

Solutions

DATE : (22nd Dec- 28th Dec)

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

Explanation

Statement-I: Aravalli range restricts the eastward expansion of the Thar Desert ✓

- The Aravalli Range acts as a **geomorphological and ecological barrier**, reducing **desertification** and **dust storm intensity** toward the **fertile plains of eastern Rajasthan, Haryana, and western UP**.
- It supports **vegetation cover, soil moisture retention, and groundwater recharge**, thereby protecting adjacent agro-ecological zones.

Statement-II: Aravalli range influences monsoon movement and rainfall distribution ✓

- The Aravallis **interact with monsoon winds**, affecting **rainfall distribution** in regions further east and north (e.g., **Shimla, Nainital**).
- This reflects a **climatic modulation role**, but it **does not directly explain** the desert-barrier function stated in Statement-I.

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

Explanation

Statement-I: Kuttanad is the only region in India with below-sea-level rice cultivation ✓

- **Kuttanad (Kerala)** practices **below mean sea level paddy cultivation**, using **bunds, pumps, and controlled drainage**—a unique adaptation to wetland conditions.

Statement-II: FAO recognized Kuttanad as a GIAHS site ✓

- The FAO's GIAHS recognition acknowledges **heritage value, sustainability, and traditional knowledge systems** of Kuttanad.
- While both statements are correct, **recognition does not explain the below-sea-level cultivation practice**.

3) Answer (c) Both I and II

Explanation

Statement (I): Habitat loss and infrastructure pose the main threat to GIB ✓

- The **Great Indian Bustard (GIB)** faces severe threats from **habitat fragmentation** and **overhead power lines**, leading to high mortality.

Statement (II): GIB has the highest legal protection ✓

- Listed under **Schedule I of the Wildlife (Protection) Act, 1972** and **Appendix I of CITES**, the GIB enjoys **maximum legal protection** nationally and internationally.
- Recent **Supreme Court interventions** underscore urgent conservation measures in renewable energy corridors.

4) Answer (c) Both I and II

Explanation

Statement (I): Lothal features the oldest known man-made dockyard ✓

- **Lothal**, an **Indus Valley Civilization** site, is renowned for its **ancient dockyard**, evidencing early maritime trade.

Statement (II): NMHC is part of the Sagarmala Programme and located at Lothal ✓

- The **National Maritime Heritage Complex (NMHC)** is a **Sagarmala flagship project** at **Lothal, Gujarat**, aimed at showcasing India's **maritime heritage** through museums and cultural infrastructure.

5) Answer (b) II only

Explanation

Statement (I): GeM is for private procurement ✗

- **Government e-Marketplace (GeM)** is **exclusively for government entities and PSUs**, not for private procurement.

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Statement (II): GeM is a Section 8 company under the Ministry of Commerce and Industry ✓

- GeM operates as a **Section 8 (not-for-profit) company** under the **Ministry of Commerce and Industry**, enhancing **transparency, efficiency, and accountability** in public procurement.

6) Answer (a) I and IV only

Explanation

Statement (I): Kilonova results from merger of neutron stars formed post-supernova ✓

- In a **superkilonova**, a **massive star first undergoes a supernova**, forming **neutron stars**, which subsequently **merge** to produce a **kilonova**.
- This merger drives **r-process nucleosynthesis**, forming **heavy elements beyond iron**.

Statement (II): Every supernova is followed by a kilonova ✗

- **Superkilonovae are extremely rare**; most supernovae **do not** lead to neutron star mergers.

Statement (III): Supernova marks the end of a massive star (as an answer component) ✗

- While factually true, this statement **does not directly define or characterize a superkilonova**, hence incorrect in this context.

Statement (IV): Superkilonova involves a supernova followed by a kilonova from the same source ✓

- This captures the **defining sequence** of the phenomenon: **supernova → kilonova** linked to the **same progenitor system**.

7) Answer (d) II, III and IV only

Explanation

Statement (I): Southern Ocean lies north of 60°S ✗

- The **Southern (Antarctic) Ocean** is conventionally defined as **south of 60°S latitude**, encircling Antarctica.

Statement (II): Also referred to as the Antarctic Ocean ✓

- The Southern Ocean is **also known as the Antarctic Ocean**.

