

R.C. Reddy IAS Study Circle

UPSC CSE PRELIMS 2026

OPEN TEST-01

GENERAL STUDIES PAPER – I

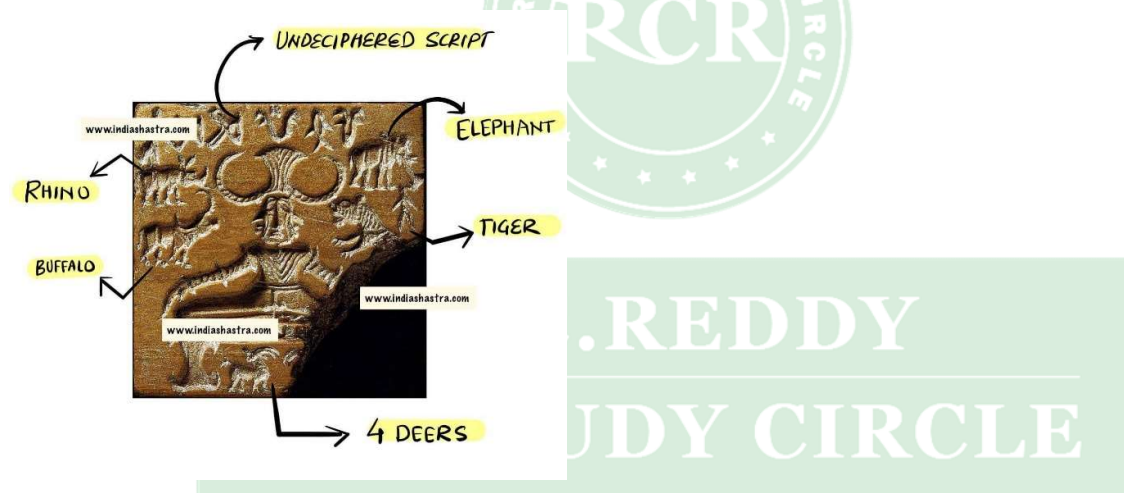
Key & Explanation

Q1.

Ans: B

Explanation:

- The **Pashupati Seal** was discovered at **Mohenjo-Daro** and depicts a **three-faced figure seated in a yogic posture**, surrounded by animals such as a **buffalo, elephant, tiger, and rhinoceros**, with two deer beneath the seat.
- It is often identified as a **proto-Shiva figure**, particularly the **Pashupati (Lord of Animals)** aspect of Shiva in later Hindu traditions.
- **Harappan script remains undeciphered**, and **no direct connection to Vedic rituals has been confirmed**.
- The **depiction of animals suggests animal worship and nature-based religious beliefs** in the Indus Valley Civilization.



Q2.

Ans: C

Explanation:

- **Statement I is correct:** The **Bearded Priest sculpture** suggests that the Harappan Civilization had **elite figures, possibly religious or administrative leaders**. The detailed craftsmanship and dignified appearance indicate a person of high status.
- **Statement II is incorrect:** However, **no large temples or statues of deities have been found in Harappan cities**, unlike in later Indian civilizations. **Harappans likely had a different religious structure**, focusing on **nature worship, fertility cults, and symbolic representations** rather than organized temple-based religion.

Hence option c is correct answer.

Q3.

Ans: A

Explanation:

The **Sarnath Lion Capital**, erected by **Emperor Ashoka**, is one of the finest examples of Mauryan art and is now **India's national emblem**.

The **four animals—lion, elephant, bull, and horse—appear on the abacus (circular base) of the pillar** and symbolize different phases of Buddha's life:

- **Elephant** → Represents **Buddha's birth**, as his mother, Queen Maya, dreamt of a white elephant entering her womb.
- **Bull** → Symbolizes **Buddha's life of renunciation** and strength.
- **Horse** → Represents **Buddha leaving his palace** in search of enlightenment.
- **Lion** → Denotes **Buddha's first sermon at Sarnath**, also called the "**Lion's Roar**" of Dharma.

Q4.

Ans: C

Explanation:

- **Statement I is correct:** The **Bhumisparsha Mudra** does indeed symbolize **Buddha's rejection of external validation**—instead of seeking recognition from others, he **calls upon the Earth as his witness**. This reinforces the idea that **spiritual truth comes from within, not from external sources**.
- **Statement II is incorrect:** While the **Bhumisparsha Mudra** is significant, it was **not the most widely depicted mudra in early Buddhist sculptures**. Early Buddhist art, especially in **Gandhara and Mathura schools**, often depicted Buddha in **Dharmachakra Mudra (Teaching Gesture)** or **Dhyana Mudra (Meditation Gesture)**. The **Bhumisparsha Mudra** became more prominent later, especially in **Mahayana and Vajrayana traditions**, but it **did not replace the Dharmachakra Mudra** as the main symbol of his teachings.

Hence option c is correct answer.

Q5.

Ans: C

Explanation:

- **Statement 1 is correct:** The **Kanganahalli inscriptions**, found at the Buddhist site of Kanaganahalli (near Sannati, Karnataka), contain a single-line label inscription reading "**Rāyo Ashoka**" (King Ashoka). This confirms Ashoka's identity as a revered Buddhist ruler and provides evidence of his continued legacy in the Satavahana period (c. 1st century BCE–2nd century CE).
- **Statement 2 is correct:** The **Hathigumpha Inscription** states that **Kharavela, the Jain ruler of Kalinga**, was well-versed in the **Gandharva Veda**, which deals with **music and performing arts**. This suggests that **Kharavela was not just a warrior but also a patron of arts and culture**.

Q6.

Ans: C

Explanation:

- **Statement I is correct:** Degassing released **water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), ammonia (NH₃), and nitrogen (N₂)** from Earth's interior, forming the **primitive atmosphere and oceans**. This

created conditions necessary for **chemical evolution**, leading to the formation of organic molecules and, eventually, life.

- **Statement II is incorrect:** The early Earth's atmosphere was oxygen-poor (reducing atmosphere), dominated by CO₂, CH₄, NH₃, and H₂O. Free oxygen (O₂) was absent in significant amounts until much later (~2.4 billion years ago) during the Great Oxygenation Event (GOE), caused by photosynthetic cyanobacteria. Since degassing did not directly contribute to free oxygen, statement II is incorrect.

Hence option c is correct answer.

Q7.

Ans: A

Explanation:

- According to the Big Spat hypothesis, about 4.5 billion years ago, a Mars-sized protoplanet, referred to as **Theia**, collided with the early Earth during the latter stages of planetary formation. This collision was so massive that it ejected a large amount of debris into space.
- The **Big Spat Event** was a violent collisions and internal differentiation of early planetary bodies during Earth's formation (~4.5 billion years ago).
- These massive impacts **led to the segregation of heavy elements (like iron and nickel) into Earth's core**, forming a distinct **core-mantle structure**.
- This differentiation was **crucial for generating Earth's magnetic field** through the **geodynamo effect**.

Q8.

Ans: B

Explanation:

- Tidal locking occurs when the rotation of a celestial body (e.g., the Moon) becomes synchronized with its orbit around another body (e.g., Earth).
- This results in one hemisphere of the tidally locked body always facing the larger body it orbits, while the other hemisphere remains hidden from view.
- The Moon is a prime example of tidal locking, as only one side of it is visible from Earth.
- Right now, **the same side of the Moon always faces Earth** because of **tidal locking**.
- If the Moon **were not tidally locked**, it would **continue rotating independently**, meaning **different parts of the Moon would be visible from Earth over time** instead of just the near-side.

Q9.

Ans: A

Explanation:

- **Statement I is correct:** When it is **midnight (00:00) on January 1 in Chukotka (Russia)**, it is still **3:00 AM on December 31 in Alaska (USA)**. As a result, **Russia welcomes New Year nearly a full day before Alaska does**.
- **Statement II is correct:** The **International Date Line (IDL)** is an imaginary boundary that separates two consecutive calendar days. **Alaska (USA) follows UTC -9 (Hawaii-Aleutian Time)**, while **Chukotka (Russia) follows UTC +12**, meaning there is an **extreme time difference of 21 hours** despite their proximity.

Hence both the statements are correct, and statement II correctly explain statement I. hence option a is correct answer.

Q10.

Ans: D

Explanation:

- **Statement I is incorrect:** Even if a location does **not** experience Love and Rayleigh waves (e.g., deep underground or in the middle of the ocean), it can still suffer **severe destruction from P and S waves**. **P-waves (Primary waves)** travel through solids and liquids, causing **compression and expansion of materials**. **S-waves (Secondary waves)** only travel through solids and can **shear buildings apart**. In deep-focus earthquakes, **destruction can still happen even if surface waves are weak or absent**.
- **Statement II is correct:** Love and Rayleigh waves **do cause maximum destruction**, but **other seismic waves can also be devastating**.

Hence option d is correct answer.

Q11.

Ans: B

Explanation:

- **Statement I is correct:** The **Indo-Australian Plate moved northward**, and its interaction with the **Réunion hotspot** led to **massive volcanic eruptions**, forming the **Deccan Traps** around **66 million years ago**.
- **Statement II is correct:** **Subduction of the Indo-Australian Plate beneath the Eurasian Plate** is a real geological process, but it was **not responsible for the Deccan Traps**. Instead, subduction **formed the Himalayas**, while the Deccan Traps were caused by the **Réunion hotspot**.

Hence while both the statements are correct, statement II does not explain statement I. hence option b is correct answer.

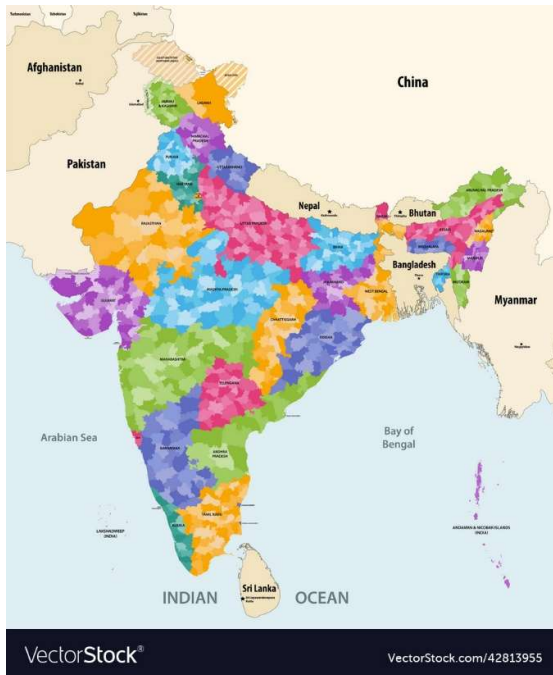
Q12.

Ans: C

Explanation:

All of them share a land border with more than one country.

- **Arunachal Pradesh** shares land borders with Bhutan, China, and Myanmar.
- **Sikkim** shares land borders with Bhutan, China (Tibet Autonomous Region), and Nepal.
- **Mizoram** shares land borders with Bangladesh and Myanmar.
- **Jammu and Kashmir (as it existed before reorganization)** shared land borders with Pakistan, Afghanistan, and China. Considering the current UT of **Ladakh** (part of former J&K), it shares borders with Pakistan, Afghanistan, and China. The UT of **Jammu and Kashmir** currently shares a border only with Pakistan and China (through POK).



Q13.

Ans: A

Explanation:

The person will pass only two states in between i.e., Uttar Pradesh and Himachal Pradesh. **Hence only two states.**



Q14.

Ans: D

Explanation:

- **Uttar Pradesh and Himachal Pradesh – Share a border** near the Saharanpur and Sirmaur districts.

- **Telangana and Maharashtra** – Share a long border in districts like Adilabad, Nanded, and Chandrapur.
- **Andhra Pradesh and Odisha** – Share a border near Srikakulam and Gajapati districts.
- **West Bengal and Meghalaya** – Do NOT share a direct border. They are separated by Assam.



Q15.

Ans: C

Explanation:

- **Statement I is correct:** Volcanic soil (black soil or andosol) is typically associated with regions of past or present volcanic activity, such as the Deccan Plateau in India. Some areas near the Karakoram Range, particularly in the Pamir and Tibetan Plateau region, have traces of volcanic soil due to ash deposits from distant volcanic eruptions or ancient geological processes.
- **Statement II is incorrect:** While the Karakoram Range itself is not volcanic, some regions near it (e.g., parts of the Tibetan Plateau and the Pamir Mountains) have traces of volcanic deposits. These volcanic deposits are not due to local volcanic activity but are remnants of ancient eruptions from distant volcanic sources (e.g., Central Asian volcanic activity or airborne ash from eruptions). The Karakoram region is tectonically active (due to the collision of the Indian and Eurasian plates), but it does not lie on an active volcanic belt like the Ring of Fire.

