

Solutions

DATE : (7th Dec- 14th Dec)

1) **Answer (b)** Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I.

Explanation

Fire Safety Institutional Framework in India

Constitutional and Administrative Basis

- **Fire Services** are treated as a **State subject**, implemented primarily through **States and Urban Local Bodies**.
- **Statement-I (Correct):**
 - Fire services are included under the **12th Schedule** of the Constitution (introduced by the **74th Constitutional Amendment Act, 1992**).
 - Under **Article 243W, municipalities** are entrusted with functions such as **fire services**, making them a **local and state responsibility**.
 - This aligns with the principle of **decentralisation and local self-governance**.

Role of National Building Code (NBC)

- **Statement-II (Correct):**
 - The **National Building Code (NBC)** is prepared by the **Bureau of Indian Standards (BIS)**.
 - It provides **technical guidelines and standards** for:
 - Fire prevention
 - Fire protection systems
 - Building design and evacuation norms
 - However, the **NBC does not determine constitutional allocation of subjects**.
 - Adoption and enforcement depend on **State governments and local bodies**.

Relationship Between the Two Statements

- **Statement-II does NOT explain Statement-I:**
 - The **constitutional status** of fire services arises from **constitutional provisions**, not from the NBC.
 - NBC is **regulatory/technical**, whereas Statement-I concerns **constitutional devolution of powers**.

Contemporary Relevance

- Recurrent urban fire incidents (e.g., **coaching centre fires, hospital fires**) highlight:
 - Weak municipal enforcement
 - Poor compliance with NBC norms
- Emphasises the need for **capacity building of ULBs** and **strict enforcement of safety codes**.

2) **Answer (b)** It helps countries use nuclear technology safely and peacefully, promotes strict nuclear safety standards, and verifies that nuclear materials are not used for weapons.

Explanation

International Atomic Energy Agency (IAEA)

Institutional Background

- Established in **1957** as an **autonomous organization under the UN system**.
- Mandate often described as "**Atoms for Peace and Development**".

Core Mandate

- **Option (b) - Correct:**
 - Promotes **peaceful use of nuclear technology** (energy, health, agriculture).
 - Develops and enforces **global nuclear safety standards**.
 - Implements **safeguards and inspections** to ensure nuclear material is **not diverted for weapons**.

Evaluation of Other Options

- **Option (a) - Incorrect:**
 - IAEA **does not regulate military nuclear facilities**.
- **Option (c) - Incorrect:**
 - Safeguards apply mainly to **NPT signatories**; non-NPT states (India, Pakistan, Israel) are not under full-scope safeguards.

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- **✗Option (d) – Incorrect:**
 - IAEA does not enforce nuclear disarmament (that falls under treaties like NPT, CTBT).

Contemporary Significance

- Role highlighted after **Chernobyl** and **Fukushima** disasters.
- Awarded **Nobel Peace Prize (2005)**.
- Supports global trust, nuclear safety, and **sustainable development goals**.

3) **Answer (a)** Ministry of Home Affairs

Explanation

National Intelligence Grid (NATGRID)

Policy Background

- Conceived after the **26/11 Mumbai terror attacks** to address intelligence silos.
- Aims to enhance **counter-terrorism and internal security capabilities**.

Administrative Control

- **Option (a) – Correct:**
 - NATGRID is an **attached office of the Ministry of Home Affairs (MHA)**.
 - Accessible to **11 central agencies and State police (SP rank and above)**.

Why Other Options Are Incorrect

- **✗Option (b):** Ministry of External Affairs has **no role**.
- **✗Option (c):** Ministry of Defence does **not oversee NATGRID**.
- **✗Option (d):** Though IT-enabled, it is **not under MeitY**.

Contemporary Importance

- Enables **real-time data access** from airlines, banks, telecom, Aadhaar, etc.
- Strengthens **predictive policing and intelligence-led investigations**.

4) **Answer (c)** Provides all-weather connectivity to Daulat Beg Oldie military outpost in Ladakh.

Explanation

Shyok Tunnel – Strategic Infrastructure

Project Overview

- Constructed by the **Border Roads Organisation (BRO)**.
- Located on the **Durbuk-Shyok-Daulat Beg Oldie (DS-DBO) Road** in eastern Ladakh.

