

R.C. Reddy IAS Study Circle
UPSC CSE PRELIMS 2026 TEST SERIES
GRAND TEST-03
GENERAL STUDIES

KEY AND EXPLANATIONS

Q1. B

Context: Minister of State for Science and Technology interacted with Vaishvik Bhartiya Vaigyanik (VAIBHAV) fellows from across the world.

- **Statement 1 is not correct:** The VAIBHAV (Vaishvik Bharatiya Vaigyanik) fellowship is a distinct, newer initiative launched in 2023. It is designed for short-term collaborative visits (1-2 months per year). It did not 'restructure' or replace the Ramanujan Fellowship, which remains a separate, long-term (5-year) re-entry scheme for scientists intending to relocate to India.
- **Statement 2 is correct:** The **Ramalingaswami Re-entry Fellowship** is managed specifically by the **Department of Biotechnology (DBT)**. Its primary mandate is to bring back Indian scientists working abroad in various fields of **Life Sciences**, including agriculture, health sciences, and bio-engineering.
- **Statement 3 is not correct:** The **VAJRA (Visiting Advanced Joint Research) Faculty Scheme** is designed for **collaborative, part-time** engagement, not full-time hiring. It allows overseas faculty (including NRIs and OCIs) to work in Indian public-funded institutions for a specific period (usually 1-3 months a year) while maintaining their primary positions abroad.

Q2. D

Context: Google launches Project Suncatcher to test AI data centres in space.

	Projects	Descriptions
1	Project Suncatcher	To deploy solar-powered data centres in orbit.
2	Haven-1	World's first commercial space station.
3	Woolly Mice Project	to test the viability of gene resurrection for larger species.

Q3. B

Context: The IGI Airport has for the first time witnessed GPS spoofing.

Meaconing:

- **The Process:** Meaconing involves receiving radio navigation signals (like GPS) and rebroadcasting them on the same frequency with a power delay or an intentional offset.

- **The Similarity:** Like GPS spoofing, it tricks the receiver into calculating a false position. However, while *spoofing* creates an entirely fake signal from scratch, *meaconing* intercepts and retransmits ‘real’ signals to deceive the target.
- **Application:** It is frequently discussed in electronic warfare and maritime security contexts where ‘spoofing-like’ effects are observed or utilized for defensive redirection.

Q4. D

Context: The Gujarat ATS stopped a terror plot where suspects were trying to make the deadly toxin, Ricin.

Plant-Based Phytotoxins

- **Ricin (Castor seed):** It is a natural poison found in the seeds of the castor bean plant (*Ricinus communis*) — a plant commonly grown in India to produce castor oil.
- **Abrin (Rosary Pea):** Found in the seeds of *Abrus precatorius*. Like ricin, it is a ribosome-inactivating protein (RIP) but is significantly more toxic. A single seed, if swallowed crushed, can be fatal to an adult.
- **Strychnine (Strychnine Tree):** Derived from the seeds of *Strychnos nux-vomica*. It is a potent neurotoxin that causes violent muscular convulsions and death through asphyxiation.
- **Coniine (Hemlock):** Found in *Conium maculatum* (Poison Hemlock). This alkaloid causes ascending muscular paralysis, eventually leading to respiratory failure. It is famously known as the poison that killed Socrates.

Q5. C

Context: India continues to face repeated food adulteration incidents due to nonpermitted synthetic dyes like Auramine O.

- All four are synthetic industrial dyes intended for textiles, leather, or laboratory staining-not for human consumption.
- In the food industry, they are used as adulterants to mask poor quality or make products look ‘fresher’ (e.g., Metanil Yellow in turmeric, Malachite Green in green peas/chilies, and Sudan Red in chili powder).
- These chemicals are strictly prohibited by the FSSAI because they are toxic, hepatotoxic (harmful to the liver), and frequently classified as potential carcinogens.

Q6. D

Context: New studies show that in some animals, the whole body helps in healing and regrowth.

What is Regeneration?

Regeneration means growing back lost parts of the body. Humans can heal small wounds, but some animals like planarian flatworms and axolotls (a type of salamander) can grow back whole organs, tails, or even their heads.

- **Planarians:** Famous in biological research, a planarian can be cut into dozens of pieces, and each piece will regrow into a complete, functioning worm within weeks due to a large population of pluripotent stem cells called neoblasts.
- **Axolotls:** These amphibians are the masters of vertebrate regeneration. They can perfectly regrow lost limbs, tails, parts of their heart, and even portions of their brain without forming scar tissue.
- **Starfish:** Most starfish can regrow lost arms. In some species (like the *Linckia* genus), a single severed arm can regenerate an entire new central disc and the rest of the arms.
- **Hydra:** These tiny freshwater organisms are considered 'biologically immortal.' They have a constant turnover of cells and can regenerate an entire body from a small fragment of tissue or even a cluster of dissociated cells.

