

Solutions

DATE : 26th May- 01st June

1. Correct Answer: (a) It is a type of immunity developed after exposure to specific antigens such as pathogens or vaccines

Explanation:

- **Definition:** Acquired or **adaptive immunity** is a form of immunity that develops **after exposure** to specific pathogens or through **vaccination**.
- **Key Feature:** It is **antigen-specific** and leads to the development of **immunological memory**.
- **Cellular Basis:** Mediated by **B cells** (produce antibodies) and **T cells** (kill infected cells or help other immune cells).
- **Contemporary Relevance:** Widely discussed during **COVID-19**, where immunity through **vaccines and past infections** reduced disease severity.
- **Contrast with Innate Immunity:** Innate immunity is **non-specific** and **present at birth**; acquired immunity is **developed over time**.

2. Correct Answer: (a) Rights that allow an individual to protect and control their image, name, and identity

Explanation:

- **Legal Nature:** Not codified under a single law, but protected through **judicial interpretation** and various statutes like **Copyright Act** and **Trademark Act**.
- **Two Key Aspects:**
 - **Right to Publicity** (linked with **Article 19** of the Constitution)
 - **Right to Privacy** (protected under **Article 21**)
- **Judicial Example:** Delhi High Court protected **Sadhguru's personality rights**, indicating expanding recognition.
- **Scope:** Protects individuals from **unauthorized commercial use** of their persona.
- **Distinction:** Broader than **defamation laws** or **equality before law**.

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

Explanation:

- **Military Leadership:** Formed a **women's army**—a pioneering act in **women's empowerment** in the 18th century.
- **Economic Reforms:** Established the **Maheshwar textile industry**, known today for **Maheshwari sarees**.
- **Political Authority:** Took control of Indore in **1767** after receiving **formal approval from the Peshwa**.
- **Legacy:** Rebuilt temples, practiced welfare-oriented governance, known as the "**Philosopher Queen**."

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

Explanation:

- **Founded:** In **1966**, headquartered in **Manila, Philippines**.
- **Mission:** Promotes **inclusive, resilient, and sustainable** development in **Asia and the Pacific**.
- **Membership:** 69 members, of which **50 are from Asia-Pacific**, showing **regional focus**.
- **Major Shareholders:** **Japan and USA** hold **15.6%** each, followed by **China, India, and Australia**.
- **Current Projects:** Focus on **infrastructure, climate change, and digital inclusion** in India and Southeast Asia.

5. Correct Answer: (c) Both 1 and 2

Explanation:

- **Title:** Known as the "**Philosopher Queen**" due to her **ethical and inclusive governance**.
- **Architectural Legacy:** Built the **Maheshwar Fort (Ahilya Fort)** on the banks of the **Narmada River**.
- **Cultural Revival:** Patronized **temples**, and promoted **textiles** and **infrastructure** for public welfare.

6. Correct Answer: (a) 3 and 4 only

Explanation:

- **Burzahom and Gufkral:** Located in **Kashmir**, known for **pit dwellings** and **bone tools**.
- **Chopani Mando & Koldihwa:** Both are located in the **Ganga Valley (U.P.)**, known for **rice cultivation**.
- **Chronology:** Neolithic age in India roughly spans **6000 BCE–1000 BCE**, marking **agrarian revolution**.
- **Cultural Significance:** Distinct material culture across **Kashmir, Ganga Valley, Deccan, and South India**.

7. Correct Answer: (c) 2 and 3 only

Explanation:

- **Last Stone Age Phase:** Precedes **Chalcolithic (metal age)**; marks **transition from hunting to farming**.

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- **Technological Markers:** Use of **polished stone tools, permanent dwellings, pottery, and animal domestication**.
- **Spread:** Neolithic settlements are not limited to Indo-Gangetic plains; they are found in **Kashmir, South India, and Northeast India**.
- **Significance:** Beginning of **sedentary agriculture** and **village settlements**.