Statement (III): Includes Ross Sea and Weddell Sea ✓

- Major marginal seas include the **Ross Sea** and **Weddell Sea**, among others.

Statement (IV): One of the five major ocean basins ✓

- Recognized as one of the **five major oceans** of the world.

8) Answer (d) I, II and III only

Explanation

Statement (I): Paired attacker device gains full account access ✓

- Once approved, the attacker's device becomes a **hidden trusted linked device** with **full access**.

Statement (II): No password or SIM access required ✓

- **GhostPairing** exploits **WhatsApp's device-linking feature**, bypassing password/SIM requirements.

Statement (III): User is tricked into approving a fake pairing code ✓

- The scam relies on **social engineering**, deceiving users into **approving a fraudulent pairing request**.

Statement (IV): All cyber scams require access to phone/SIM ✗

- **Not true**; GhostPairing specifically **does not** require such access.

9) Answer (d) I, II and IV only

Explanation

Statement (I): Aluminium becomes more toxic as soil pH falls below 5 ✓

- **Acidic soils** increase **aluminium solubility**, intensifying toxicity.

Statement (II): Aluminium toxicity disrupts nutrient uptake ✓

- Excess aluminium **inhibits absorption** of **calcium, potassium, phosphorus, magnesium**, etc.

Statement (III): Aluminium improves nutrient uptake ✗

- This is **incorrect**; aluminium **disrupts** nutrient uptake and plant physiology.

Statement (IV): Aluminium damages plant roots ✓

- Toxic aluminium **impairs root growth**, reducing water and nutrient absorption.

10) Answer (c) III only

Explanation

Statement (I): India is 100% import-dependent for lithium, cobalt, nickel ✗

- India is **highly import-dependent**, but **not 100%**; limited domestic and overseas-linked sources exist.

Statement (II): Only 15% of India explored in detail ✗

- While **exploration coverage is limited**, the figure and framing are **not accurate** for this assertion.

Statement (III): India is largely self-sufficient in bauxite, chromite, limestone ✓

- India has **adequate domestic reserves and production capacity** in several **bulk and industrial minerals**, supporting self-sufficiency.

11) Answer (c) Electoral Trusts must distribute 95% of total contributions received to registered political parties

Explanation

Option (a): Electoral Trusts must distribute at least 80% of contributions ✗

- The **Electoral Trusts Scheme, 2013** mandates a **much higher threshold** than 80%.

Option (b): Electoral Trusts cannot receive contributions from companies ✗

- Electoral Trusts are **explicitly permitted** to receive donations from **individuals and corporate entities**, subject to disclosure norms.

Option (c): Electoral Trusts must distribute 95% of total contributions ✓

- The Scheme mandates that **at least 95% of total annual receipts** must be **distributed to registered political parties** within the same financial year.
- This provision ensures **minimal fund retention**, enhancing **transparency and accountability** in political funding.

Option (d): Electoral Trusts can retain all contributions ✗

- Retention beyond 5% is **not permitted** under the Scheme.

12) Answer (a) A longevity-linked enzyme that regulates tryptophan metabolism

Explanation

Option (a): Longevity-linked enzyme regulating tryptophan metabolism ✓

- **SIRT6 (Sirtuin-6)** is a **mammalian enzyme** involved in **DNA repair, metabolism, and neuroprotection**.
- It regulates **tryptophan metabolism**, balancing pathways for **energy production** and **neurotransmitter synthesis (serotonin, melatonin)**, thereby supporting **brain health and healthy aging**.

Option (b): Industrial catalyst for biofuels ✗

- SIRT6 has **no industrial or biofuel-related role**.

Option (c): Enzyme involved in nitrogen fixation ✗

- Nitrogen fixation enzymes (e.g., nitrogenase) are found in **bacteria**, not mammals.

Option (d): Plant hormone regulating growth ✗

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- SIRT6 is **not** a hormone and **not** plant-related.

13) Answer (c) New Zealand is India's second largest trading partner in Oceania

Explanation

Option (a): FTA excludes services and skilled mobility ✗

- The India–New Zealand FTA includes **services, investment, and skilled professional mobility**.

Option (b): FTA is limited to digital trade ✗

- The agreement is **comprehensive**, covering **goods, services, agriculture, health cooperation**, and more.

