

Solutions

DATE : 1st July- 6th July

1) Correct Answer: (d)

WAVEX Startup Challenge 2025 – “BhashaSetu”

Context & Theme:

- The challenge is titled “**BhashaSetu – Real-Time Language Tech for Bharat**”, launched under the **Ministry of Information & Broadcasting**.
- It is part of the broader **WAVES initiative**, aiming to enhance India's media tech ecosystem.

Technical Objective:

- To develop **AI-powered multilingual translation solutions** that work across at **least 12 Indian languages**, addressing the country's deep **linguistic diversity**.
- Ensures inclusive access to digital services, governance communication, and content across regions.

Implementation Mechanism:

- Conducted as a **national hackathon**, encouraging participation from **startups, developers, and researchers**.
- Promotes **innovation in language tech**, aligning with the vision of **Digital India** and **Digital Public Infrastructure**.

Option Analysis:

- **(a)** Incorrect – No mention of **blockchain** or **content authentication**.
- **(b)** Incorrect – Though AI is involved, the focus is not on **cybersecurity tools**.
- **(c)** Incorrect – The challenge is unrelated to **augmented reality** or **tourism**.
- **(d)** Correct – Accurately reflects the theme and objective of the challenge.

Conclusion: Option (d) is correct as it directly aligns with the **purpose and structure** of the WAVEX Challenge 2025.

2) Correct Answer: (c) Both 1 and 2 are correct

Cell Broadcast Alert System (CBAS)

Overview: Developed by **C-DOT (Centre for Development of Telematics)**, this system allows **instant broadcasting of emergency alerts** to all mobile phones within a specific geographic area.

Key Advantages:

- **Faster than SMS:** CBAS sends alerts simultaneously, while SMS is sent sequentially to individual numbers.
- **Vital in Sudden Disasters:** Especially useful during **earthquakes, tsunamis, and cyclones**, where real-time alerts can save lives.

Comparison with SMS:

- Traditional systems like **SACHET** use SMS, but suffer from delays and congestion.
- CBAS is ideal for **time-critical scenarios** requiring **mass notification**.

Statement Analysis:

- **Statement 1:** Correct – CBAS is significantly **faster** than SMS alerts.
- **Statement 2:** Correct – Particularly suited for **sudden-onset disasters**.

Conclusion: Option (c) is correct. Both statements are accurate in highlighting the **technical superiority** and **practical application** of CBAS in disaster response.

3) Correct Answer: (b) 2 only

Global Public Debt and Developing Economies

Current Scenario: As per reports by the **UN**, **global public debt** is at a **record high**, especially post-COVID, due to increased fiscal expenditures.

Key Issues:

- **Developing countries**, despite holding **less than one-third** of global debt, bear a **disproportionate burden** due to:
 - **Higher interest rates**
 - **Currency depreciation**
 - **Limited access to concessional finance**

Regional Debt Shares:

- **Asia & Oceania** – Largest among developing regions
- **Latin America & Caribbean** – Approx. 5%
- **Africa** – Approx. 2%

Purpose of Public Debt:

- Acts as a tool for **economic development, infrastructure investment**, and **countercyclical spending** during crises.

Statement Analysis:

- **Statement 1:** Incorrect – Debt in developing countries has grown **twice as fast** as in developed economies since 2010.
- **Statement 2:** Correct – Public debt is a **critical fiscal tool** in development and crisis mitigation.

Conclusion: Option (b) is correct. Only Statement 2 holds true; Statement 1 contradicts the actual debt trend observed globally.

4) Correct Answer: (c) Both 1 and 2 are correct

Digital India and Direct Benefit Transfer (DBT)

Digital India Mission:

- Launched in **2015**, aimed at creating a **digitally empowered society** and **knowledge economy**.
- Focuses on **infrastructure, digital literacy, governance transformation**, and **universal access** to public services.

Role of DBT:

- **Aadhaar-enabled DBT** has led to:
 - **Removal of fake beneficiaries**
 - **Direct transfers to verified individuals**

- Reduction in leakages and delays

Wider Digital Impact:

- Success of UPI, e-Governance platforms, internet penetration, and emerging tech applications across sectors.
- Digital India is a **composite initiative**, not limited to subsidies.

Statement Analysis:

- **Statement 1:** Correct – Mission aims to digitally empower and transform governance.
- **Statement 2:** Correct – DBT has been a key success in **public fund optimization**.

Conclusion: Option (c) is correct. Both statements accurately reflect the achievements of **Digital India** and its landmark tool, **DBT**.

5) Correct Answer: (d) 1, 2, 3 and 4

Geological and Ecological Features of the Andaman Sea

Seismic and Tectonic Aspects:

- The region lies in **Seismic Zone V** – the highest-risk zone in India.
- Contains the **Andaman Trench**, formed by the **subduction of the Indian Plate** beneath the **Eurasian Plate**, causing high seismicity.

Biodiversity and Ecology:

- Part of the **Coral Triangle**, known globally for **rich marine biodiversity** (e.g., coral reefs, diverse fish species).
- Supports a unique **marine ecosystem** crucial for biodiversity conservation and livelihoods.

Geographical Location:

- A **marginal sea** of the **northeast Indian Ocean**, bordered by **Myanmar, Thailand, and India (Andaman & Nicobar Islands)**.
- Strategic for **maritime trade, naval operations, and disaster management**.

Statement Analysis:

- **Statement 1:** Correct – Seismically active zone.
- **Statement 2:** Correct – Located in Coral Triangle.
- **Statement 3:** Correct – Tectonically formed due to plate subduction.
- **Statement 4:** Correct – It is a marginal sea bordering India and Southeast Asia.