8. Correct Answer: (a) 1, 2 and 3

Explanation:

- **Launched:** In **2024** under **Ministry of Electronics and IT (MeitY)**.
- **Seven Pillars:**
 - **IndiaAI Compute**
 - **Dataset Platform**
 - **Startup Financing**
 - **Innovation Centre**
 - **Applications**
 - **FutureSkills**
 - **Safe & Trusted AI**
- **Centres of Excellence:** Set up in **Healthcare, Agriculture, and Sustainable Cities** to promote sectoral innovation.
- **Compute Infrastructure:** Enhanced with **GPUs** to support AI model development.
- **Vision:** Democratizing AI access and building **sovereign AI capabilities**.

9. Correct Answer: (c) Both 1 and 2

Explanation:

- **Working Mechanism:** Use **concentrated energy** (e.g., lasers, microwaves) instead of traditional **kinetic energy**.
- **Examples:**
 - **Israel:** Iron Beam
 - **USA:** HELIOS, DE M-SHORAD
 - **India:** DRDO's ID&IS Mk2A
- **Applications:** Intercept **drones, missiles, UAVs, artillery shells**.
- **Global Advancement:** All mentioned countries have **actively developed or deployed** DEW systems.
- **Advantages:** **Speed-of-light response, cost-effectiveness, precision targeting**.

10. Correct Answer: (c) Both 1 and 2

Explanation:

- **Propounded by:** Deendayal Upadhyaya in 1965 as a **socio-political philosophy**.
- **Key Concepts:**
 - **Chiti:** Cultural core or soul of the nation that shapes national institutions.
 - **Virat:** Collective identity of the society rooted in its **traditions and ethos**.
- **Human-Centric:** Promotes balance of **body, mind, intellect, and soul**, unlike **Western materialist ideologies**.
- **Relevance:** Offers a **decentralized, culturally grounded, and spiritually inclusive** development model.

11. Correct Answer: (b) A geo-spatial code representing geographic coordinates

Explanation:

- **DIGIPIN** is an **alphanumeric code** based on **latitude and longitude**.
- It is part of the **DHRUVA digital address infrastructure**, developed by the **Department of Posts**.
- Each code represents a **unique 4x4 meter grid** on India's geographical map.
- It does **not replace traditional PIN codes**, but complements them by offering **precision-based geospatial referencing**.
- **Significance:** Enhances **address accuracy**, especially in **rural and underserved areas**, aiding **e-governance and logistics**.

12. Correct Answer: (c) Telangana

Explanation:

- Declared by **Telangana**, the **Kumram Bheem Conservation Reserve** connects the **Kawal Tiger Reserve (Telangana)** and **Tadoba-Andhari Tiger Reserve (Maharashtra)**.
- **Purpose:** Strengthens **tiger corridors**, ensuring **genetic diversity** and facilitating **tiger movement**.
- **Location Significance:** Situated in the **Central Indian Tiger Landscape**.
- Adds ecological value to conservation efforts under **Project Tiger**.

13. Correct Answer: (c) Both 1 and 2

Explanation:

- **DHRUVA** stands for **Digital Address for Every Indian**, a **DPI** under the **Department of Posts**.
- **Statement 1:** Correct – Aims to give a **unique digital address** to every household.
- **Statement 2:** Correct – Facilitates **targeted delivery** of schemes and **inclusive governance** in **underserved areas**.
- **Two Layers:**

- DIGIPIN – Geo-coordinate based code
- Digital Address Layer – Custom label + user interface

14.  **Correct Answer: (a) 2 and 3 only**

Explanation:

- RIC was initiated by **Russia in the 1990s** to balance **Western hegemony** post-Cold War.
- **Statement 1:** Incorrect – RIC countries cover around **19%**, not **over one-third** of global landmass.
- **Statement 2:** Correct – All are members of **BRICS, G20, and SCO**.
- **Statement 3:** Correct – Russia conceptualized it to create a **multipolar world order**.