Q7. B

Context: Scientists use frequency combs to measure light with great precision, improving atomic clocks and spectroscopy.

- A frequency comb generates a series of discrete, equally spaced sharp spectral lines.
- It acts as a bridge between the very high frequencies of light and the lower frequencies of microwave electronics.
- By using the 'teeth' of the comb as a ruler, scientists can measure the frequency of a laser or a transition in an atom with accuracy up to 15 or 16 decimal places.
- This is essential for detecting minute changes in fundamental constants or measuring the properties of particles like the proton or antiproton.

Q8. C

Context: With growing satellite launches and space missions, the threat from space debris is increasing rapidly.

- **ADRAS-J (Astroscale):** A mission to inspect a discarded rocket upper stage as a precursor to active removal.
- **ELSA-M (Astroscale):** A commercial servicer designed to capture multiple decommissioned satellites in a single mission.
- **PRELUDE (ESA/ClearSpace):** A mission validating the relative navigation and proximity maneuvers needed for space cleaning.
- **IS4OM (ISRO):** The **ISRO System for Safe and Sustainable Space Operations Management**, which is India's dedicated framework for tracking space debris and performing Collision Avoidance Maneuvers (CAMs).

Q9. C

Context: A recent study on W Ursae Majoris–type contact binaries (closely orbiting twin-star systems) offers new insights into binary star evolution (formation, interaction, and end stages of paired stars).

- **Statement I is correct:** Stellar twins (or ‘solar twins’ when they resemble our Sun) are highly valuable to astronomers. Because they are so similar to a ‘standard’ star we already understand well, they act as **natural laboratories**. By comparing a twin to a known star, scientists can measure physical parameters (like luminosity, gravity, and atmospheric pressure) with much higher precision than they could for a ‘unique’ or isolated star.
- **Statement II is incorrect:** The definition of a stellar twin provided in the statement is contradictory. By definition, **stellar twins** must be nearly identical in **all** major physical and chemical aspects- this includes **mass, radius, temperature, chemical composition (metallicity), and age**.

Q10. B

Context: Kerala is set to become India’s first state to declare a state bacterium (officially designated microbial symbol) to promote awareness of beneficial microbes (microorganisms that provide ecological and health benefits).

- **Statement 1 is correct:** In early 2026, Kerala made history by becoming the first state in India to officially declare a state bacterium (*Bacillus subtilis*). This initiative was part of a broader effort to promote microbial literacy and highlight the role of “good bacteria” in gut health and sustainable agriculture.
- **Statement 2 is correct:** In **2015**, **Maharashtra** became the first state in the country to declare a state butterfly, selecting the **Blue Mormon** (*Papilio polymnestor*). This set a precedent that was later followed by several other states, including Karnataka and Uttarakhand.
- **Statement 3 is not correct:** **Maharashtra**, not Odisha, was the first state to officially declare a state mangrove tree. In **2020**, the Maharashtra cabinet approved the **White Chippy** (*Sonneratia alba*) as the state mangrove to emphasize the importance of coastal ecosystem conservation.

Q11. B

Context: The Union Minister of State for Science and Technology promoted steel slag–based road construction (use of processed steel waste in roads), especially for hilly and Himalayan regions (areas prone to landslides, heavy rainfall, and frequent road damage).

Alternative materials for road construction:

1. **Plastic Waste:** Bitumen is blended with shredded plastic to improve water resistance and the melting point of the road (preventing rutting).
2. **Steel/Copper Slag:** These are industrial byproducts. **Steel slag** is highly angular and durable, making it an excellent replacement for natural stone aggregates. **Copper slag** is used as a partial replacement for sand (fine aggregate).

3. **Fly Ash:** A byproduct of thermal power plants, it is used primarily for **embankment construction** and as a stabilizer in sub-grade layers.
4. **C&D Waste:** Recycled concrete and bricks from demolished buildings are crushed and used as high-quality base and sub-base material.

While,

1. **Polished Glass Cullets:** While glass can be used in specialized 'glassphalt,' it is generally **avoided** in standard road surfacing because it reduces skid resistance (making the road slippery) and lacks the necessary structural bonding with bitumen compared to other wastes.
2. **Mica Scraps:** Mica is flaky and brittle. It does not possess the structural integrity required to withstand the high compressive loads of vehicular traffic.

Q12. C

Context: GlowCas9 is a newly engineered variant of the CRISPR Cas9 enzyme that emits light while editing DNA.