Conclusion: Option (d) is correct. All four statements comprehensively describe the **seismic, ecological, geological, and geographic** significance of the Andaman Sea.

6) Correct Answer: (a) 1 and 3 only

Carbon Credit Trading Scheme (CCTS)

Objective: Aims to **reduce greenhouse gas (GHG) emissions** by promoting **carbon pricing**, which places a **monetary cost** on emissions to incentivize reductions.

Legal Framework:

- Notified under the **Energy Conservation Amendment Act, 2022**.
- This Act empowers the **Central Government**, in consultation with the **Bureau of Energy Efficiency (BEE)**, to specify the provisions for CCTS.

Key Features:

- Comprises both **compliance-based mechanisms** (mandatory reduction by industries) and **voluntary offset programs**.
- **BEE** acts as the **administrator**, while the **Central Electricity Regulatory Commission (CERC)** serves as the **regulator** for carbon trading.

Statement Analysis:

- **Statement 1:** Correct – **CERC** is the designated **regulator**.
- **Statement 2:** Incorrect – CCTS is not backed by the **Environment Protection Act, 1986**, but by the **Energy Conservation Amendment Act, 2022**.
- **Statement 3:** Correct – **Carbon pricing** is the core tool used for **GHG mitigation**.

Conclusion: Option (a) is correct. Statements **1 and 3** are accurate, while **Statement 2** contains a legal inaccuracy.

7) Correct Answer: (c) 1, 2, 3 and 4

India's Progress on Sustainable Development Goals (SDGs)

Key Areas of Achievement:

- Renewable Energy Expansion:**
 - **Per capita installed capacity** increased from **64.04 watts (2014-15)** to **156.31 watts (2024-25)**.
 - Reflects a **strong push** in solar, wind, and hydro sectors under initiatives like **National Solar Mission**.
- Waste Management:**
 - **Processing rate** of solid waste improved from **17.97% (2015-16)** to **80.7% (2024-25)**.
 - Driven by programs like **Swachh Bharat Mission** and **Smart Cities Mission**.
- Forest Cover:**
 - Increased from **21.34% (2015)** to **21.76% (2023)** as per **India State of Forest Report (ISFR)**.
 - Attributed to **afforestation efforts, community forestry, and green mission programs**.
- Emission Intensity of GDP:**
 - Reduced by **36% between 2005 and 2020**, in line with **India's INDC commitments** under the **Paris Agreement**.

Conclusion: Option (c) is correct. All four statements are factually accurate and reflect India's steady **SDG performance**.

8) Correct Answer: (c) Both 1 and 2

QUAD at Sea – Ship Observer Mission

Institutional Framework:

- A joint effort involving **coast guards** of the four QUAD nations – **India, USA, Japan, and Australia**.
- Represents a shift towards **operational maritime collaboration** beyond naval diplomacy.

Strategic Objectives:

- Enhances **maritime domain awareness, interoperability, and joint operational protocols** in the **Indo-Pacific**.
- Aims to ensure a **free, open, and inclusive Indo-Pacific**, consistent with the **Wilmington Declaration**.

Alignment with Indian Vision:

- Supports India's **SAGAR doctrine** (*Security and Growth for All in the Region*), focusing on **cooperative maritime security and blue economy development**.

Statement Analysis:

- **Statement 1:** Correct – Maritime cooperation and interoperability are central goals.
- **Statement 2:** Correct – Directly aligns with India's SAGAR policy.

Conclusion: Option (c) is correct. Both statements reflect the **strategic and policy intent** behind the QUAD maritime engagement.

9) **Correct Answer:** (a) 1 only

Mahabodhi Temple Complex, Bodh Gaya

Historical Development:

- The first temple was built by **Emperor Ashoka in the 3rd century BCE**, marking the site of **Gautama Buddha's enlightenment**.
- The current structure is believed to have been rebuilt during the **Gupta period (5th–6th century CE)**.

Architectural Characteristics:

- The temple has a **curvilinear shikhara**, but the architecture is a **hybrid**, showing neither **pure Nagara** nor **Dravidian style**.
- Represents a unique synthesis of **Buddhist iconography and Indian temple aesthetics**.

Key Components:

- Includes the **main temple, Vajrasana (Diamond Throne), Bodhi Tree, and ancillary stupas**.
- Recognized by **UNESCO** as a **World Heritage Site** for its **universal cultural value**.

Statement Analysis:

- **Statement 1:** Correct – Ashoka constructed the first shrine at the site.
- **Statement 2:** Incorrect – Architectural style is **hybrid**, not purely Dravidian or Nagara.

Conclusion: Option (a) is correct. Only Statement 1 is historically accurate.

10) **Correct Answer:** (d) 1, 2 and 3

Santhal Rebellion (1855–56)

Historical Context:

- A major **tribal uprising** against British colonial rule, predating the **1857 Revolt**.
- Considered one of the **most significant pre-1857 resistance movements** in Indian history.

Geographical Area:

- Took place in **Damin-i-Koh** region of the **Rajmahal Hills**, in present-day **Jharkhand**.

Leadership:

- Led by **Sidhu, Kanhu, Chand-Bhairav, Phulo, and Jhano Murmu**, who mobilized thousands of Santhals.
- Demonstrated **tribal solidarity and political consciousness**.

Causes of Rebellion:

- Oppression by **zamindars, moneylenders, and colonial land revenue policies**.

- Santhals were subjected to **exploitation, land alienation, and economic destitution**.

Statement Analysis:

- **Statement 1:** Correct – Accurately mentions the leaders.
- **Statement 2:** Correct – Rebellion was in **Damin-i-Koh, Rajmahal Hills (Jharkhand)**.
- **Statement 3:** Correct – Considered a precursor to the **1857 Revolt**.