15.  **Correct Answer: (a) 1 and 2 only**

Explanation:

- Established under **Article 33 of the UN Charter**, promoting peaceful dispute resolution via **mediation**.
- First of its kind **intergovernmental organization** solely for **mediation** (not arbitration or adjudication).
- **Statement 3:** Incorrect – Headquartered in **Hong Kong**, not **The Hague**.
- Supports **non-adversarial conflict resolution**, especially in **Asia and Global South**.

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

Explanation:

- Institutionalized by: **Ministry of Health and Family Welfare** in **1973**.
- Awarded by: **The President of India**.
- Eligibility: Open to various categories like **Registered Nurses, Midwives**, etc.
- Recognizes **meritorious services in nursing and healthcare**.
- Enhances **motivation** and acknowledges the **critical role of nurses** in India's health system.

17.  **Correct Answer: (d) 1 and 3 only**

Explanation:

- **Statement 1:** Correct – Goa was **liberated from Portuguese rule** in **1961**, post-independence.
- **Statement 2:** Incorrect – **Mizoram** was first to achieve **Full Functional Literacy**, Goa was **second**.
- **Statement 3:** Correct – Goa is located on the **western coast** of India.
- Under **ULLAS programme**, Goa achieved the milestone on **Statehood Day** (2024).

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

Explanation:

- Established in **1945** via the **UN Charter**.
- Located in **The Hague, Netherlands**.
- **Statement 1:** Correct – Provides **advisory opinions** to **UN organs**.
- **Statement 2:** Correct – Settles **legal disputes** between **sovereign states**.
- **Statement 3:** Correct – Was established alongside other UN institutions post-WWII.

19.  **Correct Answer: (a) 2, 3 and 4 only**

Explanation:

- **Location:** In **Telangana**, along the **Sahyadri Mountain Ranges**, part of **Central Indian Landscape**.
- **Forest Type:** **Dry deciduous**, not **evergreen**.
- **Linkages:** Connected to **Tadoba-Andhari (Maharashtra)** and **Indravati (Chhattisgarh)** Tiger Reserves.
- Recently supported by **Kumram Bheem Conservation Reserve** for tiger corridor protection.

20.  **Correct Answer: (a) 2 and 3 only**

Explanation:

- **Mizoram** – First to achieve Full Functional Literacy under **ULLAS** – **Nav Bharat Saaksharta Karyakram**.
- **Goa** – Second state to reach the milestone, declared in **2024**.
- **Statement 1 (Tamil Nadu)** and **Statement 4 (Kerala)**: Not officially declared as achieving it under ULLAS yet.

21.  **Correct Answer: (a) To address common people's grievances while monitoring important government projects**

 **Explanation:**

- **PRAGATI** stands for **Pro-Active Governance and Timely Implementation**, launched in **2015**.
- It is a **multi-tier e-governance platform** involving the **Prime Minister, Union Secretaries, and State Chief Secretaries**.

- **Dual Functionality:**
 - Citizen Grievance Redressal
 - Monitoring of key infrastructure projects and flagship programs.
- As of mid-2023, over **₹17 lakh crore** worth of projects were reviewed.
- **Key Outcome:** Resolves inter-ministerial and centre-state coordination issues in real-time.

22. Correct Answer: (d) A scam where fraudsters impersonate officials and use threats to extort money from victims

❑ Explanation:

- **Digital Arrest** is a **cybercrime scam**, not a legitimate legal term.
- Fraudsters impersonate officials (e.g., **CBI, ED, RBI**) and threaten victims with **legal consequences** like arrest or account freezing.
- **Modus Operandi:** Victims are asked to “settle” issues by paying large sums online.
- CBI launched **Operation Chakra-V** to dismantle such transnational fraud rings.
- **Relevant Mechanisms:**
 - Indian Cyber Crime Coordination Centre (I4C)
 - Cyber Swachhta Kendra
 - CERT-In

23. Correct Answer: (a) Only 1

❑ Explanation:

- **Defined in the Code on Social Security, 2020** under Section 2(35).
- Includes both **platform workers** (Zomato, Uber) and **non-platform gig workers**.
- **Statement 1: Correct** – Legal recognition under **labour codes**.
- **Statement 2: Incorrect** – Gig workers are **not covered under EPFO** as they lack an employer-employee relationship.
- States like **Rajasthan and Jharkhand** have moved to create **welfare boards and benefits**.