- Traditional CRISPR-Cas9 is 'blind' in the sense that scientists often have to wait for cells to grow or perform complex sequencing to know if the edit worked.
- GlowCas9 (and similar variants like GFP-tagged Cas9) involves fusing a reporter protein (like Green Fluorescent Protein) to the Cas9 enzyme.
- This allows scientists to see exactly where the enzyme is in the cell and when it has successfully bound to its target.
- If the cell glows under a microscope, the scientist knows the 'scissors' have been delivered successfully.

Q13. A

Context: FSSAI orders immediate removal of falsely marketed ORS beverages to protect public health and prevent misinformation.

The WHO-recommended low-osmolarity ORS formula includes:

- **Sodium chloride (NaCl):** Restores essential body salts lost during dehydration.
- **Anhydrous glucose:** Enhances absorption of sodium and water in the intestine through the sodium–glucose co-transport mechanism.
- **Potassium chloride (KCl):** Replaces potassium vital for nerve and muscle functions.
- **Trisodium citrate dihydrate (Sodium citrate):** Helps correct acid–base imbalance (metabolic acidosis) caused by dehydration.

Q14. C

Context: India launches its first 3 MWh Vanadium Redox Flow Battery (VRFB), marking a leap in renewable energy storage.

- **Statement I is correct:** Vanadium Flow Batteries (VFBs) are indeed excellent for **large-scale stationary energy storage**. Because they can be scaled simply by increasing the size of the electrolyte tanks, they are ideal for balancing the intermittent nature of solar and wind power.
- **Statement II is correct and explains statement I:** This is the ‘special’ feature of VFBs. Unlike other flow batteries that use different elements in each tank, VFBs use **vanadium ions in both the positive and negative electrolytes**. This means that if any electrolyte leaks across the membrane (cross-contamination), it doesn’t ruin the battery; it can simply be re-balanced. This leads to an exceptionally **long cycle life** (often 20+ years).
- **Statement III is incorrect:** VFBs actually have a **very low energy density** compared to Lithium-ion batteries. They require large tanks of liquid electrolyte, which makes them very bulky and heavy. Consequently, they are **not suitable for compact applications** like electric vehicles or smartphones; they are strictly for stationary, ‘grid-scale’ use.

Q15. D

Context: The Central Consumer Protection Authority (CCPA) confirmed that 26 major online platforms now follow anti-dark pattern rules.

	<i>Dark Patterns name</i>	<i>Examples</i>
1	Bait and Switch	Clicking the ‘X’ to close a pop-up actually triggers a download or opens a new ad tab.
2	Confirmshaming	A ‘No thanks’ button labelled as: ‘ <i>No, I prefer to stay uninformed and pay full price.</i> ’
3	Roach Motel	Signing up for a subscription in one click, but requiring a physical letter or a phone call to cancel it.
4	Hidden Ads	A ‘Download Now’ button on a software site that is actually an ad for a different, unrelated product.
5	Nagging	An app constantly asking for ‘Location Access’ or ‘Review Us’ every time you open it, even after you've said no.
6	Forced Continuity	A ‘7-day free trial’ that automatically bills your credit card for a full year on day 8 without an email reminder.

Q16. A

- Ratnagiri is a major Buddhist monastic complex located in the Jajpur district of modern-day Odisha.
- Historically, this territory was part of the Kalinga region.
- Along with Lalitgiri and Udayagiri (collectively known as the ‘Diamond Triangle’), Ratnagiri emerged as a premier center for the development and spread of Vajrayana (Tantric) Buddhism between the 8th and 12th centuries CE.
- It was renowned for its intricate architecture and large collection of monolithic votive stupas.

Q17. A

- In Sangam society, the Panar were male bards/musicians, and their female counterparts were known as Viraliyar.
- They traveled from one chieftain's court to another, singing praises of the ruler and performing expressive dances to earn patronage.
- Many poems in the Purananuru and Ainkurunuru describe the grace and skill of the Viraliyar and the gifts (like golden lotuses) they received from generous kings.

Q18. A

	<i>Historical Person</i>	<i>Known as</i>
1	Bhavaviveka	Buddhist scholar
2	Yamunacharya	Viashnava scholar
3	Nathamuni	Vaishnava Acharya
4	Aryadeva	Buddhist Scholar

Q19. A

- Kalibangan is a significant Harappan site where archaeologists discovered the **earliest evidence of a ploughed agricultural field**. The field showed a distinctive **grid-pattern of furrows**, indicating advanced agricultural practices of the Indus Valley Civilization.