Correct Assessment

- **Option (c) – Correct:**
 - A **920-metre cut-and-cover tunnel**.
 - Ensures **all-weather connectivity to Daulat Beg Oldie (DBO)**, one of India's highest military airstrips near the **LAC with China**.

Incorrect Options

- **✗Option (a):** Zoji La Tunnel connects **Srinagar-Leh**, not Shyok.
- **✗Option (b):** Not located in **Sikkim / Nathu La**.
- **✗Option (d):** Unrelated to **India-Myanmar-Thailand Highway**.

Strategic Significance

- Enhances **logistics, troop mobility, and border preparedness**.
- Critical in the context of **India-China border tensions**.

5) **Answer (b)** Crypto assets designed to maintain a stable value relative to a specific peg such as a fiat currency.

Explanation

Stablecoins – Concept and Features

Definition and Purpose

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- Stablecoins are **digital crypto assets** pegged to:
 - Fiat currency (USD, Euro)
 - Commodities
 - Basket of assets
- Aim to reduce **volatility** seen in cryptocurrencies like Bitcoin.

Correct Option

- **Option (b) – Correct:**
 - Designed to maintain **price stability** through reserves or algorithms.
 - Widely used in **payments, remittances, and crypto trading**.

Why Others Are Incorrect

- **XOption (a):** Not meant exclusively for DAO voting.
- **XOption (c):** Value is **not purely speculative**; it is asset-backed.
- **XOption (d):** **CBDCs** are issued by central banks and are distinct from stablecoins.

Contemporary Relevance

- Growing regulatory concern due to:
 - Monetary sovereignty risks
 - Financial stability issues
- IMF and BIS advocate **global regulatory frameworks**.

6) **Answer (b)** Endorsing a comprehensive plan to end the Gaza conflict.

Explanation**UN Security Council Resolution 2803****Context and Objective**

- UNSC Resolution 2803 represents a **multilateral diplomatic initiative** to address the **Gaza conflict**, reflecting the UN's mandate under **Chapter VI & VII** related to peace and security.
- Focuses on **conflict resolution, humanitarian relief, and post-conflict governance**.

Evaluation of Options

- **XOption (a) – Incorrect**
 - The resolution has **no linkage with Sudan** or the Red Sea crisis.
- **Option (b) – Correct**
 - Endorses a **comprehensive plan** including:
 - Establishment of a **Board of Peace** as a **transitional governing mechanism**
 - **Resumption of humanitarian aid** with monitoring safeguards
 - Deployment of an **International Stabilization Force** for security and demilitarization
- **XOption (c) – Incorrect**
 - Does not involve **sanctions on North Korea**.
- **XOption (d) – Incorrect**
 - Unrelated to **Syria or Syrian civil war interventions**.

Contemporary Significance

- Highlights **UN-led multilateralism** amid criticism of Security Council paralysis.
- Addresses **humanitarian crisis, governance vacuum, and long-term stability** in Gaza.

7) **Answer (a)** I and IV only.

Explanation**National Intelligence Grid (NATGRID)****Purpose and Design**

- Conceived post **26/11 Mumbai attacks** to eliminate intelligence silos.
- Integrates **government and private databases** for counter-terrorism and serious crime investigation.

Statement-wise Evaluation

- **Statement (I) – Correct**
 - NATGRID enables access to **airline, banking, telecom, immigration and other databases**.
- **XStatement (II) – Incorrect**
 - Access is **not limited to central agencies**; **State police officers of SP rank and above** are also authorised.

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- **Statement (III) – Incorrect**
 - NATGRID functions as an **attached office of the Ministry of Home Affairs**, not Defence.
- **Statement (IV) – Correct**
 - Provides **real-time, secure, and role-based access** to multiple datasets.

Governance Concerns

- Raises issues of **data privacy, oversight, and accountability**, making it relevant for internal security debates.

8) Answer (c) I, II and IV only.

Explanation

Multilateralism in Global Governance

Conceptual Understanding

- Multilateralism involves **cooperation among three or more states** to address shared challenges.
- Institutionalised after **World War II** through bodies like **UN, IMF, World Bank, WTO**.

Statement-wise Analysis

- **Statement (I) – Correct**
 - Addresses **global public goods** such as **climate change, pandemics, peace and security**.
- **Statement (II) – Correct**
 - Helped prevent **another world war** through collective security and dialogue mechanisms.
- **Statement (III) – Incorrect**
 - Describes **bilateralism**, not multilateralism.
- **Statement (IV) – Correct**
 - Factually consistent with post-war international institutional development.

