

# Solutions

DATE : 11<sup>th</sup> Aug- 17<sup>th</sup> Aug

1) Answer:  (b) An international, independent medical humanitarian organization founded in France in 1971

**Detailed Explanation:**

## 1. Topic in Focus

- **Médecins Sans Frontières (MSF)** is a renowned **independent, international medical humanitarian organization**.
- Founded in **1971 in France**, it emerged from doctors' response to the **Biafra conflict in Nigeria**.

## 2. Key Aspects

- **Policy Development:** Established on the principle of **medical neutrality, impartiality, and independence**.
- **Key Features:**
  - Provides **emergency medical care** during conflicts, disasters, and epidemics.
  - Operates **independently of governments, military, or political groups**.
  - Recipient of **1999 Nobel Peace Prize**.
- **Implementation Context:** Offers healthcare **irrespective of race, religion, or politics**.
- **Current Significance:** Plays a **critical role in global health crises**, e.g., Ebola outbreak, war zones (Syria, Sudan, Yemen).

## 3. Analysis of Options

- (a)  Not an intergovernmental disaster risk agency.
- (b)  Correct – International humanitarian medical NGO, independent since 1971.
- (c)  Not a part of WHO.
- (d)  Not a UN body; functions independently.

**Conclusion:** MSF epitomizes **medical humanitarianism** through **independent, rapid, and impartial healthcare delivery** in crisis regions.

2) Answer:  (b) Developing technologies for deep ocean exploration and promoting the Blue Economy

## 1. Topic in Focus

- The **Deep Ocean Mission (DOM)** is India's flagship initiative for **deep-sea exploration, resource utilization, and sustainable marine development**.
- Launched in **2021** by the **Ministry of Earth Sciences (MoES)**.

## 2. Key Aspects

- **Policy Development:**
  - Approved as a **mission-mode project** with an outlay of **₹4077 crore (2021–2026)**.
  - Supports India's goal of building a **Blue Economy**, aligning with **SDG 14 (Life Below Water)**.
- **Key Features:**
  - Six major components:
    1. Deep-sea mining & technology development
    2. Manned submersible (MATSYA-6000)
    3. Biodiversity studies & conservation
    4. Climate services & ocean advisory
    5. Ocean energy & desalination (OTEC)
    6. Marine biology research infrastructure
- **Implementation Context:**
  - Involves **national research institutes (NIOT, NCPOR, INCOIS)**, **international collaborations**, and **industry participation**.
- **Current Significance:**
  - Enhances **resource security** (minerals, rare earths).
  - Strengthens **scientific research capacity**.
  - Helps mitigate **climate change impacts**.
- **Broader Impact:**
  - Boosts India's role in **global ocean governance**.
  - Provides a balance between **resource utilization and marine ecosystem conservation**.

## 3. Analysis of Options

- (a)  Incorrect – Not focused on inland freshwater resources.
- (b)  Correct – Aims at **deep ocean exploration + Blue Economy promotion**.

- (c)  Incorrect – Not about regulating maritime boundaries.
- (d)  Incorrect – Unrelated to naval defense base establishment.

3) Answer:  (a) I only

**Detailed Explanation:**

#### 1. Topic in Focus

- The **Sudarshan Chakra Mission** is a newly announced Indian national security initiative aimed at safeguarding **critical civil and defense assets**.
- Its framework includes **modernizing protection systems** and developing **dual-use (defensive + offensive) capabilities** by 2035.

#### 2. Key Aspects

- **Policy Background:** Announced to tackle **modern asymmetric security threats**.
- **Implementation Mechanism:**
  - Focus on **integrating AI, drones, missile-defense, and cyber capabilities**.
  - Protects **power grids, nuclear facilities, defense establishments**.
- **Current Relevance:** Rising threats like **cyberattacks, terrorism, unmanned warfare** make it crucial.
- **Broader Impact:**
  - Strengthens **strategic autonomy**.
  - Enhances **deterrence capacity and rapid-response ability**.

#### 3. Analysis of Statements

- (I)  Correct – Mission aims for **technological upgrades by 2035**.
- (II)  Incorrect – Not limited to neutralization; includes **counterstrike capabilities** as well.

**Conclusion:** The mission reflects India's transition from **defensive posture to proactive security doctrine**, focusing on **future-readiness**.

4) Answer:  (d) II, III and IV only

**Detailed Explanation:**

#### 1. Topic in Focus

- **SLINEX** (Sri Lanka-India Naval Exercise) is a **bilateral maritime exercise** started in **2005**.
- Integral to India's **Neighbourhood First Policy** and **MAHASAGAR initiative (Mutual and Holistic Advancement for Security and Growth Across Regions)**.

#### 2. Key Aspects

- **Policy Background:** Initiated for **defense cooperation and regional maritime security**.
- **Implementation Mechanism:**
  - Conducted regularly with **naval ships, aircraft, and joint drills**.
  - Focuses on **anti-submarine warfare, air defense, maritime interdiction, and communication drills**.
- **Current Relevance:**
  - Strengthens **trust and operational synergy**.
  - Ensures **safe sea-lanes in the Indian Ocean Region (IOR)**.
- **Broader Impact:**
  - Counters threats like **piracy, terrorism, trafficking, and disaster response**.
  - Enhances **India-Sri Lanka defense ties**.

#### 3. Analysis of Statements

- (I)  Incorrect – Specific ships like INS Rana & INS Jyoti are not defining features.
- (II)  Correct – Linked to **Neighbourhood First & MAHASAGAR**.
- (III)  Correct – Initiated in **2005**.
- (IV)  Correct – Aims at **interoperability and cooperation**.

**Conclusion:** SLINEX is a **vital maritime confidence-building measure**, reinforcing **India's regional leadership** in the IOR.