Q20. B

- An Agrahara was a grant of land (or an entire village) made by kings or noblemen, primarily to Brahmins or religious institutions (like temples).
- Along with the land, the King often transferred the right to collect 'Udranga' (land tax) and 'Uparikara' (additional tax) to the recipient.
- These grants were typically 'A-chata-bhata-pravesha,' meaning they were exempt from the entry of royal police or soldiers, making them semi-autonomous units.

Q21. A

- In 1534, Sultan Bahadur Shah of Gujarat was facing a dual threat: the expansionist Portuguese navy on the coast and the invading Mughal forces under Emperor Humayun from the north.
- To secure Portuguese military assistance against the Mughals, he signed the Treaty of Bassein.
- By this treaty, he ceded Bassein (now Vasai), its dependencies, and the nearby islands (which eventually included the seven islands of Mumbai) to the Portuguese.

Q22. C

- In medieval South India, *Pon* (Tamil) or *Hon* (Kannada) referred to a **gold coin**, often used interchangeably with the **Varaha**, a standard gold currency in the Vijayanagara period.

Q23. B

Under the **Tughlaq dynasty** (particularly during the reigns of Ghiyasuddin Tughlaq and Muhammad bin Tughlaq), the administration sought to centralize financial control over the sprawling empire.

- **The Problem:** In the earlier *Iqta* system, the **Muqti** (governor/commander) held both military and financial powers. This lack of oversight often led to the underreporting of revenue and the withholding of the state's share.
- **The Reform:** To curb this, the Tughlaqs separated the **military** duties from the **financial** duties.
- **Wali-al-Khiraj:** This was a professional revenue collector appointed by the central government. Their specific mandate was to audit the accounts of the *Iqta*.
- **The Concept of 'Fawazil':** The *Muqti* was entitled to use a portion of the collected revenue for his own salary and the maintenance of his troops. Any amount collected *beyond* these sanctioned expenses was called **Fawazil** (surplus). The **Wali-al-Khiraj** ensured that this surplus reached the Sultan's central treasury (*Khizana*) rather than being pocketed by local commanders.

Q24. A

- The Congress was at the forefront of the campaign to defend Bhagat Singh and his comrades and the Bhagat Singh Defence Committee to provide legal and financial aid to the revolutionaries was set up on the initiative of Congress leaders in Punjab.
- Dr Satyapal, Dr Gopi Chand, Dr Kitchlew, Sardar Singh, Raizada Hans Raj, Pt K Santanam, Mangal Singh, Lajwantti, Master Tara Singh and Lala Feroze Chand were members of the Bhagat Singh Defence Committee, most of them from Punjab.
- In a touching appeal, also published in The Tribune, to the public for funds, the committee said: "The flower of our youth has been flung into jails and is rotting there with very inadequate help from the outside."

Q25. D

- **Statement 1 is correct:** In 1673, François Martin of the French East India Company obtained a grant for a village called Pondicherry from Sher Khan Lodi, the governor of Valikondapuram under the Sultan of Bijapur. This became the foremost French stronghold in India.
- **Statement 2 is correct:** The Danes arrived in 1620 and established a factory at **Tranquebar** (Tharangambadi). This was made possible through a treaty with **Raghunatha Nayak**, the ruler of Tanjore, who granted them the land in exchange for an annual rent.

- **Statement 3 is correct:** While the English established their first factory at Surat (West Coast) in 1613, their **first factory in South India** was set up at **Masulipatnam** in 1611. This region was part of the **Golconda Sultanate**, and they later secured the 'Golden Farman' from the Sultan of Golconda in 1632.

Q26. C

- **Statement 1 is correct:** According to strong local tradition and historical records, **St. Thomas the Apostle** arrived in Muziris (modern-day Kodungallur, Kerala) in **52 CE**. The community he established is one of the oldest Christian communities in the world.
- **Statement 2 is not correct:** The Synod of Diamper was a formal council held in Kerala by the Portuguese Archbishop of Goa. Its goal was to eliminate "Nestorian" influences and force the Saint Thomas Christians to adopt the Latin Rite and recognize the Pope's supremacy. This eventually led to the famous Coonan Cross Oath (revolt) in 1653.
- **Statement 3 is correct:** The **Church of St. Anne** (Sant'Ana) in Talaulim, Goa, completed in 1695, is renowned for its grand **Baroque architecture**. Along with the Basilica of Bom Jesus, it represents the European architectural influence that defines the "Rome of the East."

Q27. A

- **Sharada Sadan (Home for Learning):** Founded in **1889** in Bombay (later shifted to Pune), this was a secular school designed to provide education and shelter to young **widows**, who were often marginalized or mistreated in society at the time.
- **Pandita Ramabai:** A remarkable scholar of Sanskrit and a pioneer in women's education and rights. She also founded the **Arya Mahila Samaj** and authored the influential book *The High-Caste Hindu Woman*.

