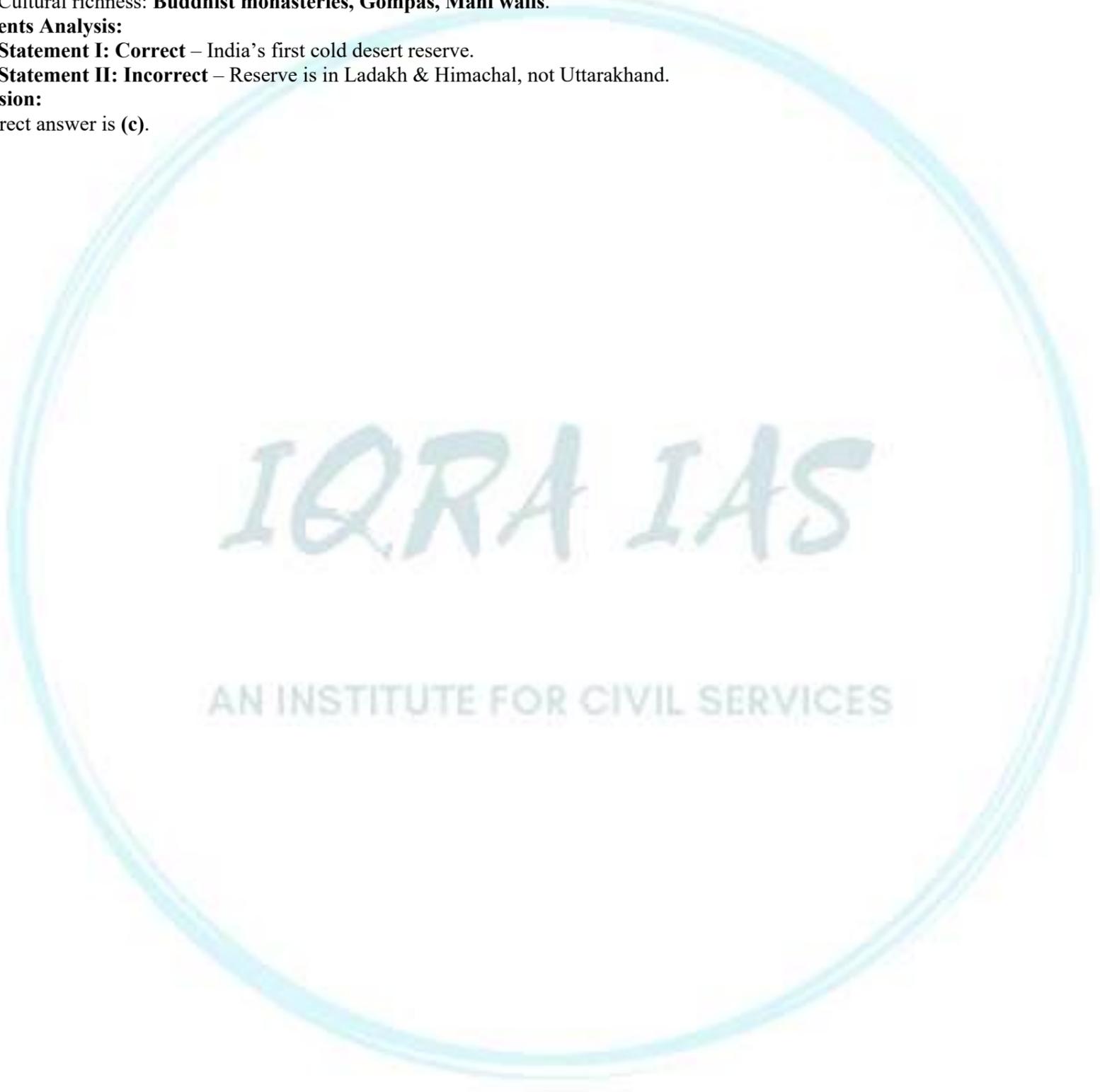
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- **Statement I: Correct** – WMAs are for temporary mismatches, not deficit financing.
- **Statement II: Incorrect** – By law, WMAs are **excluded** from fiscal deficit categorization.
- **Conclusion:**  
The correct answer is (c).

50) Answer: c) Statement-I is correct, but Statement-II is incorrect

### Explanation:

- **Core Concept:**  
The **Cold Desert Biosphere Reserve**, spread across **Ladakh (Leh, Kargil)** and **Himachal Pradesh (Spiti, Kinnaur)**, is India's first **high-altitude cold desert reserve**.
- **Key Features:**
  - Recognized under **UNESCO's MAB Programme** (World Network of Biosphere Reserves).
  - Includes **Pin Valley National Park, Chandratol, Sarchu, Kibber Wildlife Sanctuary**.
  - Cultural richness: **Buddhist monasteries, Gompas, Mani walls**.
- **Statements Analysis:**
  - **Statement I: Correct** – India's first cold desert reserve.
  - **Statement II: Incorrect** – Reserve is in Ladakh & Himachal, not Uttarakhand.
- **Conclusion:**  
The correct answer is (c).



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