Current Relevance

- Multilateralism faces strain due to **geopolitical rivalries**, yet remains essential for **global crisis management**.

9) Answer (d) I and II only.

Explanation

Physical Geography of Benin

Geographical Overview

- Benin is a **West African country** with diverse physical features influencing agriculture, settlement, and regional relations.

Statement-wise Evaluation

- **Statement (I) – Correct**
 - **Mount Sokbaro** is the **highest point** in Benin.
- **Statement (II) – Correct**
 - **Atakora Mountains** lie in the **northwest** and are an extension of the **Togo Mountains**.
- **Statement (III) – Incorrect**
 - Benin shares land borders with **Togo, Burkina Faso, Niger, and Nigeria** — not **Ghana or Cameroon**.

Strategic Relevance

- Physical geography shapes **infrastructure planning, agriculture, and cross-border cooperation** in West Africa.

10) Answer (d) I and III only.

Explanation

Anti-Defection Law and Whip System

Constitutional Framework

- **10th Schedule** added by the **52nd Constitutional Amendment Act, 1985**.
- Aimed at ensuring **political stability and party discipline**.

Statement-wise Analysis

- **Statement (I) – Correct**
 - **Defying the party whip** is a valid ground for **disqualification** under the 10th Schedule.

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- **Statement (II) – Incorrect**
 - The 10th Schedule was not introduced by the 42nd Amendment, but by the 52nd Amendment Act.
- **Statement (III) – Correct**
 - The **whip** is a party-issued directive guiding MPs/MLAs on voting behaviour.

Contemporary Debate

- While ensuring stability, critics argue it **weakens legislative independence** and deliberative democracy.

11) **Answer (a)** Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.

Explanation

Utility-Scale Solar Power Projects in India

Context and Policy Framework

- Utility-scale solar projects are central to India's **renewable energy transition** and **climate commitments**.
- India targets **292 GW of solar capacity by 2030**, supported by schemes such as **solar parks, PM-KUSUM, and grid-scale PV plants**.

Statement-wise Analysis

- **Statement-I (Correct)**
 - **Land acquisition delays** have been consistently identified by **expert committees and policy reviews** as a **major bottleneck**.
 - Delays arise due to:
 - Fragmented approvals
 - Multiple stakeholders
 - State-level procedural variations
 - These delays lead to **cost escalation and project overruns**.
- **Statement-II (Correct)**
 - Committees and policy recommendations have called for a **single-window clearance system**.
 - Purpose:
 - Integrate land, environmental, and local approvals
 - Improve coordination between **Centre, States, and local authorities**
 - Accelerate execution timelines

Causal Link

- **Statement-II explains Statement-I**
 - The recommendation of a single-window mechanism directly addresses **land acquisition delays**, the core challenge highlighted in Statement-I.

Broader Significance

- Faster solar deployment:
 - Reduces **fossil fuel dependence**
 - Enhances **energy security**
 - Supports **sustainable development and climate goals**

12) **Answer (d)** Statement-I is incorrect, but Statement-II is correct.

Explanation

Women's Representation in State Bar Councils

Institutional Context

- Bar Councils are governed under the **Advocates Act, 1961**.
- Historically, women have been **structurally underrepresented** in legal bodies.

Statement-wise Analysis

- **Statement-I (Incorrect)**
 - The statement contradicts factual data.
 - Women constitute only **9 out of 441 members** in State Bar Councils.
 - This reflects **acute underrepresentation**, not adequate or balanced representation.
- **Statement-II (Correct)**
 - The **Supreme Court (2024)** mandated:
 - **30% reservation for women** in State Bar Councils where elections are pending.
 - **20% through elections and 10% via co-option** (one-time measure).

Contemporary Importance

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- Addresses **gender justice and institutional inclusivity**.
- Aligns with constitutional values of **equality and substantive representation**.

13) **Answer (b)** Tonlé Sap Lake.

Explanation

Largest Freshwater Lake in Southeast Asia

Geographical Significance

- **Tonlé Sap Lake**, located in **Cambodia**, is the **largest freshwater lake in Southeast Asia**.