5) Answer:  (b) I, II and III

**Detailed Explanation**

#### 1. Topic in Focus

- The **Permanent Court of Arbitration (PCA)** is an **intergovernmental organization** facilitating **arbitration, conciliation, and fact-finding** in international disputes.
- Established in **1899 at the First Hague Peace Conference** through the *Convention for the Pacific Settlement of International Disputes*.

## 2. Key Aspects

- **Policy Background:** Created as one of the **oldest global dispute resolution bodies**.
- **Key Features:**
  - Treaty-based; **125 contracting parties** (India included).
  - Provides **neutral forum** for disputes involving **states, IGOs, and private parties**.
  - **Headquarters:** Peace Palace, The Hague, Netherlands.
- **Current Relevance:** Frequently adjudicates cases on **maritime boundaries, investment, and treaty obligations**(e.g., India vs. Bangladesh maritime dispute).

## 3. Analysis of Statements

- (I)  India is a contracting party.
- (II)  Established in 1899 by convention.
- (III)  Headquartered at The Hague.

**Conclusion:** PCA is a **pillar of peaceful international conflict resolution**, symbolizing the **global commitment to diplomacy over litigation**.

**6) Answer:**  (b) II and III only

## Detailed Explanation

### 1. Topic in Focus

- The **Deep Ocean Mission (DOM)** is India's **flagship Blue Economy initiative**, launched in **2021** under the **Ministry of Earth Sciences**.
- Aims to **explore deep-sea resources**, develop **indigenous technology**, and promote **sustainable marine development**.

## 2. Key Aspects

- **Policy Background:** Not under Defence, but Earth Sciences.
- **Implementation Mechanism:**
  - Includes **manned submersible (MATSYA-6000)**, **deep-sea mining systems**, **biodiversity studies**, and **OTEC-based desalination plants**.
  - Duration: **5 years (2021-2026)**.
- **Current Relevance:** Ensures **resource security**, climate resilience, and tech-driven **self-reliance**.
- **Broader Impact:** Enhances India's position in **global ocean governance**.

## 3. Analysis of Statements

- (I)  Incorrect – Not Defence Ministry, but Earth Sciences.
- (II)  Correct – 5 years, not 10.
- (III)  Correct – OTEC desalination included.

**Conclusion:** DOM strengthens India's **marine research ecosystem** and aligns with **sustainable development goals (SDGs)**.

**7) Answer:**  (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

## Detailed Explanation

### 1. Topic in Focus

- The **GST Council** is the **apex constitutional body** that decides on **rates, exemptions, and administration** of GST in India.
- GST implemented in **2017** through the **101st Constitutional Amendment Act**.

## 2. Key Aspects

- **Policy Background:** Subsumed multiple indirect taxes → "One Nation, One Tax".
- **Implementation Mechanism:**
  - Chaired by **Union Finance Minister**.
  - Includes **MoS Finance + state finance ministers** (federal cooperation).
- **Current Relevance:** Decides on **rate revisions, exemptions, IT compliance**.
- **Broader Impact:** Improved **ease of doing business**, compliance, and **revenue buoyancy**.

## 3. Analysis of Statements

- Statement-I  Correct – GST Council manages GST framework.
- Statement-II  Correct – GST enabled by 101st Amendment.
- Link: Statement-II **explains** Statement-I.

**Conclusion:** GST Council embodies **cooperative federalism**, making tax administration **dynamic and inclusive**.

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

#### Detailed Explanation

##### 1. Topic in Focus

- DOM represents India's **scientific and economic push into ocean resource exploration**.
- Links **research, technology, and sustainability** in marine ecosystems.

##### 2. Key Aspects

- Policy Background:** 2021 launch under Earth Sciences.
- Implementation Mechanism:**
  - Six components: **deep-sea mining, biodiversity, manned submersibles, OTEC desalination, marine stations, climate services**.
  - MATSYA-6000 submersible** development is ongoing.
- Current Relevance:** Boosts **Blue Economy, climate adaptation, marine research**.
- Broader Impact:** Resource security + innovation.

##### 3. Analysis of Statements

- Statement-I  Correct – Promotes Blue Economy.
- Statement-II  Correct – Developing manned submersible is central to mission.
- Link: Statement-II **explains** Statement-I.

**Conclusion:** DOM is a **holistic marine initiative**, balancing **resource extraction and ecological sustainability**.

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

#### Detailed Explanation

##### 1. Topic in Focus

- The **employment incentive scheme** promotes **formal job creation** and provides **financial incentives** to both employees and employers.

##### 2. Key Aspects

- Policy Background:** Ministry of Labour & Employment initiative, post-pandemic recovery.
- Implementation Mechanism:**
  - Part A:** Incentives for **first-time employees** (EPFO-registered, salary  $\leq$  ₹1 lakh/month).
  - Part B:** Incentives to **employers hiring eligible workers**.
- Current Relevance:** Tackles **job losses, informality, and economic slowdown**.
- Broader Impact:** Strengthens **social security, savings culture, and demand-side growth**.

##### 3. Analysis of Statements

- Statement-I  Correct – Supports both employees and employers.
- Statement-II  Correct – Covers employees up to ₹1 lakh/month.
- But  Statement-II is a **fact, not an explanation** of Statement-I.

**Conclusion:** The scheme is a **dual-benefit employment booster**, strengthening **India's labour market formalization**.

10) Answer:  (d) Stress due to changes in temperature, light, or nutrients

#### Detailed Explanation

##### 1. Topic in Focus

- Coral bleaching** is caused when **zooxanthellae (symbiotic algae)** are expelled due to **environmental stress**.
- Without algae, corals lose both **color** and **nutrition**, making them vulnerable to disease and death.