Hence option c is correct answer.

Q16.

Ans: B

Explanation:

- The term "**Demographic Winter**" refers to a situation where **fertility rates fall below replacement levels**, leading to **population decline and aging societies**.
- It is commonly observed in **developed countries** like Japan, Italy, and South Korea, where **low birth rates and increased life expectancy** create economic and social challenges.
- Consequences include **shrinking workforce, increased dependency ratio, pension crises, and economic stagnation**.

Q17.

Ans: D

Explanation:

What is step migration?

- **Step Migration** occurs when people move **gradually** in a series of steps, typically from **rural to urban areas**.
- In the given scenario, the individual **first moves to a small town, then to a bigger city, and finally to a metropolitan area**—which perfectly fits the definition of step migration.

Q18.

Ans: B

Explanation:

Revenue Village:

- A **Revenue Village** is an **administrative unit recognized by the government** for revenue collection and land records.
- It may **consist of multiple small settlements or hamlets** but is treated as a single unit for revenue and governance purposes.
- Unlike an **independent Gram Panchayat**, a revenue village is **primarily defined for land and taxation purposes**, rather than governance.

Q19.

Ans: B

Explanation:

	Industries	Associated Workers	Examples
1	Primary Sector	Blue-collar workers/Green-collar worker (environmental related work)	Fishing
2	Tertiary Sector	Pink-collar workers	Healthcare services
3	Quaternary Sector	Gold-collar workers	Software development

Q20.

Ans: D

Explanation:

- **Jalandhar (Punjab) and Meerut (Uttar Pradesh)** are **major hubs for sports goods manufacturing** in India, producing cricket bats, footballs, and other sporting equipment.
- **Saharanpur (Uttar Pradesh)** is known for **wooden handicrafts**, but it also has a significant presence in sports goods production.
- **Jammu** also has a developing sports industry, particularly for cricket bats made from **Kashmir willow**.

Q21.

Ans: A

Explanation:

- In mesolithic art at Bhimbetka and elsewhere, animals are represented on their own or as part of hunting scenes.
- Hunters hunt singly or in groups, sometimes wearing masks and headdresses crowned with antlers and horns. **Hence statement a is correct.**
- They are adorned with ornaments such as necklaces, bangles, wrist bands, elbow bands, and knee bands with tassels.
- Some are unarmed; others carry sticks, spears, bows and arrows, or slings.
- The hunters are sometimes accompanied by dogs. There are scenes showing traps and snares, others of animals running after hunters.
- While some of the animal figures are rather abstract, many of them are very realistic. Animals are sometimes shown in outline; in other instances their bodies are decorated with designs.
- **Bhimbetka Rock Shelters (Madhya Pradesh)** contain prehistoric cave paintings, some of which depict **masked dancers and ritualistic figures**, often referred to as **Dancing Sorcerers**.
- These paintings, belonging to the **Mesolithic period**, suggest **early shamanistic practices and ceremonial dances**.

Q22.

Ans: B

Explanation:

- **Statement I is correct:** The Harappan Civilization (c. 2600–1900 BCE) is known for its advanced urban planning, trade, and relatively secular lifestyle. There is limited evidence of elaborate religious practices or superstitions compared to the later Vedic period (c. 1500–500 BCE), which was characterized by rituals, sacrifices, and a strong emphasis on religious and superstitious beliefs.
- **Statement II is correct:** Archaeological findings from Harappan sites, such as Mohenjo-Daro and Harappa, have revealed small objects like amulets, beads, and pendants with holes. These were likely used as personal ornaments or talismans, possibly for decorative or symbolic purposes. However, the use of amulets does not necessarily indicate superstition; they could also reflect cultural or aesthetic practices.
- Statement II provides evidence of amulets found in Harappan sites, which could be interpreted as a cultural or symbolic practice. However, it does not directly explain why Harappan people were less superstitious than those in the later Vedic period. The absence of elaborate religious rituals in Harappan culture, as compared to the Vedic period, is a separate observation.

Therefore, **Statement II does not explain Statement I. hence option b is correct answer.**

Q23.

Ans: C

Explanation:

- The Ten Realms of Being in Buddhism, especially in Mahayana traditions, categorize different states of existence and consciousness, ranging from suffering to enlightenment.
- The highest realm is Buddhahood, where one attains complete enlightenment, wisdom, and liberation from the cycle of birth and rebirth (Samsara), while Pratyeka Buddha is the third highest realm.
- Other Realms Include:
 - Hell (Naraka) – The lowest realm of suffering.
 - Hungry Ghosts (Preta) – Existence filled with greed and unfulfilled desires.
 - Animals (Tiryagyonis) – Life governed by instinct and ignorance.
 - Asuras (Demi-Gods) – Realm of jealousy and power struggles.
 - Humans (Manushya) – Realm of balance, where enlightenment is possible.
 - Devas (Gods) – Blissful existence but still within Samsara.
 - Shravakas (Disciples) – Followers of the Buddha's teachings.
 - Pratyekabuddhas (Solitary Buddhas) – Those who realize the truth independently.
 - Bodhisattvas – Compassionate beings who delay their own enlightenment to help others.
 - Buddhahood – The ultimate realm of enlightenment and liberation.

Q24.

Ans: C

Explanation:

Key Aspects of Sage Lopamudra

Origins and Creation

- According to legend, Lopamudra was created by **Sage Agastya** using divine energy to be his ideal companion.
- Some versions state she was a **princess of Vidarbha**, born to a royal family and later given to Agastya in marriage.

Her Marriage and Wisdom

- Agastya was an ascetic, and Lopamudra, despite being a princess, adapted to a simple hermitic life.
- However, she later **encouraged Agastya to embrace a balanced life**, advocating for both spiritual pursuits and worldly responsibilities.
- She is often seen as an advocate for **Grihastha Dharma (householder's duty)** in Hindu philosophy.

Contribution to the Rigveda

- She is attributed with composing **hymns in the Rigveda (Mandala 1, Hymn 179)**.
- Her hymns focus on **devotion, wisdom, and the importance of love and partnership in spiritual growth**.

Lopamudra and Feminine Wisdom

- She is regarded as one of the earliest **female Rishikas (female sages)** in Vedic literature.
- She symbolizes **intellectual strength, devotion, and the harmony between spiritual and material life**.

Q25.

Ans: C

Explanation:

- **Statement 1 is correct:** **Paśubandha** was a ritual in the Vedic period where animals, including cattle, were sacrificed as offerings to gods. This was performed in major Vedic rituals like the **Ashvamedha Yajna** and **Agnishtoma**, where the belief was that such sacrifices would please the deities and bring prosperity, including cattle wealth. However, later Vedic texts and Upanishadic traditions gradually **moved toward symbolic or non-violent sacrifices**.
- **Statement 2 is correct:** The **Soma** ritual was central to Vedic religious practices, where the juice of the **Soma plant** was extracted and offered to deities like **Indra** and **Agni**. In ancient Iranian traditions (Avestan), a similar practice existed, where **Haoma** (the Iranian counterpart of Soma) was considered sacred and used in rituals. This shared tradition highlights the **common Indo-Iranian cultural and religious heritage** before their divergence into separate civilizations.

Q26.

Ans: B

Explanation:

- **Statement a is correct:** Al-Biruni's *Tarikh-al-Hind* uses a **comparative methodology**, frequently drawing **parallels between Indian, Greek, and Islamic traditions in science, mathematics, and philosophy**.
- **Statement b is not correct:** While Al-Biruni **aimed for objectivity**, his interpretations were still influenced by **his Islamic and Greek philosophical background**. Thus, his work was **not completely free of external perspectives**.
- **Statement c is correct:** He relied on **both Sanskrit texts (primary sources) and discussions with Indian scholars (secondary sources)** to form his views.
- **Statement d is correct:** One of his **critical observations** was that Indian Brahmins were **reluctant to share knowledge with outsiders**, which he believed limited the exchange of ideas between civilizations.

Q27.

Ans: C

Explanation:

- **Statement 1 is correct:** Dharmapala, the second ruler of the **Pala dynasty (8th-9th century CE)**, is credited with the construction of the famous **Somapura Mahavihara at Paharpur** (modern-day Bangladesh). This **UNESCO World Heritage Site** was a major center of Buddhist learning.
- **Statement 2 is correct:** Devapala, the successor of Dharmapala, was known for his patronage of Buddhism. He granted permission to **Balaputradeva**, the ruler of the **Sailendra dynasty of Java (Indonesia)**, to construct a **monastery at Nalanda**, further strengthening cultural and religious ties between India and Southeast Asia.

Q28.

Ans: A

Explanation:

- **Statement 1 is correct:** *Kavirajamarga* (9th century CE) is the **earliest known literary work in Kannada** and serves as a **guidebook for poets**, discussing grammar, style, and literary traditions.
- **Statement 2 is not correct:** The text is primarily a **treatise on poetics and literature**, not military or political affairs.
- **Statement 3 is correct:** The work was heavily **influenced by Sanskrit literary traditions**, particularly **Dandin's Kavyadarsa**, which set poetic standards.
- **Statement 4 is not correct:** While Amoghavarsha I **patronized and contributed to the text**, it is believed that a **scholar (possibly Srivijaya) assisted in its composition**.

Q29.

Ans: C

Explanation:

	<i>Texts/literatures</i>	<i>Authors</i>
1	Nalachampu	Trivikrama
2	Kavirahasya	Halayudha
3	Parikshamukhasastra	Manikyanandin
4	Amoghavritti	Sakatayana

Q30.

Ans: A

Explanation:

- **Statement 1 is correct:** The Persian translation of *Fathnama-i-Sindh* (originally in Arabic) is known as **Chachnama**, named after **Raja Chach**, the last significant Hindu ruler of Sindh before the Arab conquest. The translation was done by **Ali Kufi in the 13th century CE**.
- **Statement 2 is not correct:** Mahmud of Gazni, aged twenty-seven, ascended the throne and the Caliph acknowledged his accession by sending him a robe of investiture and by conferring on him the title Yamini-ud-Daulah ('Right-hand of the Empire').

Q31.

Ans: A

Explanation:

- **Portuguese (1498)** – Vasco da Gama arrived in **Calicut (Kerala) in 1498**, and the Portuguese established their first factory at **Cochin (1500)**. They later controlled **Goa (1510)**.
- **Dutch (1605)** – The Dutch East India Company (VOC) set up its first factory in **Masulipatnam (1605)** and later controlled **Pulicat (1610)**.
- **English (1613)** – The British East India Company established its first factory at **Surat (1613)** with permission from **Mughal Emperor Jahangir**.
- **Danish (1620)** – The Danish East India Company established its first settlement at **Tranquebar (Tamil Nadu) in 1620** and later at **Serampore (1755)**.
- **French (1668-1674)** – The French East India Company set up its first factory in **Surat (1668)** and later acquired **Pondicherry (1674)** as their primary base.

Q32.

Ans: B

Explanation:

- **Statement a is correct:** Under Prince Henry's leadership, the **caravel** was developed—a light, fast, and manoeuvrable ship capable of sailing against the wind, crucial for long voyages.
- **Statement b is not correct:** Though Henry's expeditions mapped much of Africa's coast, **Portuguese explorers did not reach the Indian subcontinent during his lifetime**. Vasco da Gama reached India in **1498**, nearly **four decades after Henry's death (1460)**.

- **Statement c is correct:** Prince Henry's school of navigation **improved the use of instruments like the astrolabe and quadrant**, advancing **cartography** and navigational accuracy.
- **Statement d is correct:** One of Henry's motivations was **spreading Christianity** and bypassing Muslim-controlled land routes to access **African gold and the lucrative spice trade**.

Q33.

Ans: A

Explanation:

- **Statement I is correct:** The **Portuguese resorted to piracy** in the later years of their colonial rule as they lost **naval dominance** to the **Dutch, British, and Marathas**. The Portuguese frequently attacked **pilgrim ships traveling to Mecca**, angering the **Mughal Empire**. This led Emperor **Shah Jahan** to **launch a naval campaign against the Portuguese in 1631**, expelling them from **Hughli (Bengal)** in 1632.
- **Statement II is correct:** The Portuguese faced **significant challenges** from **new European rivals** like the **Dutch (VOC), the British (EIC), and the French (FIC)**. These powers established their own trade networks and superior naval fleets. The **Dutch defeated the Portuguese in the Battle of Swally (1612)**, weakening their control over Indian Ocean trade. The **British and Marathas** further restricted Portuguese influence by challenging them in **Konkan, Gujarat, and Malabar**. Unable to compete economically or militarily, the Portuguese resorted to **piracy and extortion**, attacking trading ships and **demanding protection money from merchants**.
- The **Portuguese turned to piracy** because their **naval and economic power had declined**. Their inability to compete with **Dutch, British, and Maratha naval forces** left them with **limited options for survival**. **Hence both the statements are correct, and statement II correctly explain statement I. hence option a is correct answer.**

Q34.