24. Correct Answer: (c) 1, 2 and 3

❑ Explanation:

- **DFSM 2030:** India plans a **Debris-Free Space Mission** for all space actors by **2030**.
- **IS4OM** (ISRO System for Safe and Sustainable Space Operations Management):
 - Compiles annual **SSA reports**
 - Coordinates **collision avoidance, satellite tracking**
- **India chaired the IADC (2023–24)**, hosting its **42nd session**.
- Reflects India’s growing role in **global space governance** and sustainability.

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

❑ Explanation:

- **Authored by:** Thiruvalluvar, around **2nd century BCE to 5th century CE**.
- **Structure:** 1,330 couplets across **three themes**:
 - Aram (Virtue)
 - Porul (Politics & Society)
 - Inbam (Love)
- **Statement 1: Incorrect** – Belongs to the **Sangam period**, not strictly post-Sangam.
- Recently being translated into **Kurukh, Gondi, Malto, Brahui** to preserve classical literature.

26. Correct Answer: (d) 1 and 3 only

❑ Explanation:

- **Biostimulants:** **Natural** substances (like **seaweed extracts, humic acids**) that **enhance growth, nutrient uptake, and stress resistance**.
- **Statement 1: Correct** – Improves crop **resilience and quality**.
- **Statement 2: Incorrect** – They are **not synthetic fertilizers**.
- **Statement 3: Correct** – Registered under the **Fertilizer Control Order (FCO), 1985**.
- Recently, **34 biostimulants** were notified by the Centre.

27. Correct Answer: (a) 1, 2 and 3

❑ Explanation:

- **Central Sector Scheme** under the **Ministry of New & Renewable Energy (MNRE)**.
- Offers **up to 40% subsidy** for **rooftop solar panel installations**.
- **Diu:** First Indian district to meet **100% energy needs through solar** under this scheme.
- Aims to reduce **electricity bills** and boost **renewable energy capacity**.

28. Correct Answer: (c) Both 1 and 2

 Explanation:

- **Tianwen series:**
 - **Tianwen-1 (Mars)**
 - **Tianwen-2 (Asteroid sample return)**
 - **Tianwen-3 (Mars sample return)**
 - **Tianwen-4 (Jupiter exploration)**
- **Launch Vehicles:** Long March series (e.g., Long March 3-B for Tianwen-2).
- Reflects China's growing ambitions in deep-space exploration.

29.  **Correct Answer:** (a) 1 and 2 only

 Explanation:

- **CGD Network:** Supplies Piped Natural Gas (PNG) and Compressed Natural Gas (CNG) via **underground pipelines**.
- **PNGRB (Regulator):** Grants licenses for specific **Geographical Areas (GAs)**.
- **Natural Gas Composition:** Mostly **methane (CH₄)**, not ethane.
- Essential for India's move toward **cleaner fuels** and **urban decarbonization**.

30.  **Correct Answer:** (b) 1 only

 Explanation:

- **CBDC:** Digital form of **Indian rupee**, issued and backed by the **Reserve Bank of India**.
- **Statement 1: Correct** – It is a sovereign-backed **digital currency**.
- **Statement 2: Incorrect** – RBI is also **exploring cross-border use cases**, not limiting it to domestic.
- **Statement 3: Incorrect** – As per **RBI Annual Report 2025**, the **value of e₹ in circulation has increased to ₹1,016 crore**, indicating growth.