Option-wise Evaluation

- **✗Option (a)**
 - Inle Lake is in **Myanmar** and is much smaller.
- **□ Option (b)**
 - Tonlé Sap is the **largest by area and seasonal volume**.
 - Notable for its **seasonal expansion and contraction** linked to Mekong River flow.
- **✗Option (c)**
 - Toba Lake is in **Indonesia** and is a **volcanic lake**, not the regional freshwater largest.
- **✗Option (d)**
 - Poyang Lake is in **China**, outside Southeast Asia.

Environmental Importance

- Recognised under the **Ramsar Convention**.
- Critical for **fisheries, agriculture, and food security**.
- Faces threats from **climate change, dams, and overfishing**.

14) **Answer (b)** Fertiliser Control Order, 1985.

Explanation

Regulation of Biostimulants in India

Conceptual Background

- **Biostimulants** enhance:
 - Nutrient uptake
 - Stress tolerance
 - Crop productivity and soil health

Option-wise Analysis

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- **✗Option (a)**
 - The Seeds Act, 1966 regulates **seed quality**, not biostimulants.
- **□ Option (b)**
 - Biostimulants are regulated under the **Fertiliser Control Order (FCO), 1985**.
 - FCO provides:
 - Product standards
 - Registration norms
 - Quality control mechanisms
- **✗Option (c)**
 - Essential Commodities Act is **general**, not product-specific.
- **✗Option (d)**
 - Insecticides Act covers **pesticides**, not biostimulants.

Policy Relevance

- Regulation under FCO supports:
 - **Sustainable agriculture**
 - **Climate-resilient farming**
 - **Circular bio-economy**

15) **Answer (d)** Passenger vehicles with gross vehicle weight less than 3500 kg.

Explanation

Corporate Average Fuel Economy (CAFE) Norms

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Policy Framework

- Notified in **2017** under the **Energy Conservation Act, 2001**.
- Implemented in **phases** to progressively tighten efficiency standards.

Option-wise Evaluation

- X** Option (a) Two-wheelers and three-wheelers are **excluded**.
- X** Option (b) Heavy-duty trucks fall **outside the CAFE framework**.
- X** Option (c) Not limited to diesel vehicles or those above 3500 kg.
- Option (d) Applies to **passenger vehicles with GVW < 3500 kg**, including:
 - Petrol
 - Diesel
 - CNG/LPG
 - Hybrid and electric vehicles

Contemporary Significance

- Reduces **oil import dependence**
- Mitigates **urban air pollution**
- Supports **India's climate and emission-reduction commitments**

16) Answer (c) Only three.

Explanation

Big Cat Species in India

Ecological and Conservation Context

- Big cats are **apex predators** and **keystone species**, essential for maintaining **ecosystem balance**.
- India is unique in hosting **five of the world's seven big cat species**, a key reason behind initiatives like the **International Big Cat Alliance (IBCA)**.

Pair-wise Analysis

- Pair (1): Tiger – Found in India**
 - Tigers are **native to India** and widely distributed across **reserves and national parks**.
- Pair (2): Jaguar – Not found in India**
 - Jaguars are native to **Central and South America**, absent from India.
- Pair (3): Snow Leopard – Found in India**
 - Snow leopards inhabit the **high-altitude Himalayan regions** of northern India.
- X** **Pair (4): Puma – Found in India**
 - Pumas (cougars) are **native to the Americas** and **do not occur in India**.

Conclusion: Three pairs are correctly matched, making option (c) correct.

17) Answer (c) II and III only.

Explanation

Autonomous Bodies under the Ministry of Education

Institutional Background

- Autonomous bodies play a vital role in **education, research, accreditation, and examinations**.
- They derive legitimacy either through **Acts of Parliament** or **registration under the Societies Registration Act, 1860**.

Statement-wise Analysis

- X** **Statement (I) – Incorrect**
 - Autonomous bodies are **not exclusively created by parliamentary Acts**; many are registered as societies.
- Statement (II) – Correct**
 - Committees have recommended that **NTA ensure transparency and timely conduct of examinations**.
- Statement (III) – Correct**
 - Reports highlight **vacant positions in UGC and staff shortages in ICSSR**, affecting performance.

Governance Significance

- Addressing staffing and transparency issues is crucial for **credibility, efficiency, and institutional autonomy**.

18) Answer (b) I, III and IV only.