Option (c): New Zealand is India's second largest trading partner in Oceania ✓

- New Zealand holds strategic importance as **India's second largest trading partner in the Oceania region**, underscoring the FTA's relevance for **trade diversification**.

Option (d): Agricultural products are excluded from zero-duty access ✗

- The FTA provides **zero-duty access**, including for **agricultural products**, subject to agreed schedules.

14) Answer (d) Identify mobile numbers potentially involved in financial fraud

Explanation

Option (a): Certification tool for fintech platforms ✗

- FRI does **not** certify platforms or entities.

Option (b): Creditworthiness assessment of financial institutions ✗

- FRI does **not** assess credit risk or solvency.

Option (c): Monitoring cross-border tax evasion ✗

- Tax monitoring falls under **revenue authorities**, not FRI.

Option (d): Identifying mobile numbers linked to financial fraud ✓

- The **Financial Fraud Risk Indicator (FRI)** flags **mobile numbers** based on **risk levels (medium/high/very high)** using inputs from **banks, telecom operators, law enforcement, and citizens**.
- It enables **real-time preventive action** against **phishing, scam calls, and digital fraud**.

15) Answer (d) II and III only

Explanation

Statement (I): Personality rights include only the right to privacy ✗

- **Personality rights include both:**
 - **Right to Privacy**
 - **Right to Publicity**
- Hence, the statement is **incorrect**.

Statement (II): Article 21 provides for the right to privacy ✓

- The **Right to Privacy** is a **fundamental right** under **Article 21** of the Constitution.

Statement (III): K.S. Puttaswamy judgment affirmed the right to privacy ✓

- The **Supreme Court in K.S. Puttaswamy v. Union of India (2017)** unequivocally recognized **privacy as a fundamental right**, forming the constitutional basis of personality rights in India.

16) Answer (b) I, III and IV only

Explanation

Statement (I): Central Government approval is mandatory for diversion of forest land ✓

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- Under the **Forest (Conservation) Act, 1980**, prior approval of the **Central Government** is compulsory for diversion of forest land for **non-forest purposes**.
- This provision was upheld in landmark judgments such as **T.N. Godavarman Thirumulpad v. Union of India**, reinforcing strict central oversight.

Statement (II): Advisory Committee is constituted by the State Government ✗

- The **Advisory Committee** under the Act is constituted by the **Central Government**, not the State Government.
- It advises the Centre on proposals for forest land diversion.

Statement (III): The Act applies to all categories of government-recognised forest land ✓

- The Act covers **Reserved Forests, Protected Forests, and all government-recorded forest lands**, irrespective of ownership.

Statement (IV): Conservation and regulated use of forest land are the objectives ✓

- The core objective of the Act is **forest conservation and regulation of land-use change**, not revenue maximisation.

17) Answer (b) I and III only

Explanation

Statement (I): Centres of Excellence in central universities for PESA capacity-building ✓

- The government has initiated **Centres of Excellence** in **central universities** to strengthen **PESA implementation**, research, and training.

Statement (II): Training manuals translated only into Hindi and English ✗

- PESA training material has been translated into **multiple regional and tribal languages**, beyond Hindi and English, to ensure **inclusive tribal outreach**.

Statement (III): PESA-GPDP Portal aids planning and monitoring in Scheduled Areas ✓

- The **PESA-GPDP Portal** integrates **participatory planning, monitoring, and accountability** for development works in **Fifth Schedule Areas**.

18) Answer (c) Only three

Explanation

Pair (1): Data Phishing – ransomware locking files for ransom ✗

- **Data phishing** involves tricking users into revealing **passwords, OTPs, or credentials**, not ransomware-based file locking (which is **ransomware**).

Pair (2): Pig Butchering – fake relationships/jobs leading to financial fraud ✓

- Victims are emotionally or professionally groomed and later induced into **fraudulent investments or transfers**.

Pair (3): Instant Loan Apps – data misuse and harassment ✓

- Fraudsters misuse **contacts, photos, and personal data** to **blackmail borrowers**.

Pair (4): Phantom Hacking – impersonation and fear-based fund transfer ✓

- Scammers impersonate officials, claim devices are hacked, and coerce victims into **transferring money**.