31.  **Correct Answer:** (a) 1 and 2 only

 Explanation:

- **Statement 1: Correct** – Kalanamak rice has been **cultivated since the Buddhist era** and is often called “**Buddha rice**”.
- **Statement 2: Correct** – Archaeological excavations at **Aligarhwa** have found its grains.
- **Statement 3: Incorrect** – It is **primarily grown in eastern UP** (especially **Siddharthnagar**), not western UP.
- It received a **GI tag in 2013** and is part of **UP's ODOP programme**.

32.  **Correct Answer:** (b) Both 1 and 2

 Explanation:

- **Statement 1: Correct** – Acts as a **Digital Product Passport**, with **unique digital identity** for each battery.
- **Statement 2: Correct** – Supports the **circular economy** via improved tracking and recycling.
- Developed by **Tata Elxsi** using the **MOBIUS+** platform.

33.  **Correct Answer:** (a) **Investment through equity instruments by a non-resident in an unlisted Indian company or in 10% or more equity capital of a listed Indian company**

 Explanation:

- Defined under the **FEMA rules**, FDI refers to **ownership of 10% or more** in a listed firm or **any stake** in an unlisted firm.
- Distinct from **Foreign Portfolio Investment (FPI)**, which is passive.
- Brings **capital, technology, and managerial expertise**.

34.  **Correct Answer:** (b) **A betel leaf variety grown in Tamil Nadu's Cauvery river basin with medicinal properties**

 Explanation:

- Cultivated in **Thanjavur district** in the **Cauvery delta**, known for its **distinct pungent aroma and antioxidant content**.
- Recently awarded **GI tag** for its **medicinal and ritualistic importance**.

35.  **Correct Answer:** (a) 1 and 3 only

 Explanation:

- **Statement 1: Correct** – Amendments now allow **asset-wise resolution plans**, enhancing flexibility.
- **Statement 2: Incorrect** – CIRP can be initiated by **financial creditors, operational creditors**, and the **debtor itself**.
- **Statement 3: Correct** – Objective is to assess **repayment ability** and choose between **resolution or liquidation**.

36.  **Correct Answer:** (c) 2 only

 **Explanation:**

- **Statement 1:**  *Incorrect* – Final appeal lies with the **Supreme Court**, not NCLAT.
- **Statement 2:**  *Correct* – The **4 pillars** are:
 - **Insolvency Professionals**
 - **Information Utilities**
 - **Adjudicating Authorities** (NCLT/DRT)
 - **IBBI**
- **Statement 3:**  *Incorrect* – DRTs handle **individuals**, not corporate insolvency.

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

 **Explanation:**

- **Statement 1:**  – Founded **Free India Society** in London (1906).
- **Statement 2:**  – Engaged in **Cripps Mission negotiations** as **Hindu Mahasabha** president.
- **Statement 3:**  – Wrote “**The First War of Independence**”, framing **1857 revolt** as India’s first organized freedom struggle.

38.  **Correct Answer:** (b) 2 and 3 only

 **Explanation:**

- **Statement 1:**  *Incorrect* – Dark factories **do not require human supervision**, quality control is **AI-driven**.
- **Statement 2:**  – They operate **24/7** without human interference.
- **Statement 3:**  – Run by **robots, AI, and IoT**, enabling **full automation**.

39.  **Correct Answer:** (a) 1, 2 and 3

 **Explanation:**

- **Statement 1:**  – Grown mainly in **Siddharthnagar**, eastern UP.
- **Statement 2:**  – Cultivation dates back to **Buddhist era**.
- **Statement 3:**  – Received **GI tag in 2013**.

40.  **Correct Answer:** (c) 1 and 2 only

 **Explanation:**

- **Statement 1:**  – Offers **prompt repayment incentive**, reducing effective interest rate.
- **Statement 2:**  – Covers **short-term credit** under the **Kisan Credit Card (KCC)**.
- **Statement 3:**  – It is a **Central Sector Scheme** implemented via **RBI and NABARD**, not by state governments.