##### 2. Key Aspects

- Policy Context:** Coral reefs are protected under **national (Wildlife Protection Act)** and **international frameworks (CBD, Paris Agreement)**.
- Implementation:**
  - Marine Protected Areas (e.g., Gulf of Mannar).
  - Coral restoration projects.
  - Climate adaptation policies.
- Current Relevance:** Severe bleaching in **Great Barrier Reef & Ningaloo Reef (Australia, 2024–25)** due to **marine heatwaves**.
- Broader Impact:**
  - Ecological:** Threatens biodiversity.
  - Economic:** Impacts fisheries & tourism.
  - Social:** Affects coastal livelihoods.

### 3. Analysis of Options

- (a)  Polluted runoff is a factor but not the primary cause.
- (b)  Overfishing weakens reefs but doesn't cause bleaching.
- (c)  Physical destruction (like dredging) damages reefs but not bleaching.
- (d)  Correct – **Temperature rise, light fluctuations, and nutrient stress** are the main causes.

**Conclusion:** Coral bleaching is a **climate-driven ecological crisis**, demanding **global climate action** alongside local conservation.

**11) Answer:**  (d) A volcanic island in the Southeastern Pacific Ocean, designated as a UNESCO World Heritage Site

### Detailed Explanation

#### 1. Topic in Focus

- **Easter Island** is famous for its **Moai statues** and **volcanic origin**.
- It is a **special territory of Chile**, located in the **SE Pacific Ocean**.

#### 2. Key Aspects

- **Policy Development:** Recognized as a **UNESCO World Heritage Site (1995)**.
- **Key Features:**
  - Formed by **three extinct volcanoes**.
  - Isolated location ~3,500 km west of Chile.
- **Implementation Context:** Conservation focuses on **archaeological heritage & ecology**.
- **Current Relevance:** Facing **climate change threats** such as sea level rise and coastal erosion.

### 3. Analysis of Options

- (a)  Not a continental landmass east of Australia.
- (b)  Not a coral atoll or in Indian Ocean.
- (c)  Not under Hawaii's jurisdiction.
- (d)  Correct – Volcanic island in SE Pacific, UNESCO protected.

**Conclusion:** Easter Island is a **unique heritage site**, blending **cultural archaeology with environmental challenges**.

**12) Answer:**  (b) II only

### Detailed Explanation

#### 1. Topic in Focus

- **EDE** is a structure formed when **envelope (E) proteins** of dengue virus form a **dimer**.
- Recognized by **neutralizing antibodies**, making it critical for **immunity and vaccine design**.

#### 2. Key Aspects

- **Policy Context:** Advances in **immunology** support dengue vaccine development.
- **Implementation:** Target for **EDE-specific monoclonal antibodies**.
- **Current Relevance:** Guides **broad-spectrum dengue vaccines** effective against multiple strains.
- **Broader Impact:** Supports **global dengue control & immune profiling**.

### 3. Analysis of Statements

- (I)  Incorrect – EDE is formed in **dimer structures**, not linear.
- (II)  Correct – EDE is a **distinct dengue virus epitope** recognized by antibodies.

**Conclusion:** EDE is a **molecular key for dengue vaccine research**, offering hope for **cross-protective immunity**.

**13) Answer:**  (c) II, III and IV only

### Detailed Explanation

#### 1. Topic in Focus

- NGT is a **specialized judicial body** for **environmental adjudication**, established under **NGT Act, 2010**.

#### 2. Key Aspects

- **Policy Background:** India's response to **growing environmental disputes**.
- **Implementation:**

- Has powers of a civil court.
- Not bound by **CPC 1908 or Evidence Act 1872** – follows **natural justice**.
- **Current Relevance:** Landmark rulings on **Yamuna pollution, air quality, mining restrictions**.
- **Broader Impact:** Balances **sustainable development & environmental protection** (linked to **Article 21 – right to healthy environment**).

### 3. Analysis of Statements

- (I)  Incorrect – Not bound by CPC/Evidence Act.
- (II)  Members hold office for **5 years, no reappointment**.
- (III)  Chairperson = **SC Judge or HC Chief Justice**.
- (IV)  Established under **NGT Act, 2010**.

**Conclusion:** NGT is a **guardian of environmental justice**, though challenged by **vacancies, enforcement gaps, and developmental pressures**.

**14) Answer:**  (d) III and IV only

### Detailed Explanation

#### 1. Topic in Focus

- India's **IOR strategy** centers on **security, stability, and inclusive growth**.
- Anchored in **SAGAR (2015)** and extended via **MAHASAGAR 2025**.

#### 2. Key Aspects

- **Policy Context:** SAGAR = "Security and Growth for All in the Region."
- **Key Components:**
  - **Joint EEZ patrols** with Maldives, Seychelles, Mauritius.
  - **IFC-IOR Gurugram** for maritime domain awareness.
  - Participation in **IORA, BIMSTEC, Quad**.
- **Current Relevance:** Counters **piracy, trafficking, climate threats**.
- **Broader Impact:** Enhances **India's maritime influence** and supports a **rules-based Indo-Pacific order**.

### 3. Analysis of Statements

- (I)  Incorrect – MAHASAGAR not limited to Global South focus.
- (II)  Incorrect – IFC-IOR covers **maritime security broadly**, not just trade.
- (III)  Correct – Joint EEZ patrols with Mauritius, Seychelles, Maldives.
- (IV)  Correct – Indo-Pacific Policy emphasizes **rules-based maritime order**.

**Conclusion:** India's maritime vision combines **regional partnerships + multilateralism**, reinforcing India as a **net security provider in the IOR**.

**15) Answer:**  (a) II only

### Detailed Explanation

#### 1. Topic in Focus

- Coral reefs are **calcium carbonate marine ecosystems** supporting immense biodiversity.
- They are of **three types: fringing reefs, barrier reefs, and atolls**.
- Coral bleaching occurs due to **environmental stress** leading to expulsion of **zooxanthellae** (symbiotic algae).