Ans: C

Explanation:

- **Statement I is correct:** The Siege of Trichinopoly was a decisive British victory that weakened French influence in South India. It exposed French military weaknesses and reduced their credibility among Indian rulers. The defeat forced the French to retreat, marking a shift in power towards the British.
- **Statement II is incorrect:** The British victory was NOT due to direct military reinforcements from England but rather because of local alliances, superior strategy, and Robert Clive's tactical brilliance. The British East India Company fought the battle primarily using local Indian troops (sepoys) and European mercenaries, rather than reinforcements from England.

Hence option c is correct answer.

Q35.

Ans: B

Explanation:

- The Maraikkars, Chettiars, and Kalingan communities were historically significant for their involvement in maritime trade and commerce.
- The Maraikkars were known for their expertise in navigation and trade along the Indian coastline, while the Chettiars were prominent merchant and banking communities.
- The Kalingan community also contributed to trade, particularly in the eastern regions of India.

- Their collective activities were vital to India's economic and cultural exchanges with other regions.

Q36.

Ans: A

Explanation:

- **Capital goods** are used to **produce other goods and services** but are **not directly consumed** (e.g., tractor used for farming).
- **Consumption goods** are either **used directly by consumers** or **fully used up in production** (e.g., seeds that **grow into crops** and are not reused).
- The **tractor** is a **capital good** because it is a **durable asset used in production**.
- The **seeds** are **consumption goods** because they are **fully consumed in the production process** (they turn into crops).

Q37.

Ans: C

Explanation:

- The **Expenditure Method** calculates GDP as the sum of **consumption, investment, government spending, and net exports**.
- The **Value-Added Method** sums the **contributions of all sectors** by subtracting intermediate inputs from total output.
- **Discrepancies** arise due to:
 - **Statistical errors** (inaccurate data collection, estimation techniques).
 - **Unreported economic activities** (informal sector transactions, tax evasion).
 - **Differences in data sources** (variation in sector-wise reporting and price adjustments).
- **Option a is not correct** because while the informal sector contributes to discrepancies, it is not the only factor.
- **Option b is not correct** because the Expenditure Method **does** include government spending.
- **Option d is not correct** because the **Value-Added Method does not count intermediate goods separately**, it removes double counting by considering only the net value added.

Q38.

Ans: A

Explanation:

- **GDP (Gross Domestic Product)** is calculated as:
 $GDP = GVA + (Net\ Indirect\ Taxes)$
- Where, **Net Indirect Taxes = Indirect Taxes - Subsidies**
- **If the GDP growth rate is higher than the GVA growth rate**, it means that **net indirect tax collection (taxes minus subsidies) has increased**.
- This happens when:
 - The government **raises indirect taxes** (e.g., GST, excise duty).
 - The government **reduces subsidies**, leading to a **higher net tax collection**.

Q39.

Ans: B

Explanation:

- **Personal Income (PI)** refers to the total income received by individuals and households, including wages, interest, rent, dividends, and **transfer payments (such as pensions, unemployment benefits, and social security)**.
- **Personal Disposable Income (PDI)** is **Personal Income minus direct taxes (e.g., income tax)**—it represents the money individuals have for spending and saving.
- **Option a is not correct:** Reducing corporate tax rates benefits businesses but does not directly increase household incomes.
- **Option b is correct:** Increasing transfer payments (Option B) directly raises Personal Income since these payments increase individuals' earnings without requiring additional work or production. More transfer payments lead to higher disposable income (PDI) because recipients get additional money that isn't immediately taxed.
- **Option c is not correct:** Raising indirect taxes actually reduces disposable income by making goods and services more expensive.
- **Option d is not correct:** Government spending on infrastructure may boost GDP and employment, but it does not directly raise Personal Income or PDI in the short run.

Q40.

Ans: A

Explanation:

- **Statement I is correct:** The Purchasing Power Parity (PPP) method adjusts for differences in price levels between countries. This often results in developing countries appearing economically stronger in PPP terms compared to nominal GDP, as their lower cost of living and cheaper goods and services are taken into account.
- **Statement II is correct:** PPP explicitly considers the lower cost of living and local price levels in developing countries. This adjustment makes their economies seem larger when compared to GDP calculated using market exchange rates, which do not account for these differences.
- **Statement II** directly explains **Statement I**, as the reason developing countries appear stronger in PPP terms is due to the consideration of lower price levels and cost of living, as mentioned in Statement II.

Hence option a is correct answer.

Q41.

Ans: B

Explanation:

Money Market vs. Capital Market

Feature	Money Market	Capital Market
Purpose	Short-term financing (less than 1 year)	Long-term financing (more than 1 year)

Instruments	Treasury Bills (T-Bills), Commercial Papers (CPs), Call Money, Certificates of Deposit (CDs)	Shares, Debentures, Bonds, IPOs, Mutual Funds
Participants	Banks, Corporates, Government	Companies, Investors, FIIs, Banks
Risk & Return	Low risk, Low return	Higher risk, Potentially high return

- **Option a is not correct:** Commercial Papers are short-term (less than a year), **not suitable for long-term expansion**.
- **Option b is correct:** The company needs funds for **long-term expansion**, which is best suited for the **Capital Market**. **Debentures and Equity Shares** help companies raise large capital over an extended period.
- **Option c is not correct:** T-Bills are issued by the government, not companies.
- **Option d is correct:** Call Money Market is **only for very short-term (overnight) borrowing**, which does not help in long-term projects.

Q42.

Ans: A

Explanation:

- **Option a is correct:** Selling government securities in the open market to absorb excess liquidity. This is an open market operation (OMO) where the central bank sells government securities to commercial banks and the public. When people and institutions buy these securities, money flows from the economy to the central bank, effectively reducing the money supply in circulation. This contraction of the money supply helps combat inflation by decreasing overall purchasing power and demand pressure in the economy.
- **Option b is not correct:** Lowering the CRR would allow banks to lend more, increasing money supply, that will exacerbate inflation.
- **Option c is not correct:** Reducing the repo rate would make borrowing cheaper, stimulating more lending and spending, hence rise in inflation.
- **Option d is not correct:** Increasing high-powered money by printing more currency would directly add to the money supply, hence inflation.

Q43.

Ans: A

Explanation:

Under India's **Minimum Reserve System (MRS)**, the Reserve Bank of India (RBI) must maintain a fixed reserve to back currency issuance. This system, introduced in 1956, mandates:

- **₹115 crore in gold**
- **₹85 crore in foreign exchange reserves** (foreign securities)
- **Total reserve:** ₹200 crore

Once this minimum threshold is met, the RBI can issue additional currency based on economic requirements without further backing. This framework ensures a foundational guarantee for currency stability while allowing flexibility for monetary expansion.

Key Details:

- **Purpose:** The MRS balances currency credibility with the need for liquidity in the economy.
- **Historical Context:** Replaced the proportional reserve system to reduce rigid reserve requirements.
- **Current Relevance:** The ₹200 crore reserve (gold + foreign exchange) remains a statutory baseline, though actual reserves far exceed this minimum today.

Q44.

Ans: B

Explanation:

A **liquidity trap** occurs when:

- Interest rates are already **very low** (close to zero).
- People **prefer to hold cash** rather than invest or spend, fearing economic instability.
- **Monetary policy (lowering interest rates) becomes ineffective** in stimulating demand.
- Businesses hesitate to take loans, and banks accumulate **excess reserves** instead of lending.

Statement 1 (Liquidity Trap): This describes the situation where reducing interest rates further does not boost investment or consumption.

Statement 2 (Excess Reserves & Cash Hoarding): Since people and firms do not expect profits, they prefer to hold cash instead of spending or investing.

Hence statement 1 and 2 are correct, and option b is correct answer.

Q45.

Ans: C

Explanation:

What is Cost-Push Inflation?

Cost-Push Inflation occurs when **production costs increase**, forcing businesses to raise prices. These cost increases come from **supply-side factors**, not excessive demand.

Factor	Contributes to Cost-Push Inflation?	Reason
Increase in wages	yes	Higher wages raise production costs, leading to inflation.
Supply chain disruption	Yes	Increased transport costs raise prices of goods and services.
Increase in indirect taxes	Yes	Higher GST or excise duties raise product prices directly.
Rise in raw material prices	Yes	Costlier inputs increase production costs, fueling inflation.
Expansionary monetary policy	No	This leads to Demand-Pull Inflation , not Cost-Push Inflation.

Q46.

Ans: D

Explanation:

Third Schedule outlines oaths and affirmations for:

- Union and state ministers
- Candidates for Parliament and state legislature elections
- Members of Parliament and state legislatures
- Judges of the Supreme Court and High Courts
- Comptroller and Auditor General of India

The required Articles:

- Article 75(4): Oath of Union Ministers
- Article 99: Oath of Members of Parliament
- Article 124(6): Oath of Supreme Court Judges
- Article 148(6): Oath of the Comptroller and Auditor General (CAG)
- Article 219: Oath of High Court Judges

Q47.

Ans: D

Explanation:

- The provision for **nominating members to the Rajya Sabha** (Upper House of Parliament) was **inspired by the Irish Constitution**.
- **Irish Constitution** allows for **nominated members** in the Irish Senate (Seanad Éireann).
- Similarly, **Article 80 of the Indian Constitution** empowers the **President of India to nominate 12 members to the Rajya Sabha**, representing fields like **art, literature, science, and social service**.

Q48.

Ans: B

Explanation:

- Initially, in **Berubari Union Case (1960)**, the Supreme Court held that **the Preamble is not a part of the Constitution**, and hence, it **cannot be amended** under Article 368.
- However, this view was later **overruled** in the **Kesavananda Bharati Case (1973)**, where the Supreme Court **declared that the Preamble is indeed a part of the Constitution and can be amended**, provided it does not violate the **Basic Structure Doctrine**.
- As a result, the **42nd Constitutional Amendment (1976)** added the words **"Socialist," "Secular," and "Integrity"** to the Preamble.

Q49.

Ans: A

Explanation:

Why Flexible Federalism?

- **Article 3** empowers **Parliament** to create new states, alter boundaries, rename, or merge states **without requiring absolute consent** from the affected states.
- This makes **India's federalism unique and flexible**, as the **Union government can unilaterally redraw state boundaries** after considering the views of the concerned State(s), but the state's consent is **not binding**.
- Examples include:
 - **Reorganization of States (1956)**
 - **Creation of Telangana (2014)** despite Andhra Pradesh's opposition.

Q50.

Ans: C

Explanation:

- **Statement a is correct:** The Act **introduced the concept of Overseas Citizen of India (OCI)**, allowing certain foreign nationals of Indian origin to register as OCIs. However, **OCI holders were not granted full citizenship rights**, such as voting, contesting elections, or holding constitutional offices.
- **Statement b is correct:** The Act **made citizenship by birth more restrictive**. **Before 2003:** Anyone born in India (except children of enemy aliens) was considered an Indian citizen. **After 2003:** Citizenship by birth was limited to those **whose at least one parent was an Indian citizen**, and the other was **not an illegal migrant**.
- **Statement c is not correct:** **Citizenship by descent was retained**, with stricter rules for registration.
- **Statement d is correct:** The **2003 amendment empowered the government to prepare the National Register of Citizens (NRC)**. This was the legal basis for the **NRC exercise conducted in Assam** to identify illegal immigrants.

Q51.

Ans: C

Explanation:

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Why Are Fundamental Rights "Qualified"?

- In India, Fundamental Rights **are not absolute**; they come with **reasonable restrictions**.
- The **government can impose restrictions** in the interest of public order, morality, security of the state, sovereignty, and friendly relations with foreign states.
- This ensures a **balance between individual liberty and societal welfare**.

Q52.

Ans: D

Explanation:

All of the provisions are the exception to Article 14 of the constitution:

Fifth and Sixth Schedules → Special Protections for Tribals

- The Constitution provides **autonomous governance** to Scheduled Tribes in certain areas.

- Tribal councils have **legal autonomy**, **exemptions from certain laws**, and **special protections**.

Protective Discrimination (Articles 15(4) and 16(4)) → Reservations for Backward Classes

- Though equality means **no discrimination**, the State is **allowed to make special provisions** for socially and educationally backward classes, Scheduled Castes (SCs), and Scheduled Tribes (STs).
- Example: **Reservations in education and jobs**.

Diplomatic and Executive Immunity (Article 361) → Legal Protection for President & Governors

- The President and Governors **cannot be prosecuted or arrested during their term in office**.
- This is an exception to **equality before law**.