Conclusion: Option (d) is correct. All three statements correctly describe the **leaders, location, and legacy** of the Santhal rebellion.

11) **Correct Answer:** (c) CITES

MIKE Programme – Monitoring the Illegal Killing of Elephants

Background: The **MIKE Programme** is a **global site-based monitoring initiative** under the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**.

Establishment: Adopted through a **Resolution at the 10th CoP to CITES in 1997**, held in **Harare**.

Purpose:

- To **track and analyse patterns of illegal elephant killings** across **Asian and African elephant range states**.
- It provides **scientific data** to improve **policy responses**, especially regarding **anti-poaching efforts and illegal ivory trade**.

Implementation: Conducted through a network of **designated monitoring sites** that collect **standardized data** on **elephant mortality and poaching trends**.

Significance: Plays a crucial role in **evidence-based decision-making** at the **CITES CoP** meetings and supports better **elephant conservation strategies** globally.

Conclusion: Option (c) is correct – the **MIKE Programme** functions under **CITES** and focuses on **conservation monitoring** of elephants.

12) **Correct Answer:** (b) 2 only

CITES – Convention on International Trade in Endangered Species

Historical Development:

- Conceived at an **IUCN meeting in 1963**.
- Came into force in **1975** as the **first global treaty** regulating **wildlife trade**.

Administrative Structure:

- The **CITES Secretariat** is administered by the **United Nations Environment Programme (UNEP)**.
- Headquartered in **Geneva, Switzerland**.
- **IUCN** provides **scientific and technical support**.

Legal Framework:

- CITES is **legally binding**, but it does **not override national laws**.
- Parties (including India since 1976) are required to **enact domestic legislation** to implement CITES provisions.

Scope and Protection:

- Regulates trade in **over 40,900 species** (6,610 animal species and 34,310 plant species).
- Operates through a **licensing system**, using **three Appendices** to categorize levels of trade regulation.

Statement Analysis:

- **Statement 1:** ✗ Incorrect – CITES provides a **framework**, but enforcement is done through **national laws**, not through international override.
- **Statement 2:** ✔ Correct – The Secretariat is managed by **UNEP** and located in **Geneva**.

Conclusion: Option **(b)** is correct – only **Statement 2** is factually accurate.

13) Correct Answer: (a) 1, 2 and 3

Employment Linked Incentive (ELI) Scheme

Administrative Framework: Implemented by the **Ministry of Labour & Employment** to incentivize **job creation** in both **formal and informal sectors**.

Key Objectives:

- To **enhance workforce employability, promote new employment**, and expand **social security coverage**.
- Specific focus on **supporting employers** who hire **new employees** in designated sectors.

Sectoral Focus: Emphasis on **manufacturing**, but applicable to **multiple economic sectors**.

Statement Analysis:

- **Statement 1:** ✔ Correct – The scheme supports **job creation**, especially in **manufacturing**.
- **Statement 2:** ✔ Correct – One of the stated goals is **expansion of social security coverage**.
- **Statement 3:** ✔ Correct – The scheme is administratively handled by the **Ministry of Labour & Employment**.

Conclusion: Option **(a)** is correct – all three statements are valid.

14) Correct Answer: (c) Cryptocurrency-based transactions and anonymity in the drug trade

Operation MELON – Anti-Drug Trafficking Action

Nature of Operation: Conducted by the **Narcotics Control Bureau (NCB)** targeting **international drug networks** operating via the **darknet**.

Key Discoveries:

- Use of **cryptocurrencies** for anonymous transactions.
- Discovery of **TAILS OS**, a security-focused OS used for **anonymity in darknet access**.

Seized Substances:

- Included **hallucinogenic drugs** like **LSD** and **Ketamine**.
- **Ketamine** acts as an **NMDA receptor antagonist**, not an opioid.

Significance:

- Exposed the **technological sophistication** of new-age drug cartels.
- Highlighted the **need for capacity building** in cyber narcotics enforcement.

Conclusion: Option **(c)** is correct – Operation MELON targeted **cryptocurrency-driven, anonymous darknet drug transactions**.

15) Correct Answer: (b) 2 only

Quadrilateral Security Dialogue (QUAD)

Nature & Membership:

- An **informal strategic forum** comprising **India, USA, Japan, and Australia**.
- Not a formal **military alliance**, but a platform for **strategic cooperation**.

Strategic Objectives:

- To ensure a **free, open, and rules-based Indo-Pacific**.
- Countering **unilateral actions** in maritime and geopolitical domains.

Engagement with ASEAN: The Quad has consistently reaffirmed its support for **ASEAN centrality and unity** in regional affairs.

Key Functional Areas:

- **Maritime security**
- **Technology and cyber cooperation**
- **Supply chain resilience**
- **Emergency response coordination**

Statement Analysis:

- **Statement 1:** ✗ Incorrect – The Quad is not a formal **military alliance**.
- **Statement 2:** ✔ Correct – Official communiqués emphasize **ASEAN centrality**.

Conclusion: Option **(b)** is correct – only **Statement 2** reflects the true nature of the Quad's diplomatic stance.

16) Correct Answer: (b) 2 only

Solar Energy Corporation of India (SECI)

Establishment & Mandate:

- Established in **2011** to implement the **National Solar Mission** under the **Jawaharlal Nehru National Solar Mission (JNNSM)** framework.
- SECI is tasked with **developing renewable energy capacity**, particularly **solar energy**, across India.

Institutional Status:

- SECI is a **Navratna Central Public Sector Undertaking (CPSU)** under the **Ministry of New and Renewable Energy (MNRE)**.
- It enjoys operational autonomy but is **not a Maharatna PSU**.