Q28. D

- **Surat (1668):** This was the **first** French factory in India, established by François Caron. Even though it was established slightly before the 'last quarter,' it remained their primary base during the 1675-1700 period.
- **Masulipatnam (1669):** Their second factory was established on the east coast shortly after Surat.
- **Pondicherry (1674):** This became the most important French settlement. It was founded in the early 1670s and developed rapidly under François Martin throughout the last quarter of the century.
- **Chandernagore (1690):** Located in Bengal, the French obtained permission from Ibrahim Khan (the Mughal Subahdar) to establish this factory in 1688, and it was firmly established by 1690.

Q29. C

- In the early 19th century, the British government imposed heavy import duties on Indian textiles to protect their burgeoning domestic power-loom industry in Lancashire and Manchester.

- Simultaneously, British factories began producing mass-quantities of cheaper, machine-made cotton goods.
- India was transformed from being the world's leading exporter of finished textiles into a primary exporter of raw cotton and a captive market for British manufactured goods.
- This process led to the collapse of traditional urban handicraft centres like Dhaka and Murshidabad, a phenomenon historians refer to as the “de-industrialization” of India.

Q30. A

- **Statement 1 is correct:** In early 1918, the British Empire was facing a critical situation on the Western Front due to the **German Spring Offensive** (Kaiserschlacht). Lord Chelmsford convened the War Conference in Delhi in April 1918 specifically to appeal to Indian leaders to help recruit soldiers for the war effort to bolster the thinning British lines.
- **Statement 2 is correct:** Mahatma Gandhi attended the conference. Despite his commitment to non-violence, he believed that by supporting the Empire in its hour of need, Indians would demonstrate their fitness for self-rule and earn the “moral right” to demand Swaraj after the war. He supported the recruitment resolution and even acted as a “recruiting sergeant” in the Kheda district, notably **without** making his support conditional on an immediate grant of Home Rule.
- **Statement 3 is not correct:** While it is true that Annie Besant and B.G. Tilak were proponents of Home Rule, the reason they did not attend is not that they boycotted it. Rather, the **Viceroy pointedly refused to invite them**. The British administration wanted to keep the conference focused strictly on the war effort and avoid the “distraction” of constitutional demands that Besant and Tilak would have undoubtedly raised.

Q31. D

- **Writ of Prohibition** is issued by a higher court to a lower court or tribunal **to prevent it from continuing proceedings** in excess of its jurisdiction (i.e., *before* the final order).
- **Writ of Certiorari** is issued **after the order has been passed**, to quash an already given decision if it is found to be without jurisdiction or legally flawed.

Thus, the key distinction lies in the **stage at which they are issued**.

Q32. A

- **Statement 1 is correct:** Adjournment sine die means terminating a sitting of Parliament for an indefinite period. This power belongs exclusively to the Presiding Officer (the Speaker in the Lok Sabha and the Chairman in the Rajya Sabha). Prorogation means the termination of a session of the House. Under Article 85(2)(a) of the Constitution, this power is vested in the President, who usually acts on the advice of the Council of Ministers.
- **Statement 2 is not correct:** While the power to “summon” a session technically lies with the President, there is a specific constitutional provision under Article 352 (introduced by the 44th Amendment Act, 1978). If a Proclamation of Emergency is in operation, and a notice in writing

signed by not less than one-tenth of the total members of the Lok Sabha is given to the Speaker (or the President if the House is not in session), a special sitting of the House must be held within 14 days for the purpose of considering a resolution disapproving the proclamation. Therefore, the “in no circumstance” clause makes the statement factually wrong.

Q33. C

- **Procedure Established by Law (Narrower):** Originating from the British tradition, this means that if a law has been enacted by a competent legislature following the correct procedure, it is valid. Under this, the court **cannot** question the ‘wisdom’ or ‘fairness’ of the law; it only checks if the procedure was followed.
- **Due Process of Law (Broader):** Originating from the US Constitution, this gives the court the power to examine the **substantive** nature of the law. Even if a law is passed correctly, the court can strike it down if it violates the principles of natural justice (i.e., if the law is ‘unreasonable’).
- **The Indian Shift:** Initially, in the *A.K. Gopalan case (1950)*, the SC stuck to ‘Procedure Established by Law.’ However, in the **Maneka Gandhi case (1978)**, the SC ruled that the ‘procedure’ under Article 21 must be **‘right, just, and fair’** and not arbitrary, effectively reading ‘Due Process’ into the Indian Constitution.