Office of Profit (Articles 102 & 191) → Certain Offices Are Exempted

- MPs and MLAs **cannot hold an office of profit**, but **some offices are exempted** by Parliament.
- This **creates an exception** where some individuals can hold government positions without disqualification.

Q53.

Ans: A

Explanation:

- **Statement 1 is correct:** Article 18(2) prohibits Indian citizens from **accepting foreign titles**. However, if they wish to accept such a title, **they must seek prior consent from the President**.
- **Statement 2 is not correct:** Bharat Ratna, Padma Awards, and other civilian honors are not considered "titles" under Article 18. In Balaji Raghavan Case (1996), the Supreme Court clarified that national awards do not violate Article 18, as they are meant for recognition and do not confer any hereditary privileges.
- **Statement 3 is not correct:** Accepting a foreign title does not automatically revoke Indian citizenship. However, under the Citizenship Act, 1955, a person may lose Indian citizenship if they voluntarily accept foreign citizenship, not merely a title.

Q54.

Ans: C

Explanation:

Only some Fundamental Rights are superior to DPSPs:

- **Fundamental Rights (FRs) and Directive Principles of State Policy (DPSPs)** are both **integral to the Constitution**, but they serve different purposes:
 - **FRs (Part III) → Legally enforceable rights** of individuals.
 - **DPSPs (Part IV) → Guiding principles** for the State to establish social and economic justice.
- In multiple cases, the **Supreme Court has ruled that certain Fundamental Rights (especially Articles 14, 19, and 21) hold a superior position over all DPSPs**.

Key

Judicial

Rulings:

Champakam Dorairajan Case (1951):

- The Supreme Court **initially ruled** that if FRs and DPSPs conflict, **FRs will prevail**.

Kesavananda Bharati Case (1973):

- Established the "Basic Structure Doctrine", ensuring that essential FRs like Article 14 (Right to Equality) and Article 21 (Right to Life) cannot be violated even to implement DPSPs.

Minerva Mills Case (1980):

- Ruled that some DPSPs (like Article 39(b) & 39(c)) can override Article 14 & 19 but not Article 21.
- This means some FRs are absolute and superior to all DPSPs, while some DPSPs can override only a few FRs.
- **Option a is not correct:** Not all FRs are absolutely superior; some DPSPs (Article 39(b) & (c)) can override certain FRs (Article 14 & 19) after constitutional amendments.
- **Option b is not correct:** The Supreme Court has ruled that DPSPs cannot be used to violate the Basic Structure (which includes FRs like Article 21).
- **Option d is not correct:** No DPSP can override all FRs; at most, certain DPSPs can override specific FRs (like Article 39(b) & (c) overriding Article 14 & 19), but not Article 21.

Q55.

Ans: A

Explanation:

Article 51 (a Directive Principle of State Policy) directs the State to:

1. **Promote international peace and security.**
2. **Maintain just and honorable relations between nations.**
3. **Foster respect for international law and treaty obligations.**
4. **Encourage settlement of disputes through arbitration.**

India's diplomatic efforts, mediation, and UN involvement directly align with Article 51.

- **Option b (Article 253):** Deals with parliamentary power to implement international treaties but does not directly mandate peace promotion.
- **Option c (Article 246):** Related to legislative powers of Union & State, not international peace.
- **Option d (Article 19):** Protects freedom of speech, unrelated to international diplomacy.

Q56.

Ans: B

Explanation:

- **Statement 1 is correct:** Temperature is a **key abiotic factor** that affects metabolic rates, species distribution, and oceanic currents.
- **Statement 2 is correct:** Changes in **salt concentration** impact water balance in marine organisms, influencing survival and reproduction.
- **Statement 3 is correct:** **Oxygen levels** are crucial for aquatic life. Pollution and eutrophication reduce dissolved oxygen, causing fish mortality.
- **Statement 4 is not correct:** The introduction of a new **predator species** is a **biotic factor** (living component), not abiotic.

Q57.

Ans: A

Explanation:

- **Statement I is correct:** Saprotrophs (fungi & bacteria) break down organic matter, releasing essential nutrients. This decomposition process directly affects soil fertility by adding humus, improving water retention and aeration.
- **Statement II is correct:** They also influence atmospheric composition by releasing CO₂ (through respiration) and nitrogenous gases (e.g., NH₃, NO₂, NO₃) into the nitrogen cycle. This makes saprotrophs key regulators of biogeochemical cycles, linking their function to global environmental processes.

Hence both the statements are correct, and statement I correctly explains statement II. Hence option a is correct answer.

Q58.

Ans: C

Explanation:

- **Statement I is correct:** Ecotones do act as **climatic buffers** because they moderate **temperature, wind patterns, and moisture levels** between two ecosystems (e.g., mangroves reducing coastal erosion).
- **Statement II is incorrect:** High species richness in ecotones is influenced by multiple factors (and not solely due to microclimatic regulation), such as:
 - Species overlap from both adjacent ecosystems.
 - Microclimatic regulation (temperature & humidity stabilization).
 - Nutrient availability and soil heterogeneity.
 - Edge Effect leading to niche diversity.

Hence option c is correct answer.

Q59.

Ans: B

Explanation:

- **Option a is not correct:** Energy transfer is never 100% efficient; only ~10% of energy moves to the next trophic level.
- **Option b is correct:** The Pyramid of Energy always remains upright because energy is lost as heat (due to the Second Law of Thermodynamics) at each trophic level. In aquatic ecosystems, phytoplankton (producers) have a lower biomass than terrestrial plants but a high turnover rate, meaning they reproduce quickly and transfer energy efficiently to primary consumers. This ensures that higher trophic levels receive enough energy despite the small biomass of producers.
- **Option c is not correct:** Energy decreases at each level; it is not constant due to heat loss.
- **Option d is not correct:** Consumers cannot absorb solar energy directly; only producers (like phytoplankton) can.

Q60.

Ans: B

Explanation:

	<i>Biotic Interactions</i>	<i>definitions</i>	<i>Examples</i>
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1	Commensalism	One species benefits, and the other is neither harmed nor benefited.	Barnacles on whales; Epiphytic orchids on trees
2	Competition	Both species compete for the same resources, negatively affecting each other.	Weeds and crop plants
3	Parasitism	One species (parasite) benefits at the expense of the host.	Mistletoe on trees; Tapeworms in human intestines
4	Amensalism	One species is harmed, while the other remains unaffected.	Black walnut tree releasing juglone

Q61.

Ans: C

Explanation:

- **Option a is not correct:** Phosphorus does **not cycle through the atmosphere**, so deposition is not a major source.
- **Option b is not correct:** Phosphorus is **not lost by evaporation**; it is mostly lost through leaching or erosion.
- **Option c is correct:** In **old-growth rainforests, phosphorus is tightly cycled within the ecosystem**. Instead of accumulating in the soil, **it is stored in plant biomass (trees, leaves, roots, etc.)** and rapidly recycled through **decomposition**.
- **Option d is not correct:** Phosphorus does not transform into nitrogen compounds due to heat. Phosphorus is **not highly soluble or volatile**, meaning **it does not evaporate or break down into other elements**.

Q62.

Ans: A

Explanation:

- **Option a is correct:** The volcanic eruption **completely wiped out previous vegetation, leaving only barren rock. Primary succession occurs in areas where no previous life existed**—such as newly formed volcanic islands, glacier retreats, or sand dunes. **Lichens and mosses are pioneer species that break down rocks** over time, contributing to **soil formation** for future plant growth.
- **Option b is not correct:** The secondary succession happens in areas where soil and some life still exist (e.g., after forest fires, abandoned farmlands).
- **Option c is not correct:** retrogression refers to ecosystem degradation due to factors like overgrazing, not natural succession.
- **Option d is not correct:** The ecosystem is still in an early stage of development, far from reaching a stable climax stage.

Q63.

Ans: A

Explanation:

- **Option a is correct:** Fire is a **natural disturbance** in many grassland ecosystems (e.g., the **Savannas, Prairies, and Steppes**). **Grass species have evolved to tolerate and even depend on periodic fires** because:
 - Fires **burn dead plant material**, releasing **nutrients into the soil**, which promotes **new grass growth**.

- Fires **kill tree saplings and shrubs**, preventing them from taking over the grassland.
- Many grassland plants have **deep root systems** that allow them to **survive fires and regrow quickly**.
- **Option b is not correct: fire does not deplete soil nutrients permanently**; instead, it **returns them** to the soil in a usable form.
- **Option c is not correct: fire actually prevents tree establishment**, maintaining the grassland ecosystem.
- **Option d is not correct: natural fire cycles tend to support native grass species, while fire suppression often leads to the spread of shrubs and trees.**

Q64.

Ans: C

Explanation:

What is EUTROPHICATION?

- It came from Greek word – Eutrophia means adequate & healthy nutrition.
- Eutrophication is a syndrome of ecosystem, response to the addition of artificial or natural nutrients such as nitrates and phosphates through fertilizer, sewage, etc that fertilize the aquatic ecosystem.
- It is primarily caused by the leaching of phosphate and - or nitrate containing fertilisers from agricultural lands into lakes or rivers.

Factors that contribute to eutrophication:

- **Factor 1 (Excessive fertilizers):** Nitrogen (N) and Phosphorus (P) runoff from fertilizers enter water bodies, causing **algal blooms**.
- **Factor 2 (Untreated sewage):** Sewage contains **organic matter and nutrients** that promote eutrophication.
- **Factor 3 (Deforestation):** Reduces soil retention, leading to **increased nutrient runoff** into water bodies.
- **Factor 5 (Industrial effluents rich in organic matter):** Organic pollutants contribute to **oxygen depletion**, worsening eutrophication.

While,

- **Factor 4 (Heavy metal deposition):** Heavy metals like mercury and lead are pollutants but do not contribute to nutrient enrichment that leads to eutrophication.

Q65.

Ans: B

Explanation:

- **Option a is not correct: fluctuating salinity actually stresses species**, and only **highly adaptive organisms** can thrive.
- **Option b is correct: Tidal mixing in estuaries circulates nutrients** from both **riverine inflows and ocean currents**, leading to **high nutrient retention**. This **supports planktonic growth**, which in turn **sustains diverse fish populations, birds, and marine organisms**. The **deposition of organic matter from rivers** further boosts **primary productivity**, making estuaries **biologically rich**.
- **Option c is not correct: estuaries are highly vulnerable to pollution**, including **eutrophication and heavy metal accumulation**.
- **Option d is not correct: estuaries are often shallow**, allowing **sunlight penetration**, which **enhances photosynthesis and algal growth**.

Q66.

Ans: B

Explanation:

Network slicing in 6G network:

- In **6G networks**, **network slicing** creates multiple virtualized and isolated network segments, each optimized for specific use cases like **enhanced mobile broadband (eMBB)**, **ultra-reliable low-latency communications (URLLC)**, and **massive machine-type communications (mMTC)**. The challenge lies in efficiently managing and adapting these slices based on fluctuating network demands.
- **Option a is not correct:** Statically allocating resources does not account for dynamic network conditions, leading to inefficiencies.
- **Option b is correct:** **AI-driven orchestration** plays a crucial role by:
 - **Analyzing real-time network conditions** – AI continuously monitors **traffic loads, latency, and bandwidth usage**.
 - **Predicting traffic patterns** – Using **machine learning algorithms**, AI anticipates peak loads and dynamically **adjusts resources**.
 - **Autonomously configuring slices** – AI can **reallocate bandwidth, adjust latency settings, or prioritize URLLC traffic** to maintain QoS.
 - **Enhancing efficiency** – This adaptability ensures that mission-critical applications (e.g., autonomous vehicles, remote surgeries) receive the necessary reliability and low latency.
- **Option c is not correct:** Treating all slices with the same priority framework would **ignore the diverse QoS requirements** of different applications.
- **Option d is not correct:** AI does not replace **SDN (Software-Defined Networking)** or **NFV (Network Function Virtualization)** but rather works alongside them to enhance real-time decision-making.

Q67.

Ans: D

Explanation:

Context: The Supreme Court rejected the application of the ‘eggshell skull’ rule in a medical negligence case, restoring a compensation of Rs 5 lakhs awarded by the district consumer forum.

What is Eggshell Skull Rule?