Regulatory Role:

- Recognized as a **Category-I power trading licensee** under **CERC**, enabling participation in **renewable energy power trading** across India.

Additional Roles:

- Acts as the **Designated Renewable Energy Implementing Agency (REIA)** for key national projects, including **Greening of Islands, solar parks, and tendering large-scale solar and wind energy projects**.

Statement Analysis:

- **Statement 1:** ✗ Incorrect – SECI is a **Navratna**, not a **Maharatna**, and functions under **MNRE**, not an independent ministry.

- **Statement 2:** Correct – It was indeed set up in **2011** to implement the **National Solar Mission**.

Conclusion: Option **(b)** is correct.

17) Correct Answer: (c) Thailand

Thailand's Geography and Strategic Importance

The Kra Isthmus:

- A narrow strip in **southern Thailand**, it separates the **Gulf of Thailand** from the **Andaman Sea**.
- There have been proposals for constructing a **Kra Canal**, providing a strategic **alternative route** to the **Malacca Strait**, which currently handles over **25% of global maritime trade**.

Agricultural Identity:

- The **central plains of Thailand** are highly fertile, earning the country the title "**Rice Bowl of Asia**".
- Thailand is among the **top global rice exporters**, contributing significantly to the region's **food security**.

Key Insight:

- The **Kra Isthmus** and **Thailand's rice production** are **distinct geographic and economic features**. The former has **maritime strategic value**, while the latter relates to **agricultural productivity**.

Conclusion: Option **(c)** is correct – **Thailand** is defined by both the **Kra Isthmus** (strategic geography) and **rich central plains** (agricultural economy).

18) Correct Answer: (b) 2 only

Khelo Bharat Niti, 2025 – New Sports Policy Framework

Policy Evolution:

- **Replaces the National Sports Policy, 2001**, and follows the initial 1984 policy.
- Represents India's **third major sports policy** post-independence.

Core Pillars:

1. **Excellence on the Global Stage**
2. **Economic Development via Sports**
3. **Social Development and Inclusion**
4. **People's Movement for Sports**
5. **Integration with NEP 2020**

Educational Integration:

- **Sports curriculum** is to be embedded in **school education**.
- Teachers to receive **specialised training** aligned with **National Education Policy (NEP) 2020**.

Constitutional Context:

- **Sports remains a State subject** under **List II of the Seventh Schedule** of the Constitution.
- The policy does not alter the **federal allocation of powers**.

Statement Analysis:

- **Statement 1:** Incorrect – No constitutional change; sports remains a **State subject**.
- **Statement 2:** Correct – Integration with **NEP 2020** is a defined policy pillar.

Conclusion: Option **(b)** is correct.

19) Correct Answer: (a) 2 and 3 only

Terbium – Rare Earth Element

Elemental Group:

- **Terbium (Tb)** is a **lanthanide**, part of the **rare earth metals**.
- Not part of the **actinide series**, which includes radioactive elements like uranium.

Physical and Chemical Properties:

- A **soft, silvery metal** known for its **luminescent** properties.
- Used in **solid-state devices, low-energy lightbulbs, medical imaging, lasers, and x-ray shielding**.

Natural Occurrence:

- Extracted from **rare earth minerals** like **monazite, bastnaesite, and euxenite**.

Statement Analysis:

- **Statement 1:** Incorrect – Terbium is a **lanthanide**, not an **actinide**.
- **Statement 2:** Correct – Used in **solid-state and luminescent technologies**.
- **Statement 3:** Correct – Extracted from minerals such as **monazite and bastnaesite**.

Conclusion: Option **(a)** is correct.

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

Mud Volcanoes – Geological Phenomenon

Formation & Location: Commonly form in **subduction zones**, where **tectonic plates converge**, creating **compressional forces** and **fault systems**.

Eruption Characteristics:

- Do **not emit lava or ash**, unlike igneous volcanoes.
- Release **mud, water, and gases**, particularly **methane**, often under pressure.

Anthropogenic Links: Can also be **triggered by human activities**, such as **drilling, mining, or geothermal extraction**.

Statement Analysis:

- **Statement 1:** Incorrect – Mud volcanoes do **not emit lava or ashes**.
- **Statement 2:** Correct – They often release **methane gas**.
- **Statement 3:** Correct – Commonly found in **subduction zones**.

Conclusion: Option **(b)** is correct.

21) Correct Answer: (d)

Operation Sarvekshan – Targeting Illegal Pharma Trade

Nature of Operation:

- Conducted by the **Narcotics Control Bureau (NCB)** of India.
- Targeted **illegal trade in pharmaceutical drugs**, especially those with **psychoactive properties**.

Transnational Network:

- Dismantled a **drug trafficking syndicate** operating across **four continents**.
- Syndicate engaged in **smuggling controlled medicines**, evading regulations in multiple jurisdictions.

Sophisticated Modus Operandi:

- Used **encrypted communication platforms, drop-shipping, and cryptocurrency transactions** to operate anonymously.
- Demonstrates **convergence of digital technology and illicit trade logistics**.

Enforcement Significance:

- Highlights the evolving **cyber-narcotics landscape**.
- Showcases India's ability to respond to **high-tech international drug trafficking networks**.

Option Analysis:

- (a) ❌ Not related to **wildlife or tiger conservation**.
- (b) ❌ Not a **land survey** program.
- (c) ❌ Not related to **educational assessments**.
- (d) ✅ Correct – It was a **special operation by NCB** focused on illegal pharmaceutical trade.

Conclusion: Option (d) is correct.

22) **Correct Answer:** (c)

Digital Intelligence Platform (DIP)

Objective: A **secure digital platform** to share intelligence on **telecom-related misuse for cybercrime and financial fraud prevention**.