#### 2. Key Aspects

- **Policy Context:** Protected under **UNESCO World Heritage (Great Barrier Reef)**, **CBD**, and national coastal regulations.
- **Implementation:** Marine Protected Areas, monitoring, pollution control, restoration programs.
- **Current Relevance:** **Marine heatwaves** have caused bleaching events worldwide.
- **Broader Impact:** Affect fisheries, tourism, shoreline protection, and local livelihoods.

### 3. Analysis of Statements

- (I)  Atolls are not shore-attached; **fringing reefs** are attached.
- (II)  Correct – The **Great Barrier Reef** is a **classic barrier reef** separated from land by a lagoon.
- (III)  Zooxanthellae provide most food, but corals also feed on plankton.

**Conclusion:** Coral reefs are **sensitive indicators of ocean health**, and barrier reefs like the Great Barrier Reef are under **serious threat from climate change**.

16) Answer:  (d) I and II only

#### Detailed Explanation

##### 1. Topic in Focus

- IN-SPACe (Indian National Space Promotion and Authorization Centre) enables **private sector participation** in India's space sector.
- Under **Indian Space Policy 2023**, private consortia can **own, manufacture, and operate EO satellites**.

##### 2. Key Aspects

- **Policy Context:** Government shift toward **space privatization & innovation**.
- **Implementation:** Private ownership + multisensor payloads (panchromatic, hyperspectral, SAR).
- **Current Relevance:** Applications in **agriculture, disaster management, climate monitoring**.
- **Broader Impact:** Boosts **data sovereignty, innovation, and global space competitiveness**.

##### 3. Analysis of Statements

- (I)  Correct – Provides analysis-ready EO data for agriculture & disasters.
- (II)  Correct – Equipped with advanced **multisensor & SAR payloads**.
- (III)  Incorrect – Ownership lies with **private consortia**, not government alone.

**Conclusion:** IN-SPACe marks India's **transition to a collaborative space economy**, strengthening **Atmanirbhar Bharat** in space tech.

17) Answer:  (d) I and III only

#### Detailed Explanation

##### 1. Topic in Focus

- RBI's **Framework for Responsible and Ethical Enablement of AI (FREE-AI)** guides AI use in financial services.
- Balances **innovation with risk management**.

##### 2. Key Aspects

- **Policy Context:** Inspired by **global AI ethics frameworks** but contextualized for India's financial sector.
- **Implementation:** 7 Sutras: **fairness, accountability, explainability, transparency, inclusivity, safety, auditability**.
- **Current Relevance:** Addresses **AI bias, cybersecurity risks, and systemic vulnerabilities**.
- **Broader Impact:** Supports **digital finance trust, financial inclusion, and safe AI adoption**.

##### 3. Analysis of Statements

- (I)  Correct – 7 Sutras include fairness, accountability, explainability.
- (II)  Incorrect – Framework encourages **responsible innovation**, not blanket restraint.
- (III)  Correct – Seeks **innovation + risk mitigation** (bias & cybersecurity).

**Conclusion:** FREE-AI ensures AI adoption in finance remains **trustworthy, ethical, and inclusive**, aligning with India's **digital economy vision**.

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

#### Detailed Explanation

##### 1. Topic in Focus

- Coral bleaching occurs when **corals expel zooxanthellae** due to **temperature & stress changes**, leading to **loss of color and nutrition**.

##### 2. Key Aspects

- **Policy Context:** Linked with **CBD, Paris Agreement**, and national marine protection laws.
- **Implementation:** Marine monitoring, restoration projects, coral farming.
- **Current Relevance:** Frequent bleaching in **Great Barrier Reef & Ningaloo Reef (Australia)**.
- **Broader Impact:** Affects **marine biodiversity, fisheries, coastal tourism, and food security**.

##### 3. Analysis of Statements

- Statement-I  Correct – Bleaching = expulsion of algae → loss of color & food source.
- Statement-II  Correct – Environmental stress (temperature, salinity, light) causes algae expulsion.
- Link: Statement-II **explains** Statement-I.

**Conclusion:** Coral bleaching highlights the **fragility of marine ecosystems**, making it a **climate change red flag**.

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

#### Detailed Explanation

##### 1. Topic in Focus

- NGT, established under **NGT Act 2010**, is a **specialized judicial body** for environmental disputes.

##### 2. Key Aspects

- **Policy Context:** Reflects India's commitment to **environmental governance** under **Article 21 (Right to life and environment)**.
- **Implementation:**
  - Powers of civil court.
  - **Not bound** by CPC 1908 & Evidence Act 1872.
  - Follows **principles of natural justice**.
- **Current Relevance:** Adjudicates cases on **pollution, deforestation, mining, waste management**.
- **Broader Impact:** Strengthens **sustainable development + environmental justice**.

##### 3. Analysis of Statements

- Statement-I  Incorrect – NGT is not strictly bound by CPC/Evidence Act.
- Statement-II  Correct – Guided by **principles of natural justice** instead.