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

Explanation

Statement-I: PESA empowers Gram Sabhas with legal supremacy in Fifth Schedule Areas ✓

- **PESA Act, 1996** grants **Gram Sabhas overriding authority** over land, resources, and cultural matters in **Scheduled Areas**.

Statement-II: PESA institutionalises traditional tribal rights via mandatory consent ✓

- Mandatory **Gram Sabha consent** for land acquisition, mining, and MFP management **explains how and why** Gram Sabhas gain supremacy.
- Thus, Statement-II **logically explains** Statement-I.

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

Explanation

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Statement-I: FRI provides early fraud warnings to banks and financial institutions ✓

- The **Financial Fraud Risk Indicator (FRI)** flags **mobile numbers** involved in suspected fraud, enabling **preventive action** by banks and FIs.

Statement-II: FRI is a component of the Digital Intelligence Platform (DIP) ✓

- **DIP** enables **real-time intelligence sharing** among banks, telecom operators, police, and security agencies.
- While true, this statement **does not directly explain** how FRI functions as a warning tool, making the relationship **non-explanatory**.

21) Answer (c) Both I and II

Explanation

Statement (I): ICAO is a specialized UN agency under the Chicago Convention ✓

- The **International Civil Aviation Organization (ICAO)** was established under the **Chicago Convention, 1944**.
- It functions as a **specialized agency of the United Nations**, responsible for setting **global Standards and Recommended Practices (SARPs)** for **safety, security, efficiency, and environmental protection** in civil aviation.

Statement (II): ICAO Council has 36 members elected for three-year terms ✓

- The **ICAO Council** is the **executive body** of ICAO.
- It consists of **36 member states**, elected by the **ICAO Assembly (193 member states)** for **three-year terms**, and oversees policy and technical matters between Assembly sessions.

22) Answer (d) I only

Explanation

Statement (I): SAGAR's five pillars include connectivity and infrastructure ✓

- **SAGAR (Security and Growth for All in the Region)** includes five pillars: **Security cooperation, economic/trade integration, capacity building & disaster management, sustainable development, and connectivity & infrastructure**.

Statement (II): MAHASAGAR is limited to disaster management ✗

- **MAHASAGAR** is a broader doctrine encompassing **security, economic integration, infrastructure, and geopolitical objectives**, not merely disaster response.

Statement (III): India's assistance is purely humanitarian ✗

- Assistance under **MAHASAGAR** blends **humanitarian outreach with strategic maritime objectives**, reflecting India's **geopolitical and economic engagement** in the Indian Ocean Region.

23) Answer (a) II, III and IV only

Explanation

Statement (I): LVM3 places satellites in SSO ✗

- **LVM3** (~640 tonnes) is primarily designed for **GTO/LEO missions**, not Sun-Synchronous Orbit (SSO) as stated.

Statement (II): NSIL is ISRO's commercial arm since 2019 ✓

- **NewSpace India Limited (NSIL)** was established in **2019** as **ISRO's commercial arm** to facilitate **commercial launch services and satellite missions**.

Statement (III): BlueBird Block-2 enables direct-to-mobile 4G/5G connectivity ✓

- **BlueBird Block-2** satellites are part of a **LEO constellation** enabling **direct-to-mobile broadband connectivity**.

Statement (IV): LVM3-M6 was the sixth operational flight from Sriharikota ✓

- **LVM3-M6** denotes the **sixth operational mission** of LVM3, launched from **Sriharikota**, showcasing India's **commercial launch capability**.

24) Answer (c) II, III and IV only

Explanation

Statement (I): Thanjavur painting originated outside Tamil Nadu ✗

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- **Thanjavur painting** originated in **Tamil Nadu** and flourished under **Chola, Nayak, and Maratha rulers**, making the statement incorrect.

Statement (II): Thanjavur painting has a GI tag ✓

- It is protected under the **Geographical Indications (GI) Act**, safeguarding regional identity and artisans.

Statement (III): Uses gold foil, glass beads, and semi-precious stones ✓

- Hallmark features include **vivid colours, gold embellishments, and ornamental materials**.

Statement (IV): 'Palagai Padam' refers to paintings on wooden planks ✓

- Traditional Thanjavur paintings are executed on **wooden boards**, known as **Palagai Padam**.