Stakeholder Coordination:

- Integrates **telecom companies, banks, law enforcement agencies, and regulatory authorities**.
- Supports **real-time data exchange** to identify and mitigate **fraudulent activities**.

Associated Tools:

- Connects with systems like the **Financial Fraud Risk Indicator (FRI)** via **API integration**, improving fraud detection capacity.

Option Analysis:

- (a) ❌ Not for **international financial transaction tracking**.
- (b) ❌ Unrelated to **stock market monitoring**.
- (c) ✅ Correct – It addresses **telecom misuse** for preventing **cyber and financial crimes**.
- (d) ❌ No relation to **weather or agriculture**.

Conclusion: Option (c) is correct.

23) **Correct Answer:** (b) 1, 2 and 3

PARAKH – National Assessment Centre

Establishment:

- Set up in **2023** as a national-level assessment body.
- Functions under **NCERT**, but with **operational independence**.

Mandate and Functions:

- Develops **norms and standards** for student assessments across states.
- Conducts **national surveys**, supports **capacity building**, and ensures **evaluation equivalence**.

Data Transparency:

- Manages the **Rashtriya Sarvekshan Dissemination Portal**, making **performance data accessible** to states and stakeholders for educational improvements.

Statement Analysis:

- (1) ✅ Correct – PARAKH defines **assessment norms** and standards.
- (2) ✅ Correct – It is **autonomous** under NCERT.
- (3) ✅ Correct – Operates the **data dissemination portal** for educational outcomes.

Conclusion: Option (b) is correct.

24) **Correct Answer:** (a) 2 and 3 only

Forest Advisory Committee (FAC)

Legal Status:

- Established under the **Forest (Conservation) Act, 1980**.
- Has **statutory status**, providing technical advice on **diversion of forest land**.

Functionality:

- Examines proposals for **non-forestry activities** like mining or infrastructure.
- Ensures projects meet **environmental and legal requirements**.

Nature of Decisions:

- Acts in an **advisory capacity** – **recommendations are not binding**.
- The **final decision** rests with the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

Statement Analysis:

- (1) ❌ Incorrect – FAC's role is **advisory**, not binding.
- (2) ✅ Correct – Created under the **Forest (Conservation) Act**.
- (3) ✅ Correct – Reviews proposals for **non-forest use** of forest land.

Conclusion: Option (a) is correct.

25) **Correct Answer:** (b) 1, 2 and 3

International Atomic Energy Agency (IAEA) and NPT

Role under NPT:

- Functions as the **global inspectorate** to ensure **non-proliferation of nuclear weapons**.
- Enforces safeguards in **non-nuclear weapon states** to ensure peaceful use of nuclear energy.

Verification Functions:

- Conducts **inspections**, installs **surveillance devices**, and analyses **nuclear samples**.
- Ensures **compliance with NPT obligations** by **monitoring civilian nuclear programs**.

Peaceful Use Facilitation:

- Promotes use of nuclear energy in **medicine, agriculture, and energy**, ensuring such programs are **non-divertible for weaponization**.

Statement Analysis:

- (1) Correct – IAEA is the **inspectorate for NPT safeguards**.
- (2) Correct – It verifies **non-proliferation commitments**.
- (3) Correct – Facilitates **peaceful nuclear applications** for member states.

Conclusion: Option **(b)** is correct.

26) Correct Answer: (c) 2, 3 and 4 only

C-FLOOD Platform – Unified Flood Forecasting System

Purpose & Features:

- Integrates **flood modelling outputs** from national and regional agencies.
- Offers **2-day advance flood inundation forecasts** with **village-level precision**.

Technology Used: Employs **advanced 2D hydrodynamic modelling** to simulate precise flood scenarios.

Institutional Collaboration:

- Jointly developed by:
 - **C-DAC (Pune)**
 - **Central Water Commission (CWC)**
 - **National Remote Sensing Centre (NRSC)**
 - **Ministry of Jal Shakti**

Implementation Mechanism:

- Part of the **National Supercomputing Mission (NSM)** launched in 2015.
- NSM is jointly overseen by **MeitY** and **DST**.

Statement Analysis:

- (1) Incorrect – C-FLOOD is under **NSM**, not the **National Hydrology Project**.
- (2) Correct – Forecasts provided up to the **village level**.
- (3) Correct – Jointly developed by **CWC and C-DAC**, among others.
- (4) Correct – Uses **2D hydrodynamic modelling** for flood simulations.

Conclusion: Option **(c)** is correct.

27) Correct Answer: (c) 2 and 3 only

Financial Fraud Risk Indicator (FRI)

Purpose:

- Classifies **mobile numbers** based on their **risk of involvement in financial fraud**.
- Categories: **Medium, High, Very High**.

Implementation:

- Developed by the **Department of Telecommunications (DoT)** through the **Digital Intelligence Unit (DIU)**.
- **RBI has mandated integration** with bank systems; however, it is **not the developer**.

Technical Integration: Works via **API-based data exchange** between banks and DoT's **Digital Intelligence Platform (DIP)**.

Data Sources:

- Inputs from:
 - **Cybercrime Reporting Portal (MHA)**
 - **DoT's Chakshu platform**

- **Banks and financial institutions**

Statement Analysis:

- (1) Incorrect – **Developed by DoT**, not RBI.
- (2) Correct – Uses **real-time API-based integration** for fraud detection.
- (3) Correct – Classifies numbers into **fraud risk categories**.

Conclusion: Option **(c)** is correct.

28) Correct Answer: (a) 1, 2 and 3

Green Climate Fund (GCF)

Global Role:

- World's **largest dedicated climate fund** for **developing countries**.
- Supports **low-emission and climate-resilient development**.