Q34. A

- **Statement 1 is correct:** This reflects **Article 22(1)** of the Constitution, which states that no person who is arrested shall be detained in custody without being informed, as soon as may be, of the grounds for such arrest. It is a fundamental right aimed at preventing arbitrary detention.
- **Statement 2 is correct:** The protection against **‘Double Jeopardy’** (Article 20(2)) provides that no person shall be prosecuted and punished for the same offense more than once. However, the Supreme Court has clarified that this protection is available only in proceedings before a **court of law or a judicial tribunal**. It does not apply to departmental or administrative inquiries, as these are not considered ‘prosecutions.’
- **Statement 3 is not correct:** Under **Section 25 of the Indian Evidence Act, 1872**, a confession made to a police officer is **not admissible** as evidence against a person accused of any offense. This rule exists to prevent the use of coercion or custodial torture to extract ‘admissions.’

Q35. C

- The Constitution does not explicitly list the ‘Right to Livelihood’ as a standalone Fundamental Right.
- However, in the landmark *Olga Tellis vs. Bombay Municipal Corporation (1985)* case (also known as the ‘Pavement Dwellers Case’), the Supreme Court ruled that the Right to Life under Article 21 includes the Right to Livelihood.
- The Court reasoned that “no person can live without the means of living, that is, the means of livelihood.”

- If the right to livelihood were not treated as part of the constitutional right to life, the easiest way of depriving a person of their right to life would be to deprive them of their means of livelihood.

Q36. C

Context: PM VIKAS is uplifting minority communities through skill development and promoting entrepreneurship.

- **Statement 1 is not correct:** It is a Central Sector Scheme of the Ministry of Minority Affairs which converges five erstwhile schemes viz. 'Seekho Aur Kamao', 'Nai Manzil', 'Nai Roshni' and 'USTTAD' & 'Hamari Dharohar'.
- **Statement 2 is correct:** The scheme also provisions to facilitate credit linkages by connecting beneficiaries with loan programs offered by the National Minorities Development & Finance Corporation (NMDFC).

Q37. D

Context: The PM Internship Scheme's pilot project has exceeded its target of providing 1.25 lakh internship opportunities in a year but only one in five candidates accepted PM Internship Scheme offers, and 20% of them quit early. Candidates cited locations, roles, and duration as reasons for declining offers.

- **Statement 1 is not correct:** The scheme aims to provide internships to 1 crore youth over a period of **5 years** (not 2 years).
- **Statement 2 is not correct:** The scheme is implemented by the **Ministry of Corporate Affairs (MCA)** through a centralized portal, not the Ministry of Skill Development and Entrepreneurship.
- **Statement 3 is not correct:** The "Top 500" companies are identified based on their **average CSR (Corporate Social Responsibility) expenditure** of the last three years, not their specific ranking for FY 2024-25.

Q38. A

Context: A private member bill "Right to Disconnect Bill, 2025", reintroduced in the Lok Sabha.

- **Statement 1 is correct:** A Private Member (any MP who is not a Minister) must give at least one month's notice to the Secretariat before they can introduce a bill. In contrast, a Minister only needs to give seven days' notice for a Government Bill. Since the time allotted for Private Members' Business is limited (usually only on Friday afternoons), the relative priority of all such bills is determined by a ballot system. Only those bills that are selected via this 'lottery' are taken up for introduction and discussion.
- **Statement 2 is not correct:** The Constitution of India does not distinguish between a Government Bill and a Private Member's Bill when it comes to the provision of a Joint Sitting. If a Private Member's Bill is passed by one House but rejected by the other, or if there is a deadlock lasting more than six months, the **President can call for a Joint Sitting** to resolve the disagreement (provided it is an Ordinary Bill and not a Money Bill or a Constitutional Amendment Bill).

Q39. C

Context: A large-scale cancellation of flights by a major Indian airline Indigo recently led the Directorate General of Civil Aviation (DGCA) to grant a one-time exemption from the newly implemented Flight Duty Time Limitations (FDTL) rules.

- **Statement I is correct:** The Directorate General of Civil Aviation (DGCA) is the statutory body (under the Aircraft Amendment Act, 2020) responsible for regulating air transport services, enforcing safety standards, and overseeing airworthiness.
- **Statement II is correct and explains statement I:** This statement explains **how** the DGCA fulfils its empowerment mentioned in Statement I. The DGCA issues **Civil Aviation Requirements (CARs)**, which are the operational regulations that align Indian aviation with the standards set by the **International Civil Aviation Organization (ICAO)**.
- **Statement III is incorrect:** While the DGCA is the regulator, it is **not** responsible for independent accident investigations. In 2012, the **Aircraft Accident Investigation Bureau (AAIB)** was established as a distinct and separate entity from the DGCA. This separation was done to ensure there is no “conflict of interest,” as the DGCA (the regulator) cannot investigate accidents that might have been caused by its own regulatory lapses.