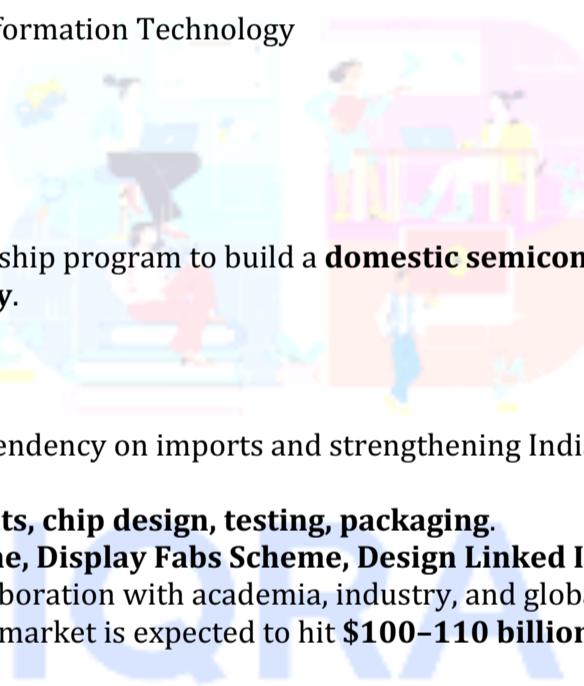
**Conclusion:** NGT is India's **green watchdog**, though it faces **challenges of enforcement, vacancies, and balancing growth with conservation**.

20) Answer:  (d) Ministry of Electronics and Information Technology

#### Detailed Explanation

##### 1. Topic in Focus

- **India Semiconductor Mission (ISM)** is a flagship program to build a **domestic semiconductor & display manufacturing ecosystem**.
- Approved in **2021 with ₹76,000 crore outlay**.



##### 2. Key Aspects

- **Policy Development:** Aimed at reducing dependency on imports and strengthening India's position in the **global electronics value chain**.
- **Key Features:**
  - Financial support for **fabs, display units, chip design, testing, packaging**.
  - Schemes: **Semiconductor Fabs Scheme, Display Fabs Scheme, Design Linked Incentive (DLI)**.
- **Implementation:** Executed by **MeitY**, in collaboration with academia, industry, and global partners.
- **Current Significance:** India's semiconductor market is expected to hit **\$100–110 billion by 2030**.

##### 3. Analysis of Options

- (a)  Not under Ministry of Skill Development.
- (b)  Not under Heavy Industries.
- (c)  Not under Science & Technology.
- (d)  Correct – Implemented by **MeitY**.

**Conclusion:** ISM is vital for **Atmanirbhar Bharat**, ensuring **tech self-reliance, supply-chain resilience, and global competitiveness**.

21) Answer:  (c) State drug regulatory systems

#### Detailed Explanation

##### 1. Topic in Focus

- **SHRETH (State Health Regulatory Excellence Index)** is a benchmarking framework to evaluate **state drug regulatory authorities**.

##### 2. Key Aspects

- **Policy Development:** Developed by **CDSCO** under the **Union Health Ministry**.
- **Key Features:** Benchmarks across **5 themes**:
  - Human Resources
  - Infrastructure
  - Licensing Activities
  - Surveillance
  - Responsiveness
- **Implementation:** Provides comparative data → identifies **strengths, gaps, and best practices**.
- **Current Relevance:** Strengthens **drug safety, quality, and accountability**.

### 3. Analysis of Options

- (a)  Not about hospital accreditation.
- (b)  Not about medical curriculum reform.
- (c)  Correct – Focuses on **drug regulatory systems**.
- (d)  Not limited to rural health.

**Conclusion:** SHRETH fosters **uniformity in drug regulation**, critical for **public health safeguards and pharma credibility**.

**22) Answer:**  (d) Arunachal Pradesh

### Detailed Explanation

#### 1. Topic in Focus

- Tato-II HEP is a **700 MW hydro project** located in **Shi Yomi district, Arunachal Pradesh**.

#### 2. Key Aspects

- **Policy Development:** Approved by **Cabinet Committee on Economic Affairs (CCEA)**.
- **Key Features:**
  - Capacity: **700 MW**.
  - Energy generation: **2738.06 MU annually**.
  - Implemented through **NEEPCO + Arunachal Government JV**.
- **Current Significance:**
  - Harnesses Arunachal's vast **hydropower potential**.
  - Supports **clean energy goals & regional development**.

### 3. Analysis of Options

- Correct location = **Arunachal Pradesh**.

**Conclusion:** Tato-II boosts **Northeast development, clean energy security, and climate commitments**.

**23) Answer:**  (a) Degrades polyethylene terephthalate (PET) plastic

### Detailed Explanation

#### 1. Topic in Focus

- **Ideonella sakaiensis** is a **plastic-degrading bacterium** discovered in Japan near a recycling facility.

#### 2. Key Aspects

- **Policy Development:** Breakthrough in addressing **plastic waste crisis**.
- **Key Features:**
  - Produces **enzymes (PETase, MHETase)**.
  - Breaks down PET into **environmentally safe components**.
- **Current Relevance:** Offers solutions for **circular economy & waste management**.
- **Broader Impact:** Could reduce **plastic pollution burden globally**.

### 3. Analysis of Options

- (a)  Correct – Degrades PET.
- (b)  Not linked to vaccines.
- (c)  Not nitrogen-fixing.
- (d)  Does not produce antibiotics.

**Conclusion:** This bacterium provides **biotechnological hope** in the global fight against **plastic pollution**.

**24) Answer:**  (a) A permanent 12-digit number assigned to each student

### Detailed Explanation

#### 1. Topic in Focus

- **APAAR (Automated Permanent Academic Account Registry)** is part of **NEP 2020 vision** – “One Nation, One Student ID.”

#### 2. Key Aspects

- **Policy Development:** Implemented by **Ministry of Education**, mandated by **CBSE (2024-25)**.
- **Key Features:**

- 12-digit permanent ID for students.
- Stores academic records across schools/universities.
- Applies from **Classes 9–12** onward.
- **Current Relevance:** Helps in student mobility, record-keeping, and data transparency.
- **Broader Impact:** Facilitates education reforms, tracking, and policy planning.

### 3. Analysis of Options

- (a)  Correct – Permanent 12-digit student ID.
- (b)  Not a temporary exam code.
- (c)  Not an online school management portal.
- (d)  Not a biometric system for teachers.