Explanation**Indian Statistical Institute (ISI)****Institutional Overview**

- ISI is India's premier institution for **statistics, mathematics, and quantitative research**.
- It has significantly shaped **India's official statistical system**.

Statement-wise Analysis

- **Statement (I) – Correct**
 - Founded by **Prasanta Chandra Mahalanobis**, a pioneer of modern statistics in India.
- **Statement (II) – Incorrect**
 - ISI's headquarters is in **Kolkata**, not Mumbai.
- **Statement (III) – Correct**
 - ISI was registered under the **Societies Registration Act, 1860** in 1932.
- **Statement (IV) – Correct**
 - Granted **Institute of National Importance** status in **1959**.

Conclusion: Statements I, III, and IV are correct.

19) Answer (c) II, III and IV only.

Explanation**Tsunamis: Causes and Geophysical Context****Disaster Science Background**

- Tsunamis are large sea waves caused by **sudden displacement of ocean water**, posing major risks to coastal regions.

Statement-wise Analysis

- **Statement (I) – Incorrect**
 - Tsunamis are **not caused only by volcanic eruptions**; earthquakes and landslides are major triggers.
- **Statement (II) – Correct**
 - **Pacific subduction zones** account for about **90% of global earthquakes and tsunamis**.
- **Statement (III) – Correct**
 - **Underwater landslides** can generate tsunamis.
- **Statement (IV) – Correct**
 - The “**Ring of Fire**” is associated with intense **seismic and volcanic activity** around the Pacific.

Disaster Management Relevance: Understanding these causes is essential for **early warning systems and coastal planning**.

20) Answer (a) III only.

Explanation**Multiple Myeloma****Medical and Oncological Context**

- Multiple myeloma is a **malignant disorder of plasma cells**, affecting the **bone marrow** and immune function.

Statement-wise Analysis

- **Statement (I) – Incorrect**
 - It does **not affect red blood cells in the liver**; it involves **plasma cells in bone marrow**.
- **Statement (II) – Incorrect**
 - **Antibody therapy alone is not curative**; comprehensive treatment targeting cancer cells is required.
- **Statement (III) – Correct**
 - Symptoms include **frequent urination, confusion, and bone pain**, often due to **hypercalcemia**.

Clinical Significance: Advances in **immunotherapy and targeted treatment** have improved survival, but **early detection and combined therapy** remain crucial.

21) Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.

Explanation**6G Wireless Technology**

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Conceptual Background

- 6G is the **sixth-generation wireless technology**, succeeding 5G.
- It is expected to underpin **future digital infrastructure**, enabling **AI-native networks**, immersive technologies, and ultra-reliable communications.

Statement-wise Analysis

- **Statement-I (Correct)**
 - 6G is envisioned to deliver **up to 1,000x higher data speeds** than 5G.
 - Represents a **paradigm shift** in wireless communication, enabling **real-time, data-intensive applications**.
- **Statement-II (Correct)**
 - 6G will use **much higher frequency bands**, including the **terahertz (THz) spectrum**.
 - Higher frequencies provide:
 - **Wider bandwidth**
 - **Ultra-low latency (microseconds)**
 - **Massive data throughput**

Causal Link

- **Statement-II explains Statement-I**
 - The use of **higher-frequency spectrum** is the **key technological reason** for the massive increase in data speed envisioned under 6G.

Policy Relevance (India)

- Bharat 6G Alliance aims for **global leadership in affordable 5G/6G solutions by 2030**.
- Critical for **digital sovereignty, smart cities, autonomous systems**, and economic growth.

22) Answer (d) I and IV only.

Explanation

UNEP Report: "GEO – A Future We Choose"

Report Context

- A **flagship UNEP Global Environment Outlook (GEO) report**.
- Focuses on **climate change, land degradation, pollution**, and pathways for **sustainable development**.

Statement-wise Analysis

- **Statement (I) – Correct**
 - The report highlights **annual land degradation** comparable in scale to countries like **Colombia or Ethiopia**.
- **Statement (II) – Incorrect**
 - The report states that **GHG emissions have risen by ~1.5% annually since 1990**, not declined.
- **Statement (III) – Incorrect**
 - It advocates tracking **both human and natural capital**, not human capital alone.
- **Statement (IV) – Correct**
 - Recommends **~\$8 trillion annual investment until 2050** to achieve **net-zero and sustainability goals**.