- The **Eggshell Skull Rule** (also called the **Thin Skull Rule**) is a **legal doctrine in tort law** that holds a defendant **fully liable** for a plaintiff’s injuries **even if the plaintiff had a pre-existing vulnerability** that made the injuries more severe than expected. The rule applies even if the defendant could not have foreseen the extent of the harm.
- **Option a is not correct:** The rule does **not** limit liability to only foreseeable injuries. It explicitly extends liability to **all consequences**, even if they are unexpected.
- **Option b is not correct:** The plaintiff **can** claim damages, even if they had a pre-existing condition that made the injury worse.
- **Option c is not correct:** The defendant’s liability is **not reduced** just because the injury was more severe than usual. The defendant **remains fully responsible**.
- **Option d is correct:** The rule means that the defendant must take the victim as they find them. If the plaintiff has a hidden or unusual condition (like a fragile skull), and the defendant’s actions cause greater harm than they would in a normal person, the defendant remains fully responsible for all damages. For example, if a person with a pre-existing weak skull suffers a severe brain injury from a minor push that would have only bruised an average person, the defendant is liable for the full extent of the injury, not just the expected minor bruising.

Q68.

Ans: D

Explanation:

Context: The President of India has rejected the mercy plea of a member of the banned group Lashkar-e-Taiba convicted for the 2000 Red Fort attack.

What is a mercy petition?

- A mercy petition is filed by a convict to change his/her punishment (especially capital) into a lesser form of punishment. It is also called **clemency petition/plea or executive clemency**.
- Mercy Petition can be exercised after all the legal remedies were exhausted. (Legal remedies include all the remedies available under prevailing law and Constitution).
- A petition can be filed with the President (**under Article 72 of the Indian Constitution**) or the governor (**under Article 161 of the Constitution**).
- This provision of pardoning power or mercy towards convicts was first originated in the United Kingdom. Later the concept made its presence in the United States of America, India, Canada, etc.

What is the procedure to file a mercy petition?

- A convict under a death sentence (only) is eligible to make the mercy petition. But it should be filed within seven days, after the dismissal of her/his appeal by the Supreme Court and intimation of the same to the convict by the Superintendent of the Police (SP). **Hence statement 1 is not correct.**
- **First**, A written petition is filed before the President/Governor either by the convict or his/her relative on his/her behalf. **Hence statement 2 is not correct.**
- The petition can be filed on the following grounds:
 - The convicted person is the sole bread earner of their family.
 - The physical/mental fitness of the convict or his/her age.
 - Law for the crime committed was quite harsh.
 - The court committed an error or mistake unknowingly.
- The grounds might play an important role in the decision-making process.
- **Second**, the Petition will be **forwarded to the Ministry of Home Affairs** for comments and recommendations.
- **Third**, the Home Ministry analyses the merits of the Mercy petition. **Hence statement 3 is not correct.**
- During this phase, the Ministry also discusses the matter with the concerned State government.
 - After this, the Home Minister makes the recommendation on Mercy petition to the President.
- **Fourth**, As per the advice of the Council of Ministers (CoM), the President can either accept or reject the mercy plea. There is no time limit prescribed for the President to exercise this power.
- The Governor is also empowered with pardoning powers, but the Governor cannot pardon the Death sentence. However, he can commute, remit, reprieve the death sentence for the offences against the law, which is under executive power of the State.

Q69.

Ans: D

Explanation:

Context: The Foreigners Tribunals (FTs) in Assam are quasi-judicial bodies formed under the Foreigners (Tribunals) Order of 1964.

About Foreigners Tribunals:

- These are **quasi-judicial bodies** formed through the **Foreigners (Tribunals) Order of 1964** under Section 3 of the Foreigners' Act of 1946, to let local authorities in a State refer a person suspected to be a foreigner to tribunals.
- The FTs are currently exclusive to Assam as cases of "illegal immigrants" are dealt with according to the Foreigners' Act in other States.
- **Composition:** Each FT is headed by a **member drawn from judges**, advocates, and civil servants with judicial experience. **Hence statement 1 is not correct.**
- The Ministry of Home Affairs told Parliament in 2021 that there are 300 FTs in Assam but the website of the State's Home and Political Department says that only 100 FTs are currently functioning, beginning with 11 established before the Illegal Migrants (Determination by Tribunals) Act of 1983 was scrapped in 2005.
- **Functioning**
 - According to the 1964 order, an FT has the **powers of a civil court** in certain matters such as summoning and enforcing the attendance of any person and examining him or her on oath and requiring the production of any document.
 - A tribunal is required to serve a notice **in English or the official language** of the **State** to a person alleged to be a **foreigner within 10 days** of receiving the reference from the authority concerned.
 - Such a person has 10 days to reply to the notice and another 10 days to produce evidence in support of his or her case.
 - An FT has **to dispose of a case within 60 days** of reference. If the person fails to provide any proof of citizenship, the FT can send **him or her to a detention centre**, now called **transit camp**, for deportation later. **Hence statement 2 is not correct.**

Q70.

Ans: C

Explanation:

Context: The Supreme Court of India emphasized the constitutional right to a speedy trial under Article 21, rebuking the National Investigation Agency (NIA) for delays in a counterfeit currency case.

Right to a speedy trial:

- The Supreme Court's decision highlighted the importance of a speedy trial, referencing past rulings such as Kartar Singh Vs State of Punjab (1994), Hussainara Khatoon (I) Vs Home Secretary, State of Bihar, and Abdul Rehman Antulay Vs RS Nayak (1992), which all recognized the right to a speedy trial as a fundamental right under Article 21.

Q71.

Ans: B

Explanation:

Context: The process for designating senior advocates in India has evolved to promote transparency and merit.

What is a Senior advocate?

- Section 16 (1) of the Advocates Act, 1961 states there shall be two classes of advocates, namely, senior advocates and other advocates.
- Section 16 (2) allows an advocate to be designated as a senior advocate if he consents to it and if the Supreme Court or a High Court is of opinion that by virtue of his ability, he is deserving of such distinction.

What are the new guidelines issued by the Supreme Court on designating lawyers as 'Senior Advocates'?

- **Committee for Designation of Senior Advocates:** All matters relating to the designation of Senior Advocates in the Supreme Court of India shall be dealt with by a Permanent Committee.
 - The committee will be composed of the following: (1) Chief Justice of India Chairperson (2) Two senior-most Judges of the Supreme Court of India (3) Attorney General for India (4) A member of the Bar, nominated by the Chairperson and Members. **Hence statement 1 is not correct.**
 - The committee will meet twice a year. The Committee shall have a permanent secretariat. The composition of the Secretariat will be decided by the Chief Justice of India in consultation with the members of the Committee.

Eligibility to be designated as a Senior advocate:

- The candidates need to be at least ten years' standing as an Advocate or ten years' combined standing as an Advocate and as a District and Sessions Judge or as a Judicial Member of any Tribunal in India to be designated as Senior Advocates at the Supreme Court.
- They must practice mainly in the Supreme Court but advocates with domain expertise of practising before specialized Tribunals may be given concession.
- The age limit for applying for the designation of Senior Advocate is now 45 years unless the age limit is relaxed. The age limit can be relaxed by the Committee. **Hence statement 2 is correct.**

Role of Secretariat:

- The Secretariat of the Committee shall initiate the process for designation of Senior Advocate at least once every year by inviting applications from Advocates-on-Record/Advocates for designation as Senior Advocates.
- The Committee will examine each application on the basis of the data provided by the Secretariat and make its overall assessment on the basis of a point-based format.
- The points will be given to the advocate based on years of practice, pro-bono work undertaken, judgements, publications and a personality test.
- The Committee may short-list the number of candidates to be selected for interview by the Full Court comprising all judges.
- The Full Court may review its decision to designate a person as a Senior Advocate and recall the conferment of designation if the Advocate is found guilty of conduct which according to the Full Court disentitles him to designation.

Q72.

Ans: A

Explanation:

Context: The Reserve Bank of India (RBI) has announced that the Foreign Portfolio Investment (FPI) limits for investment in various securities will remain unchanged for the current fiscal year.

- **Statement 1 is correct:** The Reserve Bank of India (RBI) regulates the secondary market trading of Government Securities (G-Secs), including both Central Government bonds and State Development Loans (SDLs). The RBI ensures liquidity, transparency, and smooth operations in the G-Sec market.
- **Statement 2 is not correct:** The limits for FPI investment in government securities (G-sec), state development loans, and corporate bonds will be maintained at 6%, 2%, and 15% respectively, of the outstanding stocks of securities.

Q73.

Ans: B

Explanation:

Context: SEBI has mandated Asset Management Companies (AMCs) to establish an institutional mechanism to deter potential market abuse, including front-running, following recent instances observed by the market regulator.

What is front running?

Front running occurs when a broker or trader **misuses privileged information** about an upcoming large trade order from a client. The broker **trades for their own benefit first**, taking advantage of the anticipated price movement caused by the client's transaction.

- **Option a is not correct:** While hedge funds executing large trades may cause price fluctuations, it is **not necessarily front running** unless they misuse client trade information.
- **Option c is not correct:** This describes **spoofing**, where traders place fake orders to deceive others.
- **Option d is not correct:** This is **legitimate accumulation** of shares without market manipulation.

Q74.

Ans: A

Explanation:

Context: The Department of Consumer Affairs warns against drip pricing.

About Drip Pricing:

Drip Pricing is a common pricing tactic where businesses **advertise a lower base price** but **gradually reveal extra fees** (such as service charges, convenience fees, or mandatory add-ons) as the customer moves through the purchase process.

- **Example:** Airlines, hotel bookings, event ticketing platforms, and e-commerce websites often use drip pricing by showing an **initially low price** but adding extra costs **during checkout**.
- This tactic **influences consumer behavior** because people tend to commit to a purchase early and may feel reluctant to abandon it despite unexpected charges.

Q75.

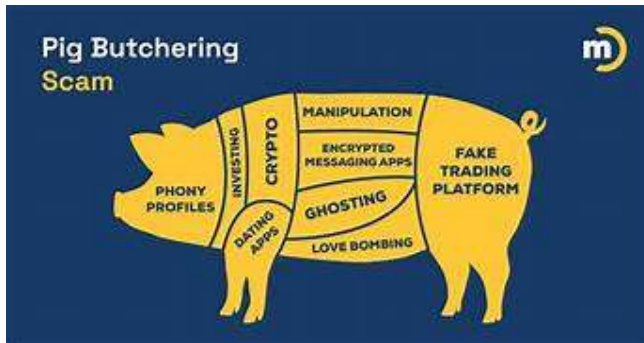
Ans: C

Explanation:

Context: An online financial fraud called Pig Butchering Scams are increasing across the globe, including in India.

What is “Sha Zhu Pan” scams?

- **“Sha Zhu Pan” (杀猪盘)** is a Chinese term meaning **“Pig Butchering Scam”**.
- It is a **highly sophisticated financial fraud** where scammers build emotional relationships with victims (often through social media or dating apps) and then **coerce them into fake investment schemes**, typically involving **cryptocurrency or forex trading**.
- The scam is designed to **“fatten up” the victim (like a pig) before financially “butchering” them** by making them invest large sums and then disappearing.



Q76

Ans: B

Explanation:

Context: Australia is home to a growing number of carbon neutral certified firms, but many of them don't advertise their credentials. These firms measure, reduce and offset their carbon emissions but often decide to stay silent about their efforts, an emerging global trend called "greenhushing".

Greenhushing:

What is Greenhushing?

- Greenhushing occurs when firms **underreport or deliberately withhold information** about their environmental goals and achievements.
- Instead of advertising their sustainability credentials, these firms **remain silent** about their environmental commitments.

Why Firms Engage in Greenhushing

1. Legal and Regulatory Concerns

- In the US, public companies fear lawsuits if sustainability goals clash with shareholder profit obligations.
- In conservative states facing an ESG backlash, firms avoid talking about green efforts to prevent regulatory scrutiny.

2. Consumer Perceptions

- Many consumers wrongly assume "green products" are **lower in quality, more expensive, or less effective**.
- This discourages firms from highlighting sustainability features.

3. Tourism Industry Example

- Tourists prefer indulgence over environmental responsibility during vacations.
- Hotels and resorts often adopt sustainability practices **quietly, behind the scenes**, to avoid discomforting guests.

4. Avoiding Scrutiny

- Companies promoting environmental responsibility are held to **higher standards**.
- Publicising climate goals invites outside attention and pressure, so firms prefer silence.

Why Carbon Neutral Certified Firms Greenhush

- **Lack of Customer Demand:** Many consumers don't know or care about carbon neutrality.
- **Fear of Greenwashing Accusations:** Highlighting climate credentials may backfire, attracting public criticism and reputational damage.

Why Firms Pursue Carbon Neutral Certification

1. Competitive Motives

- Differentiates them from rivals
- Attracts talent and better financing options

2. Maintaining Social Licence

- Strengthens stakeholder relationships
- Demonstrates long-term responsibility

3. Ethical Motivation

- Commitment to environmental responsibility
- Guided by values and passion for sustainability

Communication Style Difference:

- Competitively driven firms → **proactively promote** carbon neutrality.
- Ethically/social-licence driven firms → **more likely to greenhush.**

Is Greenhushing on the Rise?