Origin and Mandate:

- Established at **COP 16 (Cancun, 2010)** under **UNFCCC**.
- Supports countries in achieving their **Nationally Determined Contributions (NDCs)**.

Legal Link to Paris Agreement: **Article 9** of the **Paris Agreement** recognises GCF's role in **climate finance**.

Governance:

- Governed by the **GCF Board**, accountable to the **COP of UNFCCC**.
- HQ: **Songdo, Incheon, South Korea**.

Statement Analysis:

- (1) Correct – Supports NDCs through **mitigation and adaptation finance**.
- (2) Correct – Established at **COP 16, Cancun (2010)**.
- (3) Correct – Functions under **Paris Agreement's Article 9**.

Conclusion: Option **(a)** is correct.

29) Correct Answer: (a) 1, 2 and 3

Transition Bonds in India

Definition and Regulatory Backing: Sub-category of **Green Debt Securities** under **SEBI's framework**.

Purpose: Facilitate capital raising for **hard-to-abate sectors** (e.g., steel, cement) to support **decarbonization goals**.

Safeguards and Integrity Measures:

- Require:
 - **Transparency**
 - **Third-party validation**
 - **Impact disclosure** to avoid **greenwashing**.

Statement Analysis:

- (1) Correct – Target **hard-to-abate sectors** for climate transition.
- (2) Correct – Classified under **Green Debt Securities by SEBI**.
- (3) Correct – Designed to ensure **authenticity of environmental impact**.

Conclusion: Option **(a)** is correct.

30) Correct Answer: (a) 1 and 2 only

Nutritional Intake in India – NSO Report Highlights

Calorie Intake Trends:

- **Urban calorie intake** consistently higher than rural in both surveys:
 - Urban: **2250 & 2240 Kcal**
 - Rural: **2233 & 2212 Kcal**

Protein Source Dynamics:

- **Cereals** remain key source of protein, but contribution has declined:
 - **-14% in rural, -12% in urban** (since 2009-10).
- Replaced by rising consumption of **animal-based proteins**.

Economic Linkages:

- **Higher MPCE** correlates with **higher calorie intake**.
- **Gap narrowed** between bottom 5% and top 5%, indicating **nutritional equity gains**.

Statement Analysis:

- (1) Correct – Cereals still **dominant protein source** despite decline.
- (2) Correct – Calorie intake **higher in urban** areas.

Conclusion: Option (a) is correct.

31) **Correct Answer:** (d)

Surveillance Pricing in Digital Markets

Definition: **Surveillance pricing** refers to the practice of using **consumer data** (e.g., browsing history, location, device type) to **dynamically adjust prices** for goods or services.

Implementation Mechanism: Uses **big data analytics** and **algorithms** to infer a consumer's **willingness or ability to pay**, enabling **individualized price discrimination**.

Ethical Concerns:

- Raises significant issues around **privacy, fairness, and transparency**.
- Subject to **legal scrutiny**, as seen in cases like the **National Retail Federation v. New York State**.

Incorrect Options: (a), (b), (c): These refer to **regulations or surveillance technologies**, not **price discrimination** practices.

Conclusion: Option (d) is correct.

32) **Correct Answer:** (d)

Geographical Indication (GI) in India

Legal Framework: Governed by the **Geographical Indications of Goods (Registration and Protection) Act, 1999**.

Significance:

- **Protects traditional knowledge** and enhances **economic opportunities** for artisan communities.
- Prevents **unauthorized use** of region-specific product names.

Examples of GI-Tagged Products:

- **Kashmiri Pashmina Shawl** – GI tag granted
- **Bidriware (Karnataka)** – GI tag granted
- **Silver Filigree of Cuttack (Odisha)** – GI tag granted

- **Miniature Ambawari Elephant (West Bengal)** – Not a GI-tagged product

Conclusion: Option (d) is correct.

33) **Correct Answer:** (c)

Forest Rights Act and Community Forest Resource Rights

Objective of the FRA: Aims to **recognize and vest forest rights** and address **historical injustices** to forest-dwelling Scheduled Tribes and other Traditional Forest Dwellers (OTFDs).

Types of Rights under FRA:

- **Individual rights** – cultivation, habitation
- **Community rights** – grazing, fishing, traditional knowledge
- **Community Forest Resource Rights (CFRR)** – empower **gram sabhas** to manage forests

Legal Instruments:

- FRA is a **legally binding statute**, while the **National Working Plan Code** is only a **management guideline**.

Conclusion: Option (c) is correct.

34) **Correct Answer:** (a) 1 and 2 only

Defence Acquisition Council (DAC)

Institutional Role: **Chaired by the Union Minister of Defence**, ensuring **civilian oversight**.

Functions:

- Provides '**Acceptance of Necessity**' (AoN) for capital acquisitions.
- **Monitors major defence projects** under the **Long-Term Integrated Perspective Plan (LTIPP)**.
- Coordinates **inter-service procurement priorities**.

Incorrect Statement: (3) DAC is **not chaired by the Chief of Defence Staff**.

Conclusion: Option (a) is correct.

35) **Correct Answer:** (a) 1, 2, 3 and 4

Rights Under the Forest Rights Act (FRA), 2006

Recognized Rights:

1. **Self-cultivation** – Individual right
2. **Fishing in village tanks** – Community right
3. **Access to traditional knowledge and intellectual property** – Community right
4. **Access to forest products for livelihood** – Community right

Objective of FRA: To correct **historical exclusion** of forest-dwelling communities and affirm their **customary rights**.

Conclusion: Option (a) is correct.