Policy Significance: Calls for **whole-of-government approaches** and **moving beyond GDP** to multidimensional progress metrics aligned with **SDGs**.

23) Answer (a) I and IV only.

Explanation

Pass-Through Tax Status (REITs)

Conceptual Understanding

- **Pass-through taxation** means income is **not taxed at the entity level** but only in the hands of investors.
- Prevents **double taxation**, enhancing investment attractiveness.

Statement-wise Analysis

- **Statement (I) – Correct**
 - REITs were granted pass-through status in the **Union Budget 2014**.
- **Statement (II) – Incorrect**
 - With pass-through status, the **entity is not required to pay corporate tax**.
- **Statement (III) – Incorrect**
 - Pass-through status **eliminates double taxation**, not causes it.
- **Statement (IV) – Correct**
 - Ensures taxation **only at the investor level**, boosting capital flows.

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Economic Relevance: Supports **real estate investment**, infrastructure financing, and market depth.

24) Answer (d) I and II only.

Explanation**Aditya-L1 Mission****Mission Overview**

- India's first solar observatory mission, launched by **ISRO** in **September 2023**.
- Positioned at the **Sun-Earth Lagrange Point L1** (~1.5 million km from Earth).

Statement-wise Analysis

- **Statement (I) – Correct**
 - L1 location enables continuous, eclipse-free observation of the Sun.
- **Statement (II) – Correct**
 - **Visible Emission Line Coronagraph (VELC)** is one of the **seven onboard payloads**.
- **Statement (III) – Incorrect**
 - Aditya-L1 is in a **halo orbit** around L1, not a geostationary orbit.

Strategic Importance

- Enhances **space weather forecasting**.
- Protects **satellites, power grids, and communication systems**.
- Strengthens India's role in **global heliophysics research**.

25) Answer (b) II, III and IV only

Explanation**MAVEN Mission (Mars Atmosphere and Volatile Evolution)**

- **Statement (I) – Incorrect**
 - MAVEN is **not a surface mission** and does **not deploy rovers**; it is an **orbiter**.
- **Statement (II) – Correct**
 - A key objective is to study **interaction between Martian atmosphere and solar wind**.
- **Statement (III) – Correct**
 - Focuses on **upper atmosphere and ionosphere** to understand atmospheric loss.
- **Statement (IV) – Correct**
 - Launched by **NASA** in **2013**.

Correct statements: II, III and IV

26) Answer (b) I and III only

Explanation**Pax Silica Initiative**

- **Statement (I) – Correct**
 - Covers the **entire silicon value chain**: minerals → manufacturing → deployment.
- **Statement (II) – Incorrect**
 - **India is not an original member**.
- **Statement (III) – Correct**
 - It is a **US-led initiative** for **transformative technologies**.
- **Statement (IV) – Incorrect**
 - Scope is **not limited to mining alone**.

Correct statements: I and III

27) Answer (d) II only

Explanation**ICRIER-Prosus Centre Report on Digitalisation**

- **Statement (I) – Incorrect**
 - The report highlights **uneven digitalisation**, not uniform progress.
- **Statement (II) – Correct**
 - Digital gaps may **slow Digital Bharat goals**.
- **Statement (III) – Incorrect**

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- Jharkhand is not among the top five states in digital scores.

Only Statement II is correct

28) Answer (c) I, II and III

Explanation**National Makhana Board**

- Statement (I) – Correct
 - Functions under **Ministry of Agriculture**, focuses on **value addition and exports**.
- Statement (II) – Correct
 - Located in **Bihar**, aims to boost **farmer income through scientific cultivation**.
- Statement (III) – Correct
 - First meeting approved a **roadmap for research, branding, and competitiveness**.

All three statements are correct

29) Answer (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I

Explanation**Census 2027**

- Statement-I – Correct
 - Census 2027 will allow **self-enumeration**, a first in India.
- Statement-II – Correct
 - Introduction of **Census Management & Monitoring System (CMMS)** for real-time oversight.
- Explanation Link
 - CMMS improves **monitoring**, but does **not explain self-enumeration**.

Both statements are correct, but not causally linked

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

Explanation**United Nations Environment Assembly (UNEA)**

- Statement-I – Correct
 - UNEA is the **highest-level decision-making body on environment** within the UN system.
- Statement-II – Correct
 - Its mandate includes **providing policy direction, setting global environmental agenda, and responding to environmental challenges**.
- Causal Link
 - UNEA is the highest-level body **because** it provides overarching **policy direction and responses**, explaining Statement-I.