**Conclusion:** APAAR ID is a **game-changer in academic digitization**, ensuring **seamless student tracking and data integration**.

25) **Answer:**  (d) An independent group of global leaders founded by Nelson Mandela

### Detailed Explanation

#### 1. Topic in Focus

- **The Elders** is an independent group of global leaders founded in **2007** by **Nelson Mandela**.
- Aims to promote **peace, justice, human rights, and ethical leadership**.

#### 2. Key Aspects

- **Policy Development:** Emerged from the need for a **respected, non-partisan voice** in global diplomacy.
- **Key Features:**
  - Independent and non-governmental.
  - Membership includes **statesmen, women leaders, human rights advocates**.
- **Implementation:** Uses **quiet diplomacy + global advocacy** in conflict zones and human rights issues.
- **Current Relevance:** Works on **climate change, conflict mediation, women's rights, multilateralism**.

### 3. Analysis of Options

- (a)  Not a Nobel laureates' network.
- (b)  Not a scientific climate body.
- (c)  Not a UN committee.
- (d)  Correct – Independent group founded by Mandela.

**Conclusion:** The Elders represent **moral authority in global governance**, intervening where **political bodies fail**.

26) **Answer:**  (c) Both I and II

### Detailed Explanation

#### 1. Topic in Focus

- CPI measures **retail inflation** in India.
- Published by **Central Statistical Office (CSO)** under MoSPI.

#### 2. Key Aspects

- **Policy Background:** Used worldwide as a standard inflation indicator.
- **Implementation:**
  - Published **monthly (12th of every month)**.
  - Covers **food, housing, clothing, transport, etc.**
- **Current Relevance:** Key input for **RBI's monetary policy** and **dearness allowance** adjustments.
- **Broader Impact:** Reflects **cost of living** and influences **wage revisions, pensions, and policy planning**.

#### 3. Analysis of Statements

- (I)  Correct – Released monthly by CSO.
- (II)  Correct – Base year = **2012**.

**Conclusion:** CPI is **India's most critical inflation gauge**, linking **policy with household realities**.

27) Answer:  (d)**Detailed Explanation****1. Topic in Focus**

- 'Short transfer' refers to not transferring the **full cess proceeds** to earmarked funds from the **Consolidated Fund of India**.

**2. Key Aspects**

- **Policy Background:** Cesses = **specific-purpose taxes** (education, infrastructure, health).
- **Implementation:**
  - Collected → deposited into **Consolidated Fund** → should be credited into **designated reserve funds**.
- **Current Relevance:** **CAG reports** highlight repeated **short transfers**.
- **Broader Impact:** Undermines **fiscal transparency** and weakens targeted schemes.

**3. Analysis of Statements**

- (1)  Incorrect – Cesses are earmarked, not general revenue.
- (2)  Incorrect – Short transfer = **failure to transfer full proceeds**, not direct transfer without earmarking.

**Conclusion:** Short transfer reflects **weakness in fiscal discipline and accountability**, undermining **trust in public finance management**.28) Answer:  (b)**Detailed Explanation****1. Topic in Focus**

- **CPI = retail inflation (household level).**
- **WPI = wholesale inflation (traders, industries).**

**2. Key Aspects**

- **Policy Background:** Both indices crucial for **inflation analysis**.
- **Implementation:**
  - CPI gives **higher weight to food items**.
  - WPI gives **higher weight to fuel & manufactured goods**.
- **Current Relevance:**
  - CPI = used for **inflation targeting** by RBI.
  - WPI = used for **industrial/trade trends**.

**3. Analysis of Statements**

- (1)  Incorrect – Food has higher weight in **CPI**, not WPI.
- (2)  Correct – CPI is used for **DA calculation** and inflation measurement.

**Conclusion:** CPI = **people's inflation**, WPI = **industry inflation**; both serve **different policy needs**.29) Answer:  (b)**Detailed Explanation****1. Topic in Focus**

- **UPI = India's real-time digital payment system**, developed by **NPCI**.
- Supports both **push & pull transactions**.

**2. Key Aspects**

- **Policy Development:** Launched to promote **cashless economy**.
- **Key Features:**
  - **Push = payer-initiated** (sending money).
  - **Pull = beneficiary-initiated**, requires payer's PIN (request money).
- **Current Relevance:** India leads globally in **digital payment volumes**.
- **Broader Impact:** Enhances **financial inclusion, transparency, and digital literacy**.

**3. Analysis of Statements**

- (1)  Incorrect – NPCI allows **both push & pull transactions**.
- (2)  Correct – **Pull = beneficiary-initiated**, needs payer approval.
- (3)  Incorrect – **Push = payer-initiated**, not payee-initiated.

**Conclusion:** UPI is the **backbone of India's digital economy**, revolutionizing payments through **speed, security, and inclusivity**.

30) Answer:  (c) It is the flattest continent on earth

#### Detailed Explanation

##### 1. Topic in Focus

- Australia is the  **flattest continent**, with the **lowest average elevation** among continents.
- Dominated by **plains, deserts, and low plateaus**, lacking extensive mountain ranges or glaciers.

##### 2. Key Aspects

- **Policy Background:** Geography has shaped **settlement, agriculture, and water management**.
- **Key Features:**
  - Vast interior deserts (Great Victoria, Simpson).
  - Low relief, absence of major glaciers.
  - Oldest landmass, heavily weathered.
- **Current Relevance:** Flatness influences **desertification, water scarcity, biodiversity conservation**.
- **Broader Impact:** Affects **climate adaptation, agriculture, and settlement planning**.