- A report by **South Pole (Swiss climate consultancy)** found:
 - **58% of 1,400 surveyed firms** are reducing climate communications due to regulatory scrutiny.
- Despite pursuing net-zero goals, companies increasingly **refrain from publicising efforts**, showing a concerning trend.

Should We Be Concerned?

- **Downside of Greenhushing:**
 - Reduces visibility of solutions
 - Limits peer inspiration for sustainable practices
- **Possible Remedies:**
 - **Reframe sustainability as a journey** – emphasize progress over perfection.
 - **Better regulations** – ensure clarity, fairness, and consumer trust (e.g., EU Greenwashing Directive).
 - **Educate consumers** – improve awareness, reduce negative associations, and encourage sustainable choices.

In the given scenario, the company is:

1. **Continuing sustainability efforts** (internal action).

2. **Not publicizing ambitious targets** (withholding communication).
3. **Fearing potential scrutiny** (the motivation for the silence).

This combination perfectly defines greenhushing.

Q77.

Ans: C

Explanation:

Context: UN Sustainable Development Goals Index 2025 List: Marking a steady upward trend, India ranks 99th in the 2025 SDG Index, up from 109th in 2024, 112th in 2023, 121st in 2022, and 120th in 2021.

What is the SDG Index / Sustainable Development Report?

- The SDG Index, along with dashboards and performance trackers, is a **global assessment** tool that monitors how each UN Member State is progressing toward the 17 Sustainable Development Goals (SDGs).
- The official **Sustainable Development Goals Report 2025** is the UN's principal report to assess and present global progress toward Agenda 2030.
- The 2025 edition is the **10th edition** of this report in its current form (previously known also as the "SDG Index & Dashboards").
- It is prepared by the United Nations (specifically DESA / UN Statistics Division) in consultation with international, regional, and UN-system agencies. Hence statement 1 is correct.

Key Features of the 2025 Report

Streamlined SDG Index (SDGi)

- The 2025 report introduces a **streamlined SDG Index (SDGi)**, which uses **17 headline indicators** (one for each goal) to provide an overview of progress.
- This is a more simplified, "top-level" measure, complementing the more detailed indicator dashboards.

Scope & Data

- The report tracks all 193 UN Member States across the 17 SDGs. Hence statement 2 is not correct.
- It integrates more than **200,000 individual data points** across over 200 country and regional profiles.
- The data include both recent and historical data (when available), allowing trend analysis.

Rankings, Scores & Spillover

- The SDG Index ranks all countries by their performance (scores) on the SDGs.
- In 2025, **Finland, Sweden, and Denmark** are the top 3 performers.
- The report also includes a "spillover index" which measures the positive or negative impacts that a country's development path has on other countries / the planet (i.e. externalities beyond its borders). Hence statement 3 is not correct.

Key Findings & Messages (2025)

- **No goal is fully on track globally:** None of the 17 SDGs are currently on a trajectory where they are assured of being achieved worldwide by 2030.
- Only about **17% of the SDG targets** are considered "on track" globally.

- Many countries show strong progress in **basic services and infrastructure** — e.g. electricity access, internet/mobile connectivity, reductions in child mortality.
- **Financing constraints** are a major barrier in many developing countries. Debt burdens, lack of access to affordable long-term capital, and limited fiscal space hinder SDG investments.
- The report emphasizes **reform of the Global Financial Architecture (GFA)** as a key lever: capital flows should shift more favourably toward emerging and developing economies.
- Regional trends: **East & South Asia** is identified as the region with the fastest SDG progress since 2015 — largely due to advances in socioeconomic targets.

Country Spotlight: India & Others

- ***India's performance: In the 2025 Index, India is ranked 99th globally, an improvement from 109th in 2024. Hence statement 4 is correct.***
- Top 10 in 2025 (some examples) include:
 1. Finland
 2. Sweden
 3. Denmark
 4. Germany
 5. France
- Bottom of the ranking: Countries like South Sudan, Central African Republic, Chad, Somalia, Yemen, etc., are among the lowest in 2025.

How to Use the Report / Tools

- The **interactive map** on the SDG Index dashboard lets you explore country performance by goal and indicator.
- **Country profiles** allow for detailed breakdowns of trends for each country across the 17 goals and underlying indicators.
- The dashboards are designed to help policymakers, analysts, researchers, and the public monitor progress, identify gaps, and prioritize interventions.

Q78.

Ans: A

Explanation:

Context: *Delhi high court protected personality rights of Sadhguru Jaggi Vasudev from being misused via AI by websites and platforms.*

About Personality Rights

- Personality rights refer to the right of an individual to control the unauthorized use of their personal attributes like Name, Image, voice, Likeness and Distinctive expressions or traits. (Include both commercial and non-commercial aspects)
- Personality rights are not expressly mentioned in any statute in India.
- **Components of Personality Rights:**

- **Right to Publicity:** Protects image from commercial use without consent; partially covered by Trademark and Copyright Acts.
- **Right to Privacy:** Prevents unauthorized public representation; upheld under Article 21 and Puttaswamy judgment.
- **Posthumous Personality Rights in India:** There is no specific statutory recognition.
 - However, Emblems Act, 1950 prohibits commercial use of images of Mahatma Gandhi and Prime Minister.
 - Deepa Jayakumar v. AL Vijay (2019) Judgment: Personality right, reputation or privacy comes to end after lifetime.

Difference between personality rights and right to life:

- *Personality Rights* are not explicitly mentioned in the Constitution but have evolved through judicial interpretation — they relate to protection of one's image, likeness, voice, and identity, often linked to privacy and publicity.
- *Right to Life* under **Article 21** ensures protection of life and personal liberty, encompassing dignity, privacy, and livelihood.

Q79.

Ans: A

Explanation:

Context: Recently, the Israel Defense Forces (IDF) launched “Operation Rising Lion”, a major strike against Iranian nuclear infrastructure and ballistic missile capability.

- When the **Suez Canal** is blocked, ships from Europe to India must take the **Cape of Good Hope route** — moving around the southern tip of **Africa** and then northeast across the **Indian Ocean** to reach Indian ports.
- The **Northern Sea Route (b)** is geographically possible but **longer, ice-bound, and impractical** for large-scale trade to India.
- The **Panama Canal (c)** leads to the **Pacific Ocean**, making it a **much longer detour**.
- The **Trans-Saharan overland route (d)** is **not a continuous maritime route** and is logistically unrealistic for large cargo.



Q80.

Ans: C

Explanation:

Context: The Supreme Court overturned the Patna High Court's order which allowed Narco-tests on all accused and witnesses.

What is Narco-Test?

- A narco-test is an interrogation method where a person is injected with a psychoactive drug (commonly sodium pentothal) to lower inhibitions and suppress reasoning capabilities, in hopes of extracting information relevant to an investigation.

Supreme Court Position

- The Supreme Court's landmark verdict in *Selvi v. State of Karnataka* (2010) established that any involuntary administration of narco-test violates constitutional rights.
- This position was reaffirmed in *Amlesh Kumar v. State of Bihar* (2025), which categorically held that forced narco-analysis is unconstitutional.

Fundamental Rights Involved

- **Article 20(3) (Right Against Self-Incrimination):**
An accused person cannot be compelled to testify or provide evidence against themselves. Involuntary narco-analysis amounts to testimonial compulsion and directly violates this right.
- **Article 21 (Right to Life and Personal Liberty):**
Involuntary narco-tests intrude upon an individual's personal liberty and privacy. The right to decide whether or not to undergo such tests is intrinsic to personal autonomy.

Guidelines for Administration

- No narco-test or similar scientific technique can be conducted without the subject's voluntary, informed, and judicially recorded consent.
- The subject must be made aware of the legal, physical, and emotional implications of the test, given access to legal counsel, and consent must be recorded before a magistrate.

Evidentiary Value

- Results or reports from a narco-test cannot be used as the sole basis for conviction in a criminal trial.
- Any information or material discovered as a consequence of a voluntary narco-test (i.e., facts physically found as a result of the test, not statements made under influence) may be admitted under Section 27 of the Indian Evidence Act, if properly corroborated.

Voluntary Test and Rights

- The accused does not have an absolute right to undergo a narco-test at will. The court decides whether such a request is appropriate, and only at certain trial stages.
- Even if voluntarily undertaken, the test cannot override other evidence requirements or procedural safeguards.
- **Statement I is correct:** The Supreme Court, including recent judgments in 2025, has held that results of narco analysis, even when voluntary, cannot by themselves form the sole basis for conviction.
- **Statement II is correct:** The Supreme Court and landmark cases, especially Selvi v. State of Karnataka and confirmed in 2025, state that administering narco tests without free consent violates both Articles 20(3) and 21 of the Constitution.
- **Statement III is incorrect:** While the actual statements made during a narco test (especially involuntarily) are inadmissible, information or facts discovered as a direct consequence of such tests (provided the test was voluntary and all legal safeguards adhered) may still be admissible under Section 27 of the Indian Evidence Act, 1872. The Evidence Act permits the use of "discovery" evidence, even if the initial statement itself is inadmissible, as long as it leads to discovery of new facts.
- Hence, both statements I and II are correct. Only Statement II explains why narco-tests are not used as sole basis for conviction (due to violation of constitutional rights).

Q81.

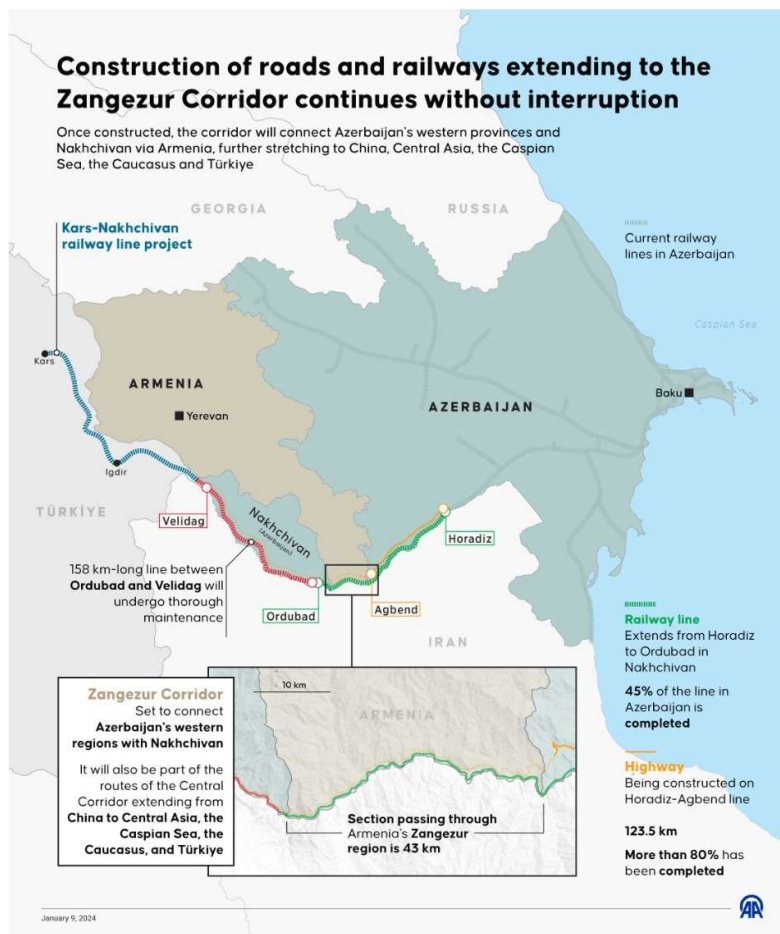
Ans: B

Explanation:

Context: Türkiye urged Armenia and Azerbaijan to open the Zangezur Corridor amid their ongoing conflict over Nagorno-Karabakh since 1917. It is a region that is internationally part of Azerbaijan but inhabited by mainly ethnic Armenians.

About Zangezur Corridor

- **Location:** It is a proposed 43-kilometer transport route through Armenia's Syunik Province.
- **Objective:** Connecting Azerbaijan's Baku Port in Caspian Sea to the Nakhchivan Autonomous Region and further to Turkey.
- **India's concerns:** It can undermine India's investments in Chabahar Port and International North South Corridor (INSTC) by offering a competing pathway, reducing India's regional leverage.
- While it could indirectly enhance connectivity between the Caspian region and Türkiye (and beyond to Europe), its *primary geopolitical significance* lies in linking **two separated parts of Azerbaijan**.



Q82.

Ans: A

Explanation:

Context: The RBI, under Section 22(1) of the Banking Regulation Act, 1949, issued new rules revising Priority Sector Lending (PSL) norms for Small Finance Banks (SFBs).