31) Answer (d) Statement-I is incorrect, but Statement-II is correct

Explanation**CoalSETU Policy**

- Statement-I – Incorrect
 - **Coking coal is explicitly excluded** from CoalSETU auctions.
- Statement-II – Correct
 - Domestic buyers can participate **for own consumption or export** (with conditions).

Only Statement-II is correct.

32) Answer (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I

Explanation**AMRUT Scheme**

- Statement-I – Correct
 - **Inadequate data reporting** is a documented challenge affecting implementation.
- Statement-II – Correct
 - AMRUT is a **centrally sponsored scheme** implemented by the **Ministry of Housing and Urban Affairs**.
- No causal link
 - Being centrally sponsored **does not explain** data reporting issues.

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33) Answer (a) Only one

Explanation**SHANTI Bill, 2025**

- **Pair (1) – Incorrect**
 - Consolidates **domestic nuclear laws**, not international treaties.
- **Pair (2) – Incorrect**
 - Opens sector to **private companies**, not private foreign banks.
- **Pair (3) – Correct**
 - Expanding nuclear power **reduces dependence on fossil fuels**.

Only one pair is correctly matched.

34) Answer (d) None

Explanation**Southeast Asian Monuments**

- **Pair (1) – Incorrect**
 - Angkor Wat is in **Cambodia**, not Indonesia.
- **Pair (2) – Incorrect**
 - Preah Vihear Temple is in **Cambodia**, not Thailand.
- **Pair (3) – Incorrect**
 - Borobudur is in **Indonesia**, not Cambodia.

All pairs are incorrectly matched.

35) Answer (b) II only

Explanation**PoSH Act, 2013**

- **Statement (I) – Incorrect**
 - The PoSH Act applies to **all women at the workplace**, including **interns, trainees, visitors, and contract workers**, not only formally employed women.
- **Statement (II) – Correct**
 - An **Internal Complaints Committee (ICC)** is **mandatory** in every workplace with **more than 10 employees**, as per the Act.

Only Statement II is correct.

36) Answer (a) I only

AN INSTITUTE FOR CIVIL SERVICES**Explanation****International Standards and ISO**

- **Statement (I) – Correct**
 - International standards **facilitate global trade, innovation, interoperability, and cost reduction**.
- **Statement (II) – Incorrect**
 - Developing countries are **underrepresented** in ISO technical committees; they are **not adequately represented**.

Only Statement I is correct.

37) Answer (d) I, II and III

Explanation**UNESCO Convention against Discrimination in Education (1960)**

- **Statement (I) – Correct**
 - **Non-discrimination** is a core obligation of the Convention.
- **Statement (II) – Correct**
 - It mandates **equality of access to higher education**.
- **Statement (III) – Correct**
 - It requires **accessible secondary education**.

All three statements are correct.

38) Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation**Proton Exchange Membrane (PEM) Fuel Cells**

- **Statement-I – Correct**
 - PEM fuel cells generate electricity with **only water and heat as byproducts**, ensuring **zero harmful emissions**.
- **Statement-II – Correct**
 - Hydrogen is split into **protons and electrons**, producing electricity; oxygen combines to form **water**.
- **Explanation Link**
 - The **electrochemical mechanism** directly explains the **clean nature** of PEM fuel cells.

Both statements are correct and causally linked.

39) **Answer (c)** Statement-I is correct, but Statement-II is incorrect

Explanation**Narco Analysis and Fundamental Rights**

- **Statement-I – Correct**
 - In *Selvi v. State of Karnataka (2010)*, the Supreme Court held that **forced narco tests violate Article 20(3)**(right against self-incrimination).
- **Statement-II – Incorrect**
 - **Article 20** deals with self-incrimination, **not free legal aid**.
 - Free legal aid is under **Article 39A**.

Only Statement I is correct.

40) **Answer (d)** Ruling parts of central Tamil Nadu as a feudatory of the Pallavas

Explanation**Emperor Perumbidugu Mutharaiyar II**

- **Option (a)** – Not a Pandya ruler.
- **Option (b)** – Not a Chola ruler; associated mainly with **Shaivism**, not Vaishnavism.
- **Option (c)** – Did **not** establish the **Kakatiya dynasty**.
- **Option (d)** – Ruled **central Tamil Nadu (705–745 AD)** from **Tiruchirappalli** as a **Pallava feudatory**, known for **stable administration and cultural patronage**.