25) Answer (b) Only two

Explanation

Pair (1): Vitthala Temple – Chola architecture ✗

- The **Vitthala Temple** at Hampi is a masterpiece of **Vijayanagara architecture**, not Chola.

Pair (2): Hampi – Tungabhadra basin, Karnataka ✓

- **Hampi** is located in the **Tungabhadra River basin** in **Karnataka**, the former capital of the **Vijayanagara Empire**.

Pair (3): Krishna Temple – Vijayanagara period ✓

- The **Krishna Temple** was built during the **Vijayanagara era**, reflecting its distinctive architectural style.

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

Explanation

Statement-I: Industrial parks are designed to increase **productivity and operational efficiency** by providing shared infrastructure, streamlined processes, and a facilitative regulatory environment. ✓

- Industrial parks reduce **costs, time, and transaction frictions** for firms.
- Shared facilities (power, water, logistics, labs, security) and **single-window clearances** enhance efficiency.

Statement-II: These features enable industries to operate more efficiently and productively. ✓

- The very **design features**—shared infrastructure, predictable regulations, and faster approvals—**directly explain** the productivity gains cited in Statement-I.
- Hence, Statement-II **logically explains** Statement-I.

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

Explanation

Statement-I: Patent applications in India have crossed **1,10,000**, reflecting robust growth in IPR filings. ✓

- Recent data show a **record surge** in patent filings, indicating a strengthening innovation ecosystem.

Statement-II: The surge is primarily driven by **Indian residents**, signalling a move towards **self-reliance in R&D**. ✓

- With **over ~61.9%** filings by residents, domestic innovation **explains the overall growth** noted in Statement-I.
- Thus, Statement-II **explains** Statement-I.

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

Explanation

Statement-I: The creator economy has contributed significantly to **GDP and employment** in India. ✓

- Industry reports show large contributions (e.g., **YouTube's GDP impact**, expanding creator livelihoods).

Statement-II: Brand spending on creators is expected to decline. ✗

- Evidence indicates **rising brand allocations** to digital creators as platforms, reach, and ROI expand.
- Hence, Statement-II is **incorrect**.

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

Explanation

Statement-I: Open Market Operations (OMOs) are a primary RBI tool to manage liquidity via buying/selling government securities. ✓

- OMOs are central to **systemic liquidity management**.

Statement-II: OMOs involve only purchases of securities. ✗

- OMOs include **both purchases and sales**, depending on liquidity conditions.
- Therefore, Statement-II is **incorrect**.

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

Explanation

Statement-I: Swami Shraddhanand Saraswati was **assassinated in Delhi in 1926**. ✓

- A well-documented historical fact.

Statement-II: He was a prominent leader of the **Shuddhi movement**. ✓

- This describes his **role in social reform**, but it **does not explain** the assassination event stated in Statement-I.

31) Answer (c) I and III only

Explanation

Statement (I): Sahkar Shakti-Sakha/Sakhi Model is advocated under a **mission-mode approach** ✓

- The **Sahkar Shakti-Sakha/Sakhi Model** is proposed as a **mission-mode reform** to strengthen cooperatives for **marginal farmers**, with focused institutional backing and time-bound outcomes.

Statement (II): Most cooperatives do not face gender gaps ✗

- In reality, **most cooperatives are male-dominated**, and **significant gender gaps persist** in membership, leadership, and access—precisely why **gender-sensitive reforms** are recommended.

Statement (III): Digital Public Infrastructure and Cooperative Stack are recommended ✓

- Recommendations emphasize **Digital Public Infrastructure (DPI)** and a **Cooperative Stack** to enhance outreach, transparency, credit access, and service delivery for marginal farmers.

32) Answer (a) II and III only

Explanation

Statement (I): SIAs/EIAs are always conducted by independent agencies ✗

- In practice, **SIAs and EIAs often lack independence and rigor**, undermining procedural safeguards under the **RFCTLARR Act, 2013**.

Statement (II): Arbitrary reclassification of land reduces compensation ✓

- **Manipulation in land classification** to lower compensation has been reported, violating **fairness and transparency** principles.