36) **Correct Answer:** (d)

Kariyachalli Island and Gulf of Mannar

Environmental Concern: **Kariyachalli Island**, located within the **Gulf of Mannar Marine National Park** (Tamil Nadu), is witnessing **gradual sinking** due to **coastal erosion** and **sea-level rise**.

Key Points:

- **Uninhabited** and ecologically significant.
- The island's degradation is linked to **natural environmental processes**, not merely its **geographical location**.

Conclusion: Option **(d)** is correct – the island's submergence is due to environmental factors, not just its location in Tamil Nadu.

37) **Correct Answer:** (c)

Community Forest Resource Rights (CFRR) under FRA

Legal Framework:

- Provided under the **Forest Rights Act (FRA), 2006**.
- Grants **Gram Sabha** the **statutory authority** to manage, protect, and regulate forest use within **Community Forest Resources**.

Key Clarifications:

- **State Forest Department** and **District Collector**: play a **facilitative** or **approval** role.
- **Ministry of Tribal Affairs**: is the **nodal ministry**, not the ground-level governance authority.
- **Gram Sabha**: legally empowered **governing body**.

Conclusion: Option **(c)** is correct – **Gram Sabha** is the rightful authority for CFRR implementation.

38) **Correct Answer:** (d)

Chemical Weapons Convention (CWC)

Overview:

- Adopted in **1992**, came into force in **1997**.
- First multilateral treaty to ensure **elimination of an entire category of WMDs – chemical weapons**.

Key Facts:

- **Implementing Agency: Organisation for the Prohibition of Chemical Weapons (OPCW)**.
- **Global Participation:** 193 member states.
- **Recognition:** OPCW received the **Nobel Peace Prize (2013)**.

Statements Validated:

- (1) India is a signatory.
- (2) CWC mandates complete elimination of chemical weapons.
- (3) OPCW monitors and verifies implementation.

Conclusion: Option **(d)** is correct – all three statements are accurate.

39) **Correct Answer:** (d)

Indian Chemical Council (ICC)

About ICC:

- **India's oldest chemical industry body**; established as a **non-governmental** organization.
- Functions **independently** to support chemical industry standards, compliance, and innovation.

Recent Recognition: 2024: ICC received the **OPCW-The Hague Award** – the first such award to any **industry association globally**.

Analysis of Statements:

- (1) ICC is **not a government body**.
- (2) It is India's **oldest representative body** in the chemical sector.
- (3) First **industry body worldwide** to win the OPCW award.

Conclusion: Option **(d)** is correct – only statements **2 and 3** are true.

40) **Correct Answer:** (c)

Kashmiri Pashmina Shawl

Origin & Material: Made from the **undercoat of the Changthangi goat**, found in **Ladakh**, not mainland Kashmir.

Craftsmanship: Involves **hand spinning, weaving**, and often **fine embroidery** – reflects centuries-old traditions.

Legal Protection: Awarded **Geographical Indication (GI) tag** for its **unique quality and origin**.

Global Significance: Recognized for its **softness, warmth, cultural heritage**, and is a **luxury textile item** globally.

Statement Validation:

- (1) True – sourced from Changthangi goat.
- (2) True – GI tag has been granted.

Conclusion: Option **(c)** is correct – both statements are valid.

41) **Correct Answer:** (a)

Alluri Sitaram Raju and the Rampa Rebellion

Historical Context:

- **Alluri Sitaram Raju** led the **Rampa (Manyam) Rebellion (1922–1924)** against **British colonial policies** in the tribal regions of **Andhra Pradesh**.
- Influenced by **Mahatma Gandhi** and the **Non-Cooperation Movement**, but he adopted **armed resistance**.

Key Features:

- Nicknamed **"Manyam Veerudu"** (Hero of the Jungle).
- Promoted **Khadi, boycott of British institutions**, and **tribal rights**.

Option-wise Analysis:

- (a) **Correct** – He led the **Rampa Rebellion**.
- (b) **Incorrect** – Champaran Satyagraha was led by **Gandhiji** in Bihar (1917).
- (c) **Incorrect** – Bardoli Satyagraha was led by **Sardar Patel** in Gujarat (1928).
- (d) **Incorrect** – Kheda Satyagraha was also led by **Gandhiji** in Gujarat (1918).

Conclusion: (a) **Rampa Rebellion** is the correct match.

42) **Correct Answer:** (b)

Variable Rate Reverse Repo (VRRR)

Definition & Objective:

- A **monetary tool** used by **RBI** to **absorb excess liquidity** from the banking system.
- It involves **auction-based reverse repo operations** with **variable interest rates**.

Mechanism:

- Unlike the fixed reverse repo, in **VRRR**, banks **bid** the interest rate in RBI-conducted auctions.
- Helps **manage inflation, short-term liquidity**, and **money supply**.

Option-wise Analysis:

- (a) ✗ Describes liquidity injection, opposite of VRRR's absorption function.
- (b) ✓ Correct – It absorbs excess liquidity with market-determined rates.
- (c) ✗ Misrepresents VRRR as a government bond, which it is not.
- (d) ✗ Describes fixed-rate lending, whereas VRRR is auction-based absorption.

Conclusion: (b) A method used by RBI to absorb excess money from banks with market-determined rates.

43) Correct Answer: (c) 2 and 3 only

Girmitiya Community and OCI Provisions

Historical Context:

- Girmitiyas were indentured Indian laborers sent to British colonies (e.g., Fiji, Mauritius, Trinidad) in the 19th–early 20th centuries.
- "Girmit" = "Agreement" (mispronounced by labourers).

Modern Recognition: Indian government plans to create a database of Girmitiya descendants to strengthen diaspora ties.