41) **Answer (b)** It is produced mainly from short staple hill variety pest-resistant cotton

Explanation**Ponduru Khadi (GI Tag)****AN INSTITUTE FOR CIVIL SERVICES**

- **Option (a)** – Not an artificial fibre.
- **Option (b)** – Made from **short staple hill variety, pest-resistant cotton**, enabling **chemical-free farming**.
- **Option (c)** – Not silk; not from Karnataka.
- **Option (d)** – Not a woollen textile of Himachal Pradesh.

42) **Answer (c)** Stroke due to cerebral artery blockage

Explanation**Supernova Stent**

- **Option (a)** – Not for pulmonary hypertension.
- **Option (b)** – Not for coronary artery disease.
- **Option (c)** – Used in **ischemic stroke** to remove clots from **blocked cerebral arteries** (large vessel occlusion).
- **Option (d)** – Not related to renal failure.

43) **Answer (a)** Microsoft

Explanation**MahaCrimeOS AI**

- **Option (a)** – Developed by **Maharashtra Police in collaboration with Microsoft (Azure OpenAI)**.
- **Option (b)** – Google not involved.
- **Option (c)** – Infosys not involved.
- **Option (d)** – IBM not involved.

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44) Answer (b) I, II and IV only

Explanation

Geminid Meteor Shower

- Statement (I) – Geminids are **bright, fast, and yellow-coloured**.
- Statement (II) – Peaks in **mid-December** every year.
- ✗ Statement (III) – Most meteors **burn up**; they do **not** reach Earth as meteorites.
- Statement (IV) – Meteors form when **meteoroids burn in Earth's atmosphere** due to friction.

45) Answer (b) I, II and III

Explanation

Methane Emissions and Climate Impact

- Statement (I) – Methane has a **short atmospheric lifetime (~12 years)** compared to CO₂.
- Statement (II) – **India is the 3rd largest methane emitter** globally.
- Statement (III) – Methane is the **second most important greenhouse gas** after CO₂ in anthropogenic warming.

□ All three statements are correct.

46) Answer (d) I, II and III

Explanation

Legal Services Authorities in India

- Statement (I) – **Taluk Legal Services Committee** is the **first point of legal aid** at the grassroots.
- Statement (II) – **DLSA** functions under the **supervision of SLSA**.
- Statement (III) – **NALSA** is headed by the **Chief Justice of India**.

□ All three statements are correct.

47) Answer (c) Statement-I is correct, but Statement-II is incorrect

Explanation

Methane as a Greenhouse Gas

- Statement-I – Methane is a **short-lived climate pollutant with ~12-year lifespan**.
- ✗ Statement-II – CO₂, not methane, is the **largest contributor** to anthropogenic global warming due to its concentration and longevity.

□ Only Statement-I is correct.

48) Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation

Lunarcrete (Moon Construction Material)

- Statement-I – **Lunarcrete** is being researched for **Moon habitats** using **in-situ resources**.
- Statement-II – It uses **lunar regolith mixed with binder and limited water**, explaining its feasibility and importance.

□ Both statements are correct and causally linked.

49) Answer (d) None

Explanation

Ramsar Wetlands – State Mapping

- ✗ Pair (1) – **Pulicat Lake** is in **Andhra Pradesh-Tamil Nadu**, not Kerala.
- ✗ Pair (2) – **Kopra Jalashay** is in **Chhattisgarh**, not Rajasthan.
- ✗ Pair (3) – **Siliserh Lake** is in **Rajasthan**, not Chhattisgarh.

□ All pairs are incorrectly matched.

50) Answer (a) Only one

Explanation

SHANTI Bill, 2025 – Key Provisions

- **Pair (1) – Incorrect**
 - The Bill **consolidates domestic nuclear laws, not international energy treaties.**
- **Pair (2) – Incorrect**
 - It allows **private companies** across the nuclear value chain, **not private foreign banks.**
- **Pair (3) – Correct**
 - Expanding nuclear power **reduces dependence on fossil fuels**, strengthening **energy security** and supporting **energy transition goals**.

Only one pair is correctly matched.



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