Q40. B

Context: A private member's bill titled “The Constitution (Amendment) Bill, 2025 (Amendment of the Tenth Schedule)” has been introduced in Lok Sabha.

- **The Kihoto Hollohan Case (1992):** The Supreme Court ruled that while the Speaker's decision is subject to judicial review (as they act as a “Tribunal”), such review is not available at an **interlocutory stage** (i.e., while the proceedings are still pending before the Speaker).
- **Reasoning:** The Court held that it should not interfere until the Presiding Officer has made a final order, to maintain the constitutional balance and respect the authority of the office of the Speaker/Chairman.
- **Exception:** Judicial intervention is only permitted if there is an interim disqualification or suspension that causes “irreversible” damage, but generally, the court waits for the final decision.

Q41. C

Context: The Supreme Court ruled that forced or involuntary narco tests are unconstitutional and invalid.

The “Golden Triangle” is a judicial metaphor used to describe the three articles that form the core of the Indian Constitution's commitment to individual liberty and the Rule of Law.

Articles Included:

- **Article 14:** Right to Equality.
- **Article 19:** Right to Freedom (specifically six democratic freedoms).

- **Article 21:** Right to Life and Personal Liberty.

Significance: In the **Maneka Gandhi vs. Union of India (1978)** case, the Supreme Court ruled that these three articles are not mutually exclusive but are deeply interconnected. Any law that seeks to deprive a person of their “personal liberty” (Art. 21) must also pass the test of “reasonableness” (Art. 19) and “non-arbitrariness” (Art. 14).

Q42. A

Context: Recent walkouts by Governors in Karnataka, Tamil Nadu, and Kerala during state assembly sessions have sparked constitutional debates over gubernatorial discretion versus elected governments’ authority

- **Statement 1 is correct:** Under **Article 176(1)** of the Constitution of India, the Governor has a constitutional obligation to address the Legislative Assembly (or both Houses in the case of a bicameral legislature) at the commencement of the **first session after each general election** to the Legislative Assembly and at the commencement of the **first session of each year**.
- **Statement 2 is not correct:** The Governor is generally bound by the advice of the Council of Ministers, but it is **not strictly mandatory in a rigid sense** that he/she must read every word without omission or change. In practice, there have been instances where Governors have **skipped or altered portions**, making the statement too absolute.

Q43. C

- **Statement 1 is correct:** Under the Constitution of India and the Citizenship Act of 1955, India adheres strictly to the principle of **single nationality**. Unlike some federal systems (like the USA), there is no separate state citizenship. An individual is only a citizen of India.
- **Statement 2 is correct:** A person can be **domiciled in only one place at a time** (though residence may differ)
- **Statement 3 is correct:** Under the **Representation of the People Act, 1951**, a person is entitled to be registered in the electoral roll of only one constituency. Section 17 and Section 18 of the Act explicitly prohibit registration in more than one constituency or more than once in the same constituency. Consequently, a citizen can only vote in one State/UT in a given election cycle.
- **Statement 4 is not correct:** The **Overseas Citizenship of India (OCI)** card is specifically designed for individuals who hold a **foreign passport** (dual nationality/citizenship in their host country) but are of Indian origin. To be eligible for an OCI card, the individual *must* be a citizen of another country (except Pakistan or Bangladesh). Therefore, a dual passport holder (someone with two foreign citizenships) can indeed hold an OCI card, provided they meet the eligibility criteria of Indian origin.

Q44. C

Context: Many political scientists express their fear that USA is turning more towards plutocracy.

What is plutocracy?

- **Plutocracy:** Derived from the Greek words *ploutos* (wealth) and *kratos* (rule). It refers to a situation where the degree of economic inequality is high and the wealthy use their resources to control public policy and political outcomes.

Q45. C

- **Statement 1 is not correct:** While the term “Office of Profit” is **not defined** in the Constitution, the Constitution most certainly **provides provisions** related to it. **Article 102(1)(a)** for Members of Parliament and **Article 191(1)(a)** for Members of State Legislatures explicitly state that a person shall be disqualified for being chosen as, and for being, a member if they hold any office of profit under the Government of India or the Government of any State.
- **Statement 2 is correct:** **Jaya Bachchan** was the first high-profile Member of Parliament to be disqualified under the Office of Profit criteria in **2006**. She was a Rajya Sabha MP while also serving as the Chairperson of the Uttar Pradesh Film Development Council. The Supreme Court upheld her disqualification, noting that the office carried the potential for profit (honorarium and perks), regardless of whether she actually drew the salary.
- **Statement 3 is correct:** The courts and the **Parliament (Prevention of Disqualification) Act, 1959**, generally exempt “compensatory allowances.” If the payment is strictly to reimburse an MP for out-of-pocket expenses incurred in the discharge of their duties (like traveling allowance or daily allowance for attending meetings) and does not result in a “pecuniary gain” or “profit,” it is not treated as an Office of Profit.