41.  **Correct Answer:** (b) An indigenous program to develop India's first fifth-generation fighter led by the Aeronautical Development Agency

 **Explanation:**

- **Fifth-Generation Aircraft:** AMCA will have **stealth features, supersonic cruise, and next-gen avionics**.
- **Led by:** Aeronautical Development Agency (ADA) under DRDO.
- **Not sixth-generation** – those technologies are still experimental globally.
- **Manufacturing:** HAL will **compete with private sector**.
- **Strategic Need:** Counters regional threats like China's **J-20 fighter**.

42.  **Correct Answer:** (b) A WTO-compliant scheme that reimburses exporters for embedded duties and taxes to make exports more competitive

 **Explanation:**

- **Full Form:** Remission of Duties and Taxes on Exported Products.
- Replaces the **MEIS scheme**.
- **WTO-compliant** – neutralizes **non-creditable taxes** on exports.
- Applies to **SEZs, EOUs, and advance authorization holders**.
- Rebate is provided in form of **duty credit scrips**.

43.  **Correct Answer:** (c) Tamur, Lhonak and Teesta

 **Explanation:**

- **Location:** Mount Khangchendzonga lies on the **India-Nepal border**.
- Rivers originating:
 - **Tamur** (Nepal)
 - **Lhonak** (Sikkim)

- Teesta (Sikkim and West Bengal)
- Not included: Kosi, Manas, Sankosh (not sourced from this region).

44.  **Correct Answer: (b) A not-for-profit public limited company operating as a Public Private Partnership with majority private sector shareholding**

❑ **Explanation:**

- Registered under **Companies Act** (Section 25 of 1956, now Section 8).
- **Shareholding:** 51% private, 49% government.
- Operates under **Ministry of Skill Development & Entrepreneurship (MSDE)**.
- Aims to **catalyze skill development** via **PPP model**.

45.  **Correct Answer: (a) 1 and 3 only**

❑ **Explanation:**

- Statement 1:  – Works via **cut-and-paste mechanism** using Cas9 enzyme.
- Statement 2:  – It doesn't require **foreign DNA**; differs from transgenics.
- Statement 3:  – India's first **gene-edited sheep** was created by editing the **myostatin gene**.

46.  **Correct Answer: (d) 2 and 3 only**

❑ **Explanation:**

- Statement 1:  – India is **concerned** about the corridor as it may affect **Chabahar and INSTC**.
- Statement 2:  – Proposed through **Armenia's Syunik Province**.
- Statement 3:  – Aims to link **Baku (Azerbaijan)** to **Nakhchivan** exclave.

47.  **Correct Answer: (d) 1 and 3 only**

❑ **Explanation:**

- Statement 1:  – Active euthanasia = third-party **ends life** deliberately.
- Statement 2:  – Only **passive euthanasia** is legal in India (SC rulings).
- Statement 3:  – Passive = **withdrawing life support** or not initiating treatment.

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

❑ **Explanation:**

- Statement 1:  – India imports **100% of its potash** (no self-sufficiency).
- Statement 2:  – Main ore is **sylvinit** (sylvite + halite).
- Statement 3:  – Potash includes **K₂CO₃** and other K salts, all **water-soluble**.

49.  **Correct Answer: (b) 2 and 3 only**

❑ **Explanation:**

- Statement 1:  – Highest population is in **Palk Bay**, not Gulf of Kutch.
- Statement 2:  – Listed in **Schedule I of Wildlife Protection Act**.
- Statement 3:  – Only **marine herbivore** that relies exclusively on **seagrass**.

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

❑ **Explanation:**

- Statement 1:  – India recently **auctioned potash and halite** for the first time.
- Statement 2:  – Halite = rock salt (NaCl), used in **chemical industry**.
- Statement 3:  – 91% of India's potash reserves are in **Nagaur district, Rajasthan**.