What is Priority Sector Lending?

- Priority Sector Lending refers to the compulsory practice mandated by the Reserve Bank of India (RBI), requiring banks to allocate a specified proportion of their loan book to sectors deemed instrumental for the country's inclusive and balanced development. These sectors often face difficulty in accessing institutional credit and are vital for social and economic progress.

Historical Background and Evolution

- Formally introduced in 1972 following the recommendations of the Gadgil Committee (1969) and later committees.
- The PSL system has evolved to address contemporary needs and developmental goals, incorporating changes like higher flexibility and broader eligible sectors over time.

Sectors Covered Under PSL

- Agriculture and Allied Activities

- Micro, Small, and Medium Enterprises (MSMEs)
- Export Credit
- Education
- Affordable Housing
- Social Infrastructure (e.g., schools, health facilities)
- Renewable Energy
- Other vulnerable/weaker sections.

Applicability

- PSL guidelines apply to all Scheduled Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks (SFBs), Urban Co-operative Banks (UCBs), and (with specific conditions) foreign banks in India.
- Each category of bank has separate targets and reporting norms.

PSL Targets and Sub-Targets (2025 Update)

Bank Type	Overall PSL Target	Sub-Targets
Scheduled Commercial & Foreign Banks (≥ 20 branches)	40% of ANBC or CEOBE, whichever is higher	Agriculture: 18% of ANBC (within that, 8% for small/marginal farmers)
Regional Rural Banks (RRBs)	75% of ANBC or CEOBE, whichever is higher	-
Urban Co-operative Banks (UCBs)	60%	-
Small Finance Banks (SFBs)	60% of ANBC (40% mandatory to PSL, 20% flexible for secured non-PSL loans).	

- ANBC: Adjusted Net Bank Credit
- CEOBE: Credit Equivalent Off-Balance Sheet Exposure.

Key Instruments and Compliance

- Priority Sector Lending Certificates (PSLCs): Banks exceeding PSL targets can sell PSLCs to those who fall short, creating a market for PSL compliance.
- Non-Compliance Penalty: Banks missing PSL targets must contribute to funds like the Rural Infrastructure Development Fund (RIDF) at lower interest rates.
- **Statement 1 is correct:** Loans to **start-ups up to ₹50 crore** fall under the “Others” category of PSL (as per RBI Master Directions 2020, updated 2023).
- **Statement 2 is correct:** For **domestic scheduled commercial banks and foreign banks with more than 20 branches**, the PSL target is **40%** of ANBC or CEOBE, whichever is higher.
- **Statement 3 is not correct:** Renewable energy projects qualify under PSL **only up to ₹30 crore for enterprises and ₹10 lakh for households**, not automatically irrespective of size.

- **Statement 4 is not correct:** New Rule (from FY 2025-26) for SFBs, Total PSL reduced to 60% of ANBC (40% mandatory to PSL, 20% flexible for secured non-PSL loans).

Q83.

Ans: C

Explanation:

Context: Goa's traditional percussion instrument Ghumot is witnessing revival debates around heritage conservation and wildlife protection, after it was declared the State Heritage Instrument in 2019.

About Ghumot:

- **What It Is?**
 - A traditional mud-based membranophone percussion instrument of Goa, crafted from clay with one side covered by animal skin.
- **Origin:** Migrated to Goa through tribal communities and early settlers and deeply embedded in oral histories.
- **Types:** Variants in size and form for children, women, amateurs, and professionals.
- **Caste Associations:** Historically crafted by tribal potters and played by both Hindu and Christian communities—showcasing Goa's syncretic cultural ethos.

	<i>Instruments</i>	<i>States/UTs</i>
1	Hudak	Himachal Pradesh
2	Ravanahatha	Rajasthan
3	Tumdak	Jharkhand
4	Ghumot	Goa

Q84.

Ans: D

Explanation:

Context: 25 June 2025 marks the 50th anniversary of the declaration of Emergency (1975–77), prompting national reflection on its impact on India's democracy and constitutional framework.

What it is?

- The Emergency was declared under Article 352 on 25 June 1975, citing “internal disturbance”, suspending civil liberties and altering governance structures across India. It lasted from 25 June 1975 to 21 March 1977.

Constitutional Framework

- Part XVIII (Articles 352 to 360) of the Indian Constitution lays down the emergency provisions, enabling the Union Government to take extraordinary measures where normal governance mechanisms are inadequate.
- The main objective is to safeguard the democratic system, sovereignty, unity, and integrity of India under crisis.

Types of Emergencies

Type	Article	Grounds	Declared By	Approval
National Emergency	352	War, external aggression, armed rebellion	President	Parliament (within 1 month, then every 6 months)
President's Rule (State Emergency)	356	Failure of constitutional machinery in a state	President	Parliament (within 2 months, then every 6 months)
Financial Emergency	360	Threat to financial stability of India	President	Parliament (within 2 months)

Brief Description

National Emergency (Article 352):

- Proclaimed when the security of India (or part thereof) is threatened by war, external aggression, or armed rebellion.
- Suspends rights under Article 19 and enables the Centre to direct State governments and take legislative control.
- Proclamation needs Parliament's approval and can be subject to judicial review.

President's Rule (Article 356):

- Applied when state machinery fails to function according to the Constitution.
- The President assumes government functions of the state; legislative powers are exercised by Parliament.
- Extensively used in India; each case requires Parliamentary approval and periodic review.

Financial Emergency (Article 360):

- Imposed when the financial stability or credit of India is threatened.
- The Centre can direct states on financial matters, reduce salaries of government officials, and modify financial arrangements.
- Has never been invoked since independence.

Important Safeguards and Judicial Review

- Democratic Safeguards: Each emergency must be authorized by Parliament within a specified period and can be withdrawn by resolution.
- Rights Impact: Some fundamental rights can be suspended (notably Article 19 during National Emergency), but Articles 20 and 21 remain protected after the 44th Amendment.

- Judicial Review: The Supreme Court can review the grounds and procedures of emergency proclamations.

- **Statement 1 is correct:** The **Weimar Constitution of Germany (1919)** inspired India's framers to incorporate emergency powers, including suspension of rights — a feature later criticized for enabling authoritarian misuse.
- **Statement 2 is correct:** The **U.S. Constitution** does not allow suspension of fundamental rights even during emergencies, except limited habeas corpus suspension under Article I, Section 9. India, however, under **Articles 352–359**, explicitly authorizes such suspension.
- **Statement 3 is correct:** The **U.K.** relies on **parliamentary sovereignty and conventions**, while India's emergency powers are **constitutionally codified**, ensuring legal procedures and judicial review.

Q85.

Ans: A

Explanation:

Context: The US launched Operation Midnight Hammer, deploying B-2 bombers and bunker-buster bombs in a precision strike on Iran's nuclear sites (Fordow, Natanz, Isfahan), claiming significant damage to Iran's nuclear infrastructure.

About Operation Midnight Hammer:

- **What it is?**
 - A classified US military airstrike targeting Iran's key nuclear facilities with precision weapons.
 - **Launched by:** US Department of defence.
 - **Objective:** To severely degrade Iran's nuclear weapons infrastructure and demonstrate US strategic air power.
- **Weapons used:**
 - B-2 Spirit stealth bombers with GBU-57A/B Massive Ordnance Penetrator (MOP).
 - Tomahawk Land Attack Cruise Missiles launched from a US submarine.
 - Decoy aircraft and support fighter jets for air defence suppression.

	<i>Name of operations</i>	<i>Descriptions</i>
1	Operation Rising Lion	launched by Israel against Iran, primarily targeting its nuclear infrastructure and ballistic missile capabilities
2	Operation True Promise 3	launched by Iran against Israel in retaliation to Israeli strikes
3	Operation Midnight Hammer	launched by the United States against Iran, primarily targeting its nuclear sites
4	Operation Bunyan-un-Marsoos	launched by Pakistan in response to India's "Operation Sindoor"

Q86.

Ans: C

Explanation:

Context: The World Bank revised the global poverty line to \$3/day (PPP 2021) from \$2.15/day (PPP 2017) based on updated price data and survey methods.

About The World Bank Revised the Global Poverty Line:

What Is the Global Poverty Line?

- A poverty line defines the minimum daily spending needed for basic needs like food, clothing, and shelter.
- The global poverty line is adjusted using Purchasing Power Parity (PPP) to allow comparison across countries regardless of currency value.

How Is Poverty Rate Determined?

- Poverty is measured as the percentage of people living below a certain daily expenditure level (e.g., \$2.15/day).
- The World Bank uses household consumption data, adjusted for PPP and inflation, to calculate national and global poverty rates.
- The new estimate reflects richer consumption data and updated cost of living, especially in countries like India.
- Extreme poverty line is now based on the median poverty line for low-income countries.
- **Statement I is correct:** The **World Bank** indeed revises the *Global Poverty Line* periodically (e.g., from US\$1.90 → US\$2.15 per day) to reflect changes in **Purchasing Power Parity (PPP)**, a measure of price level differences across countries, derived from **International Comparison Program (ICP)** data.
- **Statement II is incorrect:** The revision is **not based on CPI** of individual countries; CPI measures domestic inflation, while **PPP** captures cross-country comparability in purchasing power. Hence, the **statement I is correct**, but the **statement II is incorrect**.

Q87.

Ans: D

Explanation:

Context: The KATRIN experiment in Germany has published the most stringent upper limit yet on the sum of the masses of the three types of neutrinos, capping it at 8.8×10^{-7} times the mass of an electron—twice as precise as previous estimates.

	Experiments	Field of research
1	DUNE	Neutrino Oscillations and Proton Decay
2	KATRIN	Precision Measurement of Neutrino Mass
3	ATLAS/CMS	Higgs Boson and Physics Beyond the Standard Model
4	XENONnT/LZ	Search for Weakly Interacting Massive Particles (WIMPs) (a Dark Matter candidate)

Q88.

Ans: C

Explanation:

Context: A new technique called Magnetic Isolation and Concentration (MagIC) has enabled cryo-electron microscopy (cryo-EM) to analyse samples 100 times more dilute than earlier.

About Cryo-Electron Microscopy (Cryo-EM):

What is Cryo-EM?

- A revolutionary imaging technique that captures 3D structures of biomolecules at near-atomic resolution.
- It involves rapid freezing (vitrification) of samples and imaging them using electron beams.

Developed by:

- Initially developed in the 1980s.
- Recent advancements in hardware and image-processing algorithms earned the 2017 Nobel Prize in Chemistry (awarded to Dubochet, Frank, and Henderson).

Working Principle:

- Sample Preparation:** Protein solutions are rapidly frozen using cryogenic liquids (e.g. ethane) into amorphous ice to preserve natural structures.
- Imaging:** Electron beams pass through the frozen sample producing multiple 2D projections.
- Data Processing:** Computational software reconstructs a 3D density map from thousands of 2D particle images.
- Structure Modelling:** Final atomic-level models are fitted into this density for biological insights.
- Statement I is correct:** Cryo-EM is superior for large and flexible molecules because it images molecules suspended in a thin layer of vitreous ice, preserving their native, flexible state and eliminating the need for crystallization.
- Statement II is incorrect:** The fundamental advantage of Cryo-EM is that it **does not require crystallization**. The requirement of growing a crystal lattice is the main challenge and prerequisite of the older technique, **X-ray Crystallography**, which Cryo-EM overcomes.

Q89.

Ans: C

Explanation:

Context: After the tragic Air India Boeing 787 crash in Ahmedabad, authorities are using DNA identification techniques to confirm the identities of the deceased.

About DNA Identification Technique:

- What is DNA Identification?**
 - DNA identification is the forensic process of matching DNA from unidentified human remains with known biological samples.
 - Each individual's DNA (except identical twins) is unique, making it a biological fingerprint used to establish identity with high precision.
- How DNA Identification Works?**
 - Sample Collection & Storage:**
 - DNA begins to degrade after death, especially in hot/humid conditions.
 - Investigators collect DNA from hard tissues (bones, teeth) or soft tissues (skin, muscle), storing them in ethanol or freezing at -20°C to prevent breakdown.
 - Reference Matching:**
 - Reference DNA is collected from close relatives (parents, children, maternal or paternal kin) or personal items (toothbrush, hairbrush) for comparison.
 - Matching determines the relationship and helps confirm the identity of the remains.
- Methods of DNA Analysis:**
 - Short Tandem Repeat (STR) Analysis:**
 - Evaluates repeating sequences in nuclear DNA.
 - Most commonly used; accurate if DNA is well preserved.
 - Mitochondrial DNA (mtDNA) Analysis:**
 - Used when nuclear DNA is degraded.
 - Inherited maternally, so it's matched with maternal relatives.
 - Y-Chromosome STR Analysis:**

- Traces paternal lineage using male-specific Y chromosomes.
- Useful when close maternal relatives are unavailable.
- **Single Nucleotide Polymorphism (SNPs):**
 - Detects single-point mutations in highly degraded DNA.
 - Less accurate than STR but useful when reference DNA is minimal.