Statement (III): Loss of customary forest rights should be treated as **economic displacement** ✓

- Committees have emphasized that **loss of customary forest rights** constitutes **economic displacement**, necessitating **full rehabilitation**.

Statement (IV): NMC has been fully effective across projects ✗

- The **National Monitoring Committee (NMC)** has **not been uniformly effective**, especially in large and complex projects.

33) Answer (c) Only three

Explanation

Pair (1): Singaravelu Chettiar — First President of CPI ✓

- A pioneering **labour leader and freedom fighter**, he served as the **first President** of the CPI.

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Pair (2): S.V. Ghate — Early General Secretary of CPI ✓

- He was among the **first General Secretaries**, playing a key organizational role.

Pair (3): Abani Mukherjee — Founder in Tashkent (1920) ✓

- He was among the **seven revolutionaries** who founded the CPI in exile at Tashkent.

34) Answer (a) Ministry of Skill Development and Entrepreneurship

Explanation

Option (a): Ministry of Skill Development and Entrepreneurship ✓

- **PM-SETU** is implemented by this Ministry to **upgrade ITIs**, align curricula with industry needs, and enhance employability.

Option (b): Ministry of Labour and Employment ✗

- Not the implementing authority for PM-SETU.

Option (c): Ministry of Heavy Industries ✗

- Unrelated to ITI upgradation under PM-SETU.

Option (d): Ministry of Education ✗

- Focuses on formal education, not vocational ITI transformation under this scheme.

35) Answer (a) A nuclear-capable intermediate-range submarine-launched ballistic missile

Explanation

Option (a): Nuclear-capable intermediate-range SLBM developed by DRDO ✓

- **K-4** is an **SLBM** (~3,500 km range), **nuclear-capable**, deployed on **Arihant-class SSBNs**, completing the **sea-based leg of India's nuclear triad** and ensuring **credible second-strike capability**.

Option (b): Air-to-air missile ✗

- Incorrect classification.

Option (c): Anti-ship missile for surface vessels ✗

- K-4 is **not** an anti-ship system.

Option (d): Cruise missile ✗

- K-4 is a **ballistic**, not cruise, missile.

36) Answer (b) A tripartite initiative to prevent the trade in conflict diamonds

Explanation

Option (a): Environmental regulation framework for mining industries ✗

- The **Kimberley Process (KP)** is **not** an environmental or mining regulation mechanism.

Option (b): Tripartite initiative to prevent conflict diamonds ✓

- The **Kimberley Process (2003)** is a **tripartite partnership** involving:
 - **Governments**
 - **Diamond industry**
 - **Civil society**
- Its objective is to **prevent “conflict diamonds”** (used to finance armed conflicts) from entering the **legitimate diamond trade**.
- Covers **~99% of global rough diamond trade**, with **60 participants (including the EU)**.

Option (c): Certification for gold and precious metals ✗

- Gold certification falls under **other frameworks**, not KP.

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Option (d): Bilateral agreement between India and South Africa ✗

- KP is a **multilateral global framework**, not bilateral.

37) Answer (d) Maharashtra

Explanation

Option (a): Gujarat ✗

- No such archaeological discovery reported.

Option (b): Karnataka ✗

- Incorrect location.

Option (c): Rajasthan ✗

- Not associated with the discovery.

Option (d): Maharashtra ✓

- **India's largest circular labyrinth** was discovered at **Boramani grassland, Solapur district, Maharashtra**.
- Dated to the **Satavahana period (1st–3rd century CE)**.
- Features **15 concentric stone circuits**, the highest in India.
- Linked to **Indo-Roman trade networks** and possible **ritual/symbolic use**.

38) Answer (d) It is a non-profit organization registered under the Societies Registration Act, 1860

Explanation

Option (a): Established solely by Indian industry ✗

- QCI was established **jointly by Government of India and industry**.

Option (b): Chairman appointed by the President ✗

- Chairman is appointed by the **Prime Minister** on **industry recommendation**.

Option (c): Nodal ministry is Ministry of Consumer Affairs ✗

- Nodal ministry is **DPIIT**, Ministry of Commerce and Industry.

Option (d): Non-profit under Societies Registration Act, 1860 ✓

- **Quality Council of India (QCI)** is a **non-profit autonomous body**, registered under the **Societies Registration Act, 1860**.
- Plays a key role in **quality certification, accreditation, and standardization**.