##### 3. Analysis of Options

- (a)  No glaciers.
- (b)  Higher elevation continents = Antarctica, Asia.
- (c)  Correct – Flattest continent with lowest mean elevation.
- (d)  Interior = flat, not mountainous.

**Conclusion:** Australia's **flat terrain** makes it **unique but vulnerable**, especially to **climate stress and land degradation**.

31) Answer:  (c) A concrete gravity dam-based hydro project on the Dri and Tangon rivers in Arunachal Pradesh

#### Detailed Explanation

##### 1. Topic in Focus

- The **Etalin Hydroelectric Project (3097 MW)** is in **Dibang Valley, Arunachal Pradesh**.
- Based on **concrete gravity dams** across **Dri and Tangon rivers**.

##### 2. Key Aspects

- **Policy Development:** Cleared by Union Environment Ministry to boost **renewable capacity**.
- **Key Features:**
  - Capacity: 3097 MW.
  - Diversion of **1100+ hectares of forest** in a biodiversity hotspot.
- **Implementation Context:** Joint venture involving **Jindal Power Ltd. & Arunachal government**.
- **Current Relevance:** Sparks debate between **energy security vs. ecological preservation**.

##### 3. Analysis of Options

- (a)  Not tidal, not Gulf of Kutch.
- (b)  Not a solar park.
- (c)  Correct – Hydro project on Dri & Tangon rivers.
- (d)  Not a Brahmaputra run-of-river project.

**Conclusion:** Etalin represents India's **clean energy push**, but also raises **ecological sustainability concerns**.

32) Answer:  (a) Ethics and Medical Registration Board (EMRB)

#### Detailed Explanation

##### 1. Topic in Focus

- **National Medical Register (NMR)** documents licensed **allopathic doctors** in India.
- Established under the **National Medical Commission Act, 2019**.

##### 2. Key Aspects

- **Policy Development:** Section 31(1) of NMC Act.
- **Key Features:**
  - Records names, qualifications, practice addresses.
  - Provides **public access** to ensure transparency.

- **Implementation:** Maintained by EMRB (Ethics & Medical Registration Board).
- **Current Significance:** Supports governance, workforce planning, and public trust.

### 3. Analysis of Options

- (a)  Correct – EMRB maintains the register.
- (b)  CBHI does not manage this.
- (c)  Not NHA's role.
- (d)  MCI abolished in 2020.

**Conclusion:** NMR ensures transparency, accountability, and integrity in India's medical workforce.

33) Answer:  (d) It reduces exchange rate risk for exporters and importers

### Detailed Explanation

#### 1. Topic in Focus

- **Currency internationalization** = use of domestic currency in global trade, finance, and reserves.
- For India, this means expanding the **international role of the rupee**.

#### 2. Key Aspects

- **Policy Development:** Supported by Vostro accounts, bilateral trade in rupee, UPI internationalization.
- **Key Features:**
  - Facilitates trade in local currency.
  - Reduces dependence on US dollar.
- **Current Relevance:** Key for exporters, importers, and financial stability.
- **Broader Impact:** Strengthens financial autonomy, reduces forex vulnerability, supports growth.

### 3. Analysis of Options

- (a)  Not limited to dollar trade.
- (b)  Expands, not limits, domestic currency use.
- (c)  Reduces dependence on forex reserves.
- (d)  Correct – Minimizes exchange rate risk.



**Conclusion:** Internationalization = India's step toward global financial resilience and rupee prominence.

34) Answer:  (c)

### Detailed Explanation

#### 1. Topic in Focus

- Stray dog population management governed by **Animal Birth Control Rules, 2023** under the **PCA Act, 1960**.
- Constitution mandates **compassion for animals (Art. 51A(g))**.

#### 2. Key Aspects

- **Policy Development:** Rules emphasize **humane sterilization and vaccination**.
- **Key Features:** Focus on **rabies prevention** + reducing dog population.
- **Implementation:** Municipalities responsible; citizens also accountable.
- **Current Relevance:** Stray dog attacks & rabies = public health challenge.
- **Broader Impact:** Balances **public safety + animal rights**.

### 3. Analysis of Statements

- (I)  Correct – Sterilization & vaccination prioritized.
- (II)  Correct – Article 51A(g) = compassion duty.

**Conclusion:** The Rules + Constitutional duty reflect India's **humane yet practical approach** to stray dog management.

35) Answer:  (b)

### Detailed Explanation

#### 1. Topic in Focus

- Australia is a **vast island continent** between the **Indian & Pacific Oceans**.
- Known for its **flat terrain, aridity, and absence of glaciers**.

## 2. Key Aspects

- **Policy Background:** Geography shapes **settlement, trade, and climate adaptation policies**.
- **Key Features:**
  - flattest continent, lowest average elevation.
  - No glaciers, unlike Antarctica or Asia.
  - Tropic of Capricorn crosses **northern Australia**, not southern.
- **Current Relevance:** Its physical geography underpins **resource wealth, biodiversity, and environmental challenges**.

## 3. Analysis of Statements

- (1)  Correct – Only continent without glaciers.
- (2)  Incorrect – Tropic of Capricorn passes through **north**, not south.
- (3)  Correct – Located between **Indian & Pacific Oceans**.

**Conclusion:** Australia's **unique geography** makes it both **resource-rich and environmentally fragile**.

36) Answer:  (b)

## Detailed Explanation

### 1. Topic in Focus

- **Mahadayi/Mandovi River** = west-flowing river of **Western Ghats**.
- Subject of water-sharing disputes between **Goa, Karnataka, Maharashtra**.