Statement-wise Analysis:

- (1) ✗ Incorrect – OCI cardholders cannot buy agricultural or plantation land in India.
- (2) ✓ Correct – Girmitiyas were sent to plantations in British colonies under indenture contracts.
- (3) ✓ Correct – OCI card holders enjoy visa-free travel to India.

Conclusion: (c) 2 and 3 only is correct.

44) Correct Answer: (c) 1 and 2 only

India–Africa Relations

Strategic Framework:

- Anchored in South-South Cooperation, India supports Africa's Agenda 2063 and UN reforms.
- India advocated permanent AU membership in the G20 during its 2023 presidency.

Projects & Partnerships:

- India promotes the Asia-Africa Growth Corridor (AAGC) in collaboration with Japan (not China).

Statement-wise Analysis:

- (1) ✓ Correct – India championed AU's G20 permanent membership in 2023.
- (2) ✓ Correct – India supports Africa's Agenda 2063 for inclusive growth.
- (3) ✗ Incorrect – AAGC is an India–Japan initiative, not involving China.

Conclusion: (c) 1 and 2 only is correct.

45) Correct Answer: (b) 1 and 3 only

RECLAIM Framework – Mine Closure & Community Development

Overview:

- Developed by Coal Controller Organisation under Ministry of Coal with Heartfulness Institute.
- Focuses on mine closure, repurposing, and community engagement.

Key Objectives: Integrates social development, environmental restoration, and inclusive engagement with affected communities.

Statement-wise Analysis:

- (1) ✓ Correct – Developed in partnership with Heartfulness Institute.
- (2) ✗ Incorrect – Community engagement is central to the RECLAIM framework, not excluded.
- (3) ✓ Correct – Provides a structured guide for community engagement during and after mine closure.

Conclusion: (b) 1 and 3 only is correct.

46) Correct Answer: (d) 1, 2 and 3

India–Africa Relations and Strategic Framework

Context:

- India's ties with Africa have evolved from historical solidarity to a comprehensive strategic partnership, including trade, security, infrastructure, and multilateral advocacy.

Key Pillars:

- **Asia-Africa Growth Corridor (AAGC):** A joint India–Japan initiative promoting developmental connectivity in Africa.
- **Multilateral Advocacy:** India champions reformed multilateralism, especially greater African representation in bodies like UNSC (aligned with Ezulwini Consensus).
- **Strategic Vision:** Shift from Vision SAGAR to Vision MAHASAGAR, encompassing the Global South.

Statement-wise Analysis:

- (1) ✓ AAGC is a collaborative project between India and Japan for sustainable growth in Africa.
- (2) ✓ India has demanded African inclusion in international institutions including the UNSC.
- (3) ✓ India's Africa policy is now informed by Vision MAHASAGAR for broader regional cooperation.

Conclusion: ✓ (d) 1, 2 and 3 is correct.

47) Correct Answer: (c) 1, 2 and 3

UMEED Portal – Waqf Property Digital Governance

Objective: UMEED stands for Unified Waqf Management, Empowerment, Efficiency and Development, a digital platform to manage Waqf properties across India.

Features:

- Developed under the UMEED Rules, 2025.
- Enables geo-tagging, GIS mapping, digital inventory, and public access.
- Includes online grievance redressal for accountability.

Statement-wise Analysis:

- (1) ✓ Portal includes a grievance redressal system to address Waqf-related complaints.

- (2) It aims to **digitize and geo-tag all Waqf properties** across India.
- (3) Public access to **verified records and reports** is part of its transparency model.

Conclusion: (c) 1, 2 and 3 is correct.

48) **Correct Answer:** (a) 2 and 3 only

Petroleum and Natural Gas Regulatory Board (PNGRB)

Legal Status: Statutory body under the PNGRB Act, 2006.

Mandate:

- Regulates **transportation, storage, marketing** of petroleum products and natural gas.
- Does **not regulate crude oil production**.
- **Consumer protection, market development, and fair competition** are core goals.

Appellate Mechanism:

- Appeals are heard by the **Appellate Tribunal for Electricity** under the **Electricity Act, 2003**.

Statement-wise Analysis:

- (1) Incorrect – **Production of crude oil** is **outside** PNGRB's regulatory purview.
- (2) Correct – Appeals go to the **Electricity Tribunal**.
- (3) Correct – PNGRB is formed under a **specific Act of Parliament** (2006).

Conclusion: (a) 2 and 3 only is correct.

49) **Correct Answer:** (c) Both 1 and 2

The Sevilla Commitment and SDG Financing

Context: The **Sevilla Commitment** is a **consensus-based international framework** focusing on **financing Sustainable Development Goals (SDGs)**.

Significance:

- First global financing commitment since the **Addis Ababa Action Agenda (2015)**.
- Aims to **mobilize resources** and **bridge the financing gap** for developing countries.

Statement-wise Analysis:

- (1) Correct – It is the **first post-2015 global financing** framework.
- (2) Correct – Targets the **SDG financing gap** in developing nations.

Conclusion: (c) Both 1 and 2 is correct.

50) **Correct Answer:** (c) 1, 2 and 3

Chenab River – Geographical and Historical Dimensions

Origin & Course:

- Formed by the confluence of **Chandra and Bhaga rivers** at **Bara Lacha Pass**.
- Major part of the **Indus River System**.

Geological Feature: Flows through a **structural trough** between the **Great Himalayas** and **Pir Panjal ranges**.

Vedic and Historical Names: Known as **Chandrabhaga, Ashkini, and Iskmati** in ancient texts.

Statement-wise Analysis:

- (1) Correct – Chenab originates at **Bara Lacha Pass**.
- (2) Correct – Ancient names include **Chandrabhaga and Ashkini**.
- (3) Correct – Valley is formed as a **structural trough**.

Conclusion: (c) 1, 2 and 3 is correct.