39) Answer (b) Austro-Asiatic (Munda)

Explanation

Option (a): Tibeto-Burman ✗

- Predominant in **Northeast India**.

Option (b): Austro-Asiatic (Munda) ✓

- **Santhali** belongs to the **Munda branch of the Austro-Asiatic family**.
- Spoken mainly in **Jharkhand, Odisha, West Bengal, Bihar**.
- Written in the **Ol Chiki script**.
- Added to the **Eighth Schedule** by the **92nd Constitutional Amendment Act, 2003**.

Option (c): Indo-Aryan ✗

- Includes Hindi, Bengali, Marathi, etc.

Option (d): Dravidian ✗

- Includes Tamil, Telugu, Kannada, Malayalam.

40) Answer (a) Nigeria, Chad, Cameroon, and Niger

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Explanation

Option (a): Nigeria, Chad, Cameroon, and Niger ✓

- **Lake Chad** is located at the **conjunction of four countries**:
 - **Nigeria**
 - **Chad**
 - **Cameroon**
 - **Niger**
- It is a **freshwater lake** vital for **fisheries, agriculture, and livelihoods** of millions.
- Managed regionally through the **Lake Chad Basin Commission**.

Option (b): Nigeria, Mali, Burkina Faso, Benin ✗

- Mali, Burkina Faso, Benin do **not** border Lake Chad.

Option (c): Nigeria, Ghana, Togo, Benin ✗

- Incorrect regional grouping.

Option (d): Nigeria, Equatorial Guinea, Cameroon, CAR ✗

- Equatorial Guinea and CAR are **not adjacent** to Lake Chad.

41) Answer (a) I only

Explanation

Statement (I): PMGSY was launched in December 2000 to provide rural road connectivity ✓

- **Pradhan Mantri Gram Sadak Yojana (PMGSY)** is a **centrally sponsored scheme** launched in **December 2000** to ensure **all-weather road connectivity** to **unconnected rural habitations**, directly supporting **rural development and poverty alleviation**.

Statement (II): Population threshold for plains is more than 1000 under PMGSY-IV ✗

- Under **PMGSY-IV**, the population threshold for **plain areas** is **500+**, **not more than 1000**.
- Hence, this statement is **incorrect**.

42) Answer (a) I and II only

Explanation

Statement (I): IOC was established in 1960 to promote marine science cooperation ✓

- The **Intergovernmental Oceanographic Commission (IOC)** of **UNESCO** was established in **1960** to promote **international cooperation in marine science**.

Statement (II): IOC coordinates the UN Decade of Ocean Science (2021–2030) ✓

- IOC is the **coordinating body** for the **UN Decade of Ocean Science for Sustainable Development (2021–2030)**.

Statement (III): IOC Secretariat is located in Geneva ✗

- The **IOC Secretariat** is located in **Paris, France**, not Geneva.

43) Answer (c) I, II and III only

Explanation

Statement (I): BIS sets nitrate limit at 45 mg/l ✓

- The **Bureau of Indian Standards (BIS)** prescribes **45 mg/l** as the permissible nitrate limit in drinking water.

Statement (II): Fertilizer overuse is a major cause of nitrate contamination ✓

- **Excessive nitrogen-based fertilizers** are a primary source of groundwater nitrate pollution.

Statement (III): High nitrate levels cause methemoglobinemia ✓

- Elevated nitrate levels can cause **methemoglobinemia (blue baby syndrome)**, especially in infants.

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Statement (IV): Nitrate contamination cannot cause eutrophication ✗

- Nitrates **do cause eutrophication**, leading to **algal blooms and ecological imbalance**.
- Hence, this statement is **incorrect**.

44) Answer (a) I, II and III only

Explanation

Statement (I): UDGM portal helps trace unclaimed bank deposits ✓

- **UDGM** enables citizens to trace **unclaimed bank deposits**.

Statement (II): MITRA portal helps trace unclaimed mutual fund assets ✓

- **MITRA** is dedicated to **unclaimed mutual fund investments**.

Statement (III): Bima Bharosa portal helps trace unclaimed insurance amounts ✓

- **Bima Bharosa** facilitates tracing of **unclaimed insurance funds**.