## 2. Key Aspects

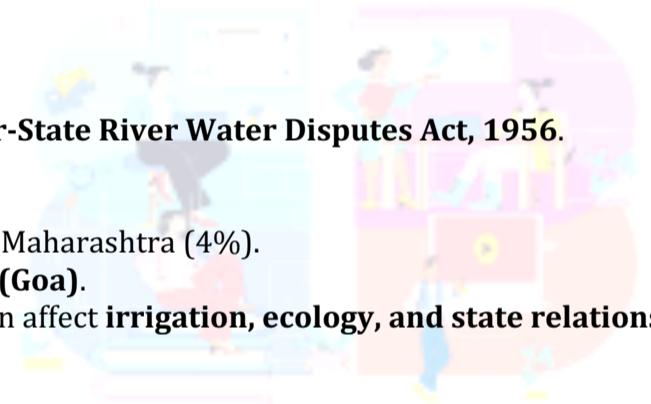
- **Policy Development:** Managed under **Inter-State River Water Disputes Act, 1956**.
- **Key Features:**
  - Origin: **Khanpur, Karnataka**.
  - Basin: Goa (78%), Karnataka (18%), Maharashtra (4%).
  - Empties into **Arabian Sea at Panaji (Goa)**.
- **Current Relevance:** Disputes over diversion affect **irrigation, ecology, and state relations**.

## 3. Analysis of Statements

- (1)  Originates in Karnataka.
- (2)  Largest basin = Goa, not Maharashtra.
- (3)  Flows into Arabian Sea at Panaji.

**Conclusion:** The Mahadayi issue highlights **interstate water conflicts vs ecological sustainability**.

37) Answer:  (c)



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## Detailed Explanation

### 1. Topic in Focus

- **RUPPs** = Parties registered under **Section 29A, RPA 1951** but not recognized as State/National parties.

## 2. Key Aspects

- **Policy Development:**
  - Registration with **Election Commission of India (ECI)**.
  - Recognition requires **electoral performance**.
- **Implementation Context:**
  - ECI cannot de-register under RPA, but can **delist** parties inactive for **6+ years**.
- **Current Relevance:** ECI cleaning up inactive parties → strengthening **electoral integrity**.

## 3. Analysis of Statements

- (1)  Parties inactive for 6 years → can be delisted.
- (2)  RUPPs are registered but lack recognition.

**Conclusion:** RUPPs raise governance challenges but **delisting ensures electoral credibility**.

38) Answer:  (a)**Detailed Explanation****1. Topic in Focus**

- The **Equator Initiative Award** is a **biennial award** by **UNDP** recognizing **local & Indigenous communities**.
- Often called the "*Nobel Prize for Biodiversity Conservation*."

**2. Key Aspects**

- **Policy Development:** Launched by **UNDP**.
- **Key Features:**
  - Biennial (not annual).
  - Focuses on **biodiversity, land restoration, sustainable livelihoods**.
- **Implementation Context:** Promotes **community-led environmental solutions**.
- **Current Relevance:** Supports **grassroots leadership** in addressing **climate change & livelihoods**.

**3. Analysis of Statements**

- (1)  Recognizes Indigenous & local conservation efforts.
- (2)  Presented by UNDP, not UNEP; biennial, not annual.
- (3)  Called "Nobel Prize for Biodiversity."

**Conclusion:** The Award highlights the **role of grassroots actors in global sustainability**.39) Answer:  (c)**Detailed Explanation****1. Topic in Focus**

- CCI = statutory body under **Competition Act, 2002**.
- Ensures **fair competition, prevents monopolies, protects consumers**.

**2. Key Aspects**

- **Policy Development:** Established 2003; operational from 2009.
- **Key Features:**
  - Chairperson + up to 6 members, appointed by **Central Government**.
  - Powers: Prevent anti-competitive agreements, regulate abuse of dominance, mergers, and acquisitions.
- **Current Relevance:** Plays key role in **digital economy regulation** (e.g., Google, Amazon probes).

**3. Analysis of Statements**

- (1)  CCI has statutory functions: prevent anti-competitive practices, protect consumers, promote competition.
- (2)  Members appointed by **Central Government**.

**Conclusion:** CCI is India's **competition watchdog**, ensuring **consumer welfare and market fairness**.40) Answer:  (d) The Hague, Netherlands**1. Topic in Focus**

- The **Permanent Court of Arbitration (PCA)** is a **treaty-based intergovernmental organization** that provides a framework for resolving disputes through **arbitration, conciliation, and fact-finding**.
- Knowing its **headquarters and functions** is crucial for understanding **international law and India's engagement in global dispute resolution**.

**2. Key Aspects**

- **Policy Development:**
  - Established in **1899 at the First Hague Peace Conference**.
  - Represents one of the **oldest international institutions** for peaceful settlement of disputes.
- **Key Features:**
  - Membership: **125 countries** (including India).
  - Provides services for disputes between **states, state entities, intergovernmental organizations, and private parties**.
  - Offers **flexible procedures** to resolve disputes outside of judicial litigation.
- **Implementation Context:**
  - **Headquarters:** Peace Palace, **The Hague, Netherlands**.
  - The Peace Palace also houses the **International Court of Justice (ICJ)** and the **Hague Academy of International Law**, making it a hub of **international justice and diplomacy**.

- **Current Significance:**

- PCA has been involved in high-profile cases, including:
  - **Indus Waters Treaty arbitration** between India and Pakistan.
  - **India-Bangladesh maritime boundary dispute.**
  - Disputes involving investment treaties and resource sharing.

### 3. Analysis of Options

- (a)  Brussels → EU headquarters, not PCA.
- (b)  Vienna → Seat of IAEA, OPEC, UNODC.
- (c)  Geneva → UN Human Rights Council, WHO, WTO.
- (d)  Correct → PCA headquartered at **The Hague, Netherlands**.

### Conclusion

The **PCA**, headquartered in **The Hague**, plays a pivotal role in upholding the principle of **peaceful dispute resolution** in international law, with India actively participating in several of its proceedings.



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