- **Statement 1 is correct:** The uniqueness of **STR regions** in nuclear DNA forms the scientific basis of DNA profiling — identical only in monozygotic twins.
- **Statement 2 is correct:** **PCR** amplifies minute quantities of DNA, even from degraded biological material, enabling accurate comparison.
- **Statement 3 is not correct:** **Agarose Gel Electrophoresis** separates DNA fragments **by molecular size** (smaller fragments move faster), not by sequence.

Q90.

Ans: B

Explanation:

Context: *A new study in Earth's Future journal proposes a low altitude version of Stratospheric Aerosol Injection (SAI) using modified existing aircraft.*

How Stratospheric Aerosol Injection (SAI) Works?

- Inspired by volcanic eruptions (e.g., Mount Pinatubo, 1991) that cooled global temperatures by emitting aerosols.
- Sulphur dioxide aerosols are released at high altitudes (~13–20 km) to form a reflective layer.
- This layer reflects sunlight back into space, reducing global surface temperatures.
- Duration of particles in the stratosphere: months to years, depending on injection altitude.

Termination shock:

- The **termination shock** refers to the **sudden rebound warming** that could occur if SAI — which masks greenhouse warming by reflecting sunlight — is abruptly discontinued.
- As the Earth's atmosphere would still contain accumulated **greenhouse gases**, the suspended cooling effect would vanish instantly, leading to **rapid and potentially catastrophic warming**.

Q91.

Ans: B

Explanation:

Context: *Sohrai Art from Jharkhand was spotlighted at Kala Utsav 2025 held at Rashtrapati Bhavan, where President of India hailed it as reflecting "the soul of India."*

What is Sohrai Art?

- Sohrai is the Santhal, Munda, and Oraon tribes.
- It is traditionally a ritual wall painting tradition practiced by tribal communities of Jharkhand, particularly created by women on the mud walls of houses using natural pigments and bamboo twigs.

When it's celebrated:

- Painted during harvest festivals, especially Diwali, to honour livestock and fertility of the land.
- It is both a thanksgiving ritual and a celebration of agrarian life and womanhood.

Geographic Region:

- Practised across Hazaribagh, Santhal Parganas, and bordering areas of Bihar.
- Spread from cave art traditions to village homes across eastern India.

	<i>Paintings</i>	<i>States/UTs</i>
1	Kaavi Art	Goa, Coastal Maharashtra, Karnataka
2	Mandana Painting	Rajasthan & Madhya Pradesh
3	Saura Painting	Odisha
4	Sohrai Painting	Jharkhand

Q92.

Ans: B

Explanation:

Context: A rare roll cloud was spotted over Portugal’s coastline as a cool Atlantic air mass collided with hot, dry air during an intense European heatwave, captivating beachgoers and meteorologists alike.

About Roll Cloud:

Formation of Roll Clouds:

Roll clouds are distinctive, low, horizontal, tube-shaped clouds that frequently form along the leading edge of thunderstorms or gust fronts. Their formation relies primarily on the interaction between two contrasting air masses:

- Cool downdraft air or outflow from a storm spreads out near the surface.
- This cold, dense air advances beneath warm, moist air present near the ground.

As the denser cool air pushes forward and undercuts the warm air, the warm air is lifted, cooled, and condensed, forming the characteristic tubular roll cloud. The key mechanism enabling the rolling or horizontal rotation feature of these clouds is the horizontal wind shear — a difference in wind speed or direction across the boundary between the cool outflow and the warm air.

Why Horizontal Wind Shear is Essential

- The wind shear causes the air to roll along a horizontal axis.
- This rolling motion gives the roll cloud its distinctive “tube” shape and a visible sense of rotation about its length.
- Thermal and dynamic instabilities along this boundary amplify the effect but depend on this fundamental interaction and shear.



Q93.

Ans: C

Explanation:

Context: *The United States has announced its decision to withdraw from UNESCO by December 2026, citing anti-Israel bias and UNESCO's recognition of Palestine—just two years after rejoining the organization.*

UNESCO:

- UNESCO, the United Nations Educational, Scientific and Cultural Organization, is a leading specialized agency of the UN dedicated to building peace and fostering sustainable development through international cooperation in education, science, culture, and communication.

Origin and Membership

- **Established:** 1945, after the London Conference; constitution entered into force in 1946.
- **Headquarters:** Paris, France.
- **Membership:** 194 member states and 12 associate members as of 2025.

Mandate and Core Values

- **Mission:** Promote global peace, security, and sustainable development by facilitating collaboration among nations in education, the sciences, culture, and communication.
- **Core values:** Equality, respect for diversity, intellectual and moral solidarity, and greater global understanding.

Key Functions

- Advocate for and support quality education and lifelong learning for all.
- Advance scientific research, cooperation, and solutions for sustainability, innovation, and responsible technology.
- Safeguard and promote cultural diversity, preserve cultural and natural heritage (including World Heritage Sites), and strengthen creative industries.
- Foster access to accurate information, media development, press freedom, and reliable communication channels.
- Build international partnerships for social progress, peace, gender equality, and the empowerment of marginalized communities.

- **Statement I is correct:** When a state's withdrawal becomes effective, it ceases to be a full Member State. While it can often seek to maintain engagement through a **non-member observer** status (as the US has done in the past), it permanently loses its rights as a full member, most notably its **voting rights** in the General Conference and the Executive Board.
- **Statement II is incorrect:** The withdrawal only becomes effective at the end of the calendar year following the year in which the notice was submitted—not immediately. Also, withdrawal does not automatically discharge a State's previous financial obligations or treaty commitments accrued before the effective date; arrears and ongoing obligations up to the date of effectiveness still stand.

Q94.

Ans: B

Explanation:

Context: Russia officially recognised the Taliban-led Islamic Emirate of Afghanistan, becoming the first country to do so formally since the regime's 2021 takeover.

- **Statement 1 is correct:** Russia's recognition, alongside its lifting of the "terrorist" designation on the Taliban, is a move to **normalize economic ties**. This facilitates its involvement in major regional projects like the **TAPI (Turkmenistan-Afghanistan-Pakistan-India) pipeline** or new transport corridors, thereby strengthening its geopolitical influence in Central Asia by promoting stability and connectivity under its aegis
- **Statement 2 is not correct:** Diplomatic recognition by a single country (Russia) **does not automatically** grant a government the right to participate in or restore its full membership status in multilateral organizations like the **Shanghai Cooperation Organisation (SCO)**. Admission or participation is governed by the organization's own charter and the consensus/vote of all member states, many of whom (like India) have not formally recognized the regime.
- **Statement 3 is correct:** The move by a key strategic partner (Russia) to formally recognize the Taliban creates a new dynamic. It can put pressure on **India** to re-evaluate its current policy of **"transactional engagement"** and may offer a new **back-channel** for India's own counterterrorism coordination and protection of its investments, possibly through Moscow-led forums. It complicates India's balancing act between its security concerns and its diplomatic isolation of the regime.
- **Statement 4 is not correct:** **International financial institutions (IFIs)** like the IMF and World Bank operate based on strict conditions, including governance, human rights standards, counterterrorism assurances, and often require **broad international consensus** or UN legitimacy, not merely recognition by a single country. Afghanistan's access to these funds remains blocked due to the Taliban's policies and lack of global legitimacy.

Q95.

Ans: A

Explanation:

Context: Google has initiated a Voluntary Exit Programme (VEP) and new hybrid work mandates, sparking debate over 'backdoor layoffs' amid ongoing workforce restructuring across global tech giants.

Backdoor layoffs:

- Backdoor layoffs refer to indirect or subtle methods used by companies to reduce their workforce without formal layoff announcements or severance. Instead of directly terminating employees, employers create unfavourable or untenable work conditions to encourage voluntary resignations.

Definition and Characteristics

- Backdoor layoffs are workforce reductions achieved through indirect tactics rather than official termination notices or large-scale layoffs.
- These include measures like withdrawing remote work privileges, forcing relocations, increasing workloads or performance demands, withholding raises, or making the work environment uncomfortable.
- Employees often feel pressured to quit of their own volition, masking the layoffs as voluntary resignations.

Reasons Employers Use Backdoor Layoffs

- Reduce headcount discreetly without public backlash or bad press associated with traditional layoffs.
- Avoid legal obligations like severance packages or adherence to labour laws relating to formal layoffs.
- Maintain a facade of a stable, growing company even while trimming workforce numbers.

Risks and Consequences

- Erosion of employee trust and workplace morale, leading to a toxic work environment.
- Decreased productivity due to fear and uncertainty among remaining staff.
- Legal risks including claims of constructive discharge, wrongful termination, or discrimination, as employees may argue they were forced out through intolerable conditions.
- Negative impact on employer brand reputation, making it harder to attract and retain talent.

Q96.

Ans: A

Explanation:

Context: *The Reserve Bank of India (RBI) conducted a ₹1 lakh crore 7-day Variable Rate Reverse Repo (VRRR) auction to manage surplus liquidity, which had peaked at ₹3.75 lakh crore.*

- **Statement I is correct:** VRRR stands for **Variable Rate Reverse Repo**, and it is indeed a key liquidity management tool used by the RBI.
- **Statement II is correct:** A **reverse repo** is when banks lend money to the RBI. Since it is a *Variable Rate Reverse Repo*, the rate (and amount) is typically decided through a competitive **auction** process, unlike the fixed-rate reverse repo. This mechanism describes *how* the tool functions, thereby **explaining** Statement I.
- **Statement III is correct:** The primary function of VRRR is **liquidity absorption** (sucking out excess cash from the banking system). By managing the amount of money in the system, the RBI influences short-term interest rates and credit flow, which is a method of **indirectly controlling inflation** (when liquidity is absorbed, it tightens credit) and **ensuring financial stability**. This statement describes the *purpose and ultimate impact* of the tool, thereby also **explaining** Statement I.
- Since both Statement II (mechanism) and Statement III (purpose/impact) are correct descriptions of VRRR and clarify its role as a monetary policy tool for liquidity management (Statement I), option (a) is the most appropriate choice.

Q97.

Ans: B

Explanation:

Context: India has raised objections to proposed amendments to the International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty) at the Peru.

- **Statement 1 is not correct:** The MLS only covers **64 specified food and forage crops** (listed in Annex I of the Treaty) that are crucial for global food security. It does **not** cover all plant species or those exclusively for non-food purposes.
- **Statement 2 is correct:** A core objective of the Treaty is to promote the **conservation** and **sustainable use** of all plant genetic resources for food and agriculture, which includes both on-farm (in-situ) and gene bank (ex-situ) methods.
- **Statement 3 is correct:** India is a signatory to the Treaty and has integrated its principles into national law through the Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPV&FRA) to protect plant breeders' and farmers' rights. The PPV&FRA reflects the Treaty's emphasis on farmers' rights, including seed saving, exchange, and traditional knowledge protection. These provisions support India's rich agrobiodiversity and safeguard farmers' innovations.

Q98.

Ans: A

Explanation:

Context: Nuclear medicine using radioactive iodine (¹³¹I) is gaining prominence in India as a non-invasive, effective treatment for thyroid disorders and differentiated thyroid cancers.

	Radioactive Isotope	Primary Medical Use
1	Iodine-131	Treatment of Thyroid Cancer
2	Technetium-99	General Diagnostic Imaging (SPECT scans for bone, heart, kidney)
3	Fluorine-18	PET Scans (Diagnosis of Cancer)
4	Samarium-153	Palliative Treatment for Bone Pain

Q99.

Ans: B

Explanation:

Context: The Klyuchevskoy volcano, the tallest active volcano in the Northern Hemisphere, after a massive 8.8 magnitude earthquake struck off Russia's eastern coast.

	Volcanoes	Locations
1	Marapi	Indonesia
2	Ulawun	Papua New Guinea
3	Bulusan	Philippines
4	Klyuchevskoy	Russia

Q100.

Ans: D

Explanation:

Context: For the first time since 1923, France has reopened the River Seine for public swimming, following extensive clean-up efforts ahead of the Paris Olympics.

	<i>Rivers</i>	<i>Oceans/Seas</i>	<i>Cities on Bank</i>
1	Tiber River	Mediterranean Sea	Rome
2	Ogun River	Atlantic Ocean	Lagos
3	Seine River	Atlantic Ocean	Paris
4	Red River	South China Sea	Hanoi



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