Statement (IV): Dedicated national portal exists for unclaimed pension funds ✗

- **No dedicated national digital portal** currently exists for **unclaimed pension balances**.

45) Answer (c) I, II and III only

Explanation

Statement (I): Amendment aims to enhance ease of doing business ✓

- The **Colliery Control (Amendment) Rules, 2025** seek to improve **ease of doing business** in the coal sector.

Statement (II): Prior CCO permission for coal companies is abolished ✓

- **Coal companies no longer require prior approval** from the **Coal Control Organisation (CCO)** to open mines.

Statement (III): Company boards approve mine openings ✓

- Approval authority is now vested with the **board of the concerned coal company**.

Statement (IV): Approval for non-company entities no longer rests with CCO ✗

- For **non-company entities**, approval **continues to rest with the CCO**, making this statement **incorrect**.

46) Answer (d) I, II and III

Explanation

Statement (I): Chenab receives Jhelum in Pakistan and later joins Sutlej ✓

- The **Chenab River** flows into **Pakistan**, where it is joined by the **Jhelum River**.
- Subsequently, Chenab merges with other tributaries and finally contributes to the **Indus river system**, making this statement **correct**.

Statement (II): Chenab originates from the confluence of Chandra and Bhaga ✓

- The Chenab is formed at **Tandi in Himachal Pradesh** by the confluence of the **Chandra and Bhaga rivers**.
- This is a **standard geographical fact**.

Statement (III): Chenab flows west between the Siwalik Range and Lesser Himalayas in J&K ✓

- In **Jammu & Kashmir**, the river flows through rugged terrain influenced by the **Lesser Himalayas**, with the broader Himalayan system shaping its course.
- The statement is **broadly correct in UPSC geography context**.

47) Answer (d) I and III only

Explanation

Statement (I): Ratanmahal Wildlife Sanctuary is located in Dahod district along the Gujarat–MP border ✓

- **Ratanmahal Wildlife Sanctuary** lies in **Dahod district of Gujarat**, adjacent to **Madhya Pradesh**, making this statement **correct**.

Statement (II): Sanctuary fauna includes multiple large species (as implied) ✗

- While the sanctuary hosts diverse fauna, the **statement as framed is not directly substantiated** in the given context and overgeneralizes species presence.
- Hence, it is **incorrect**.

Statement (III): Ratanmahal houses the highest sloth bear population in Gujarat ✓

- Ratanmahal is widely regarded as a **stronghold of sloth bears in Gujarat**, making this statement **correct**.

48) Answer (a) Only one

Explanation

Pair (1): ITEWC – Mumbai ✗

- The **Indian Tsunami Early Warning Centre (ITEWC)** is located in **Hyderabad**, not Mumbai.

Pair (2): TRRP recognition renewable every two years ✗

- **UNESCO-IOC Tsunami Ready Recognition Programme** certification is **renewable every four years**, not two.

Pair (3): NDMA guidelines recommend holistic tsunami risk management ✓

- **NDMA tsunami guidelines** emphasize **awareness, capacity building, education, training, research, and technology**, not just technological upgradation.

➡ **Only one pair is correctly matched.**

49) Answer (d) None

Explanation

Pair (1): Somalia – Ethiopia (North) ✗

- Somalia borders **Ethiopia to the west**, not the north.

Pair (2): Puntland – Kenya ✗

- **Puntland** does **not** share a border with Kenya; it lies in **northeastern Somalia**.

Pair (3): Somaliland – Djibouti (directional mismatch) ✗

- While Somaliland borders **Djibouti**, the **directional description is incorrect**, making the pair invalid.

➡ **No pair is correctly matched.**

50) Answer (d) All four

Explanation

Pair (1): Permethrin – banned insecticide ✓

- **Permethrin** is explicitly prohibited under **IS 19412:2025**.

Pair (2): Benzyl cyanide – prohibited fragrance intermediate ✓

- Identified as a **banned synthetic fragrance intermediate** due to health risks.

Pair (3): Diphenylamine – prohibited substance ✓

- Listed among **disallowed chemicals** in incense sticks.

Pair (4): Alethrin – banned insecticidal chemical ✓

- **Alethrin** is explicitly banned because of **toxicity concerns**.