Q46. C

- **Statement I is correct:** The “jig-saw” fit of the coastlines of South America and Africa is a classic observation supporting the Continental Drift Theory.
- **Statement II is correct and explains statement I:** Fossil evidence like Mesosaurus found in both regions supports that the continents were once connected and **helps explain Statement I**.
- **Statement III is incorrect:** While Sea-floor spreading is a real scientific fact, it was discovered in the **1960s** (by Harry Hess). Wegener's original 1912 theory actually **failed** because he could not explain the *mechanism* of movement; he incorrectly suggested “tidal force” and “pole-fleeing force.”

Q47. B

Water Body	Shared by Two or More?	Countries
Lake Albert	Yes	Uganda, DRC
Lake Chad	Yes	Chad, Niger, Nigeria, Cameroon

Sea of Marmara	No	Turkey (Internal)
Lake Malawi	Yes	Malawi, Mozambique, Tanzania
Lake Tanganyika	Yes	Burundi, DRC, Tanzania, Zambia

Q48. D

- **Statement I is incorrect:** While the “Ozone Layer” (stratospheric ozone) exists at high altitudes, the **lower troposphere** (ground level) usually contains very low concentrations of ozone in pristine, uninhabited regions. High concentrations of tropospheric ozone are typically found in **urban or industrial areas** where human-made pollutants are concentrated.
- **Statement II is correct:** Tropospheric ozone is not emitted directly into the air. It is a secondary pollutant created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight.

Q49. C

Context: The recent Middle East crisis has raised the significance of strategic petroleum reserves in India.

- **Statement I is correct:** Strategic Petroleum Reserves (like those in Mangalore, Visakhapatnam, and Padur) are indeed stored in underground unlined rock caverns or salt domes for security and cost-effectiveness.
- **Statement II is correct and explains statement I:** Salt is chosen because it is impermeable to hydrocarbons and can “creep” or “self-heal” under pressure, making it an excellent natural container. This directly explains why these sites are chosen (Statement I).
- **Statement III is incorrect:** While hard rock (like granite) does have some porosity, underground caverns for oil are typically **unlined**. They rely on the principle of **hydrostatic containment**, where the surrounding groundwater pressure is higher than the oil pressure, naturally keeping the oil inside the cavern without the need for an artificial liner.

Q50. D

- **Statement 1 is correct:** The Trade Winds are part of the Hadley Cell. They originate in the **Subtropical High-Pressure belts** (around 30°N and 30°S) and blow toward the **Equatorial Low-Pressure belt** (the ITCZ) to replace rising air.
- **Statement 2 is correct:** Ferrel’s Law states that the Coriolis force deflects winds to the right in the Northern Hemisphere and to the **left** in the Southern Hemisphere. Because the Westerlies in the Southern Hemisphere are moving toward the pole (southward) and are deflected to their left, they blow from the **northwest** toward the southeast.
- **Statement 3 is correct:** Since the Polar Easterlies originate in the **Polar Highs** (extremely cold, high-pressure zones), the air is inherently cold. Because cold air has a very low capacity to hold moisture, these winds are also **characteristically dry**.

Q51. A

Context: The Torkham border crossing between Afghanistan and Pakistan has reopened after nearly weeks of closure following deadly border clashes.

	<i>Border crossings</i>	<i>Associated countries</i>
1	Rafah Crossing	Egypt-Gaza (Palestine)
2	Adre Crossing	Sudan-Chad
3	Korczowa Crossing	Poland-Ukraine
4	Torkham Crossing	Afghanistan-Pakistan

Q52. A

Context: Scientists are studying Pamir ice cores to understand why its glaciers resist melting despite global warming.

Pamir Knot:

- The Pamir Knot is a **geographical node** in Central Asia where several major mountain ranges- including the **Himalayas, Karakoram, Hindu Kush, and Tian Shan**-converge. It is often referred to as the “Roof of the World” due to its high elevation and strategic location.



Q53. B

- **Statement 1 is not correct:** When crossing from the **East (Americas)** to the **West (Asia)**, you are moving into a region that is ahead in time. Therefore, you must **add/gain** a day (e.g., Sunday becomes Monday), not subtract one.
- **Statement 2 is correct:** To prevent the administrative confusion of having two different dates within the same country (like Kiribati or the Aleutian Islands), the IDL zig-zags significantly.
- **Statement 3 is correct:** The IDL (roughly 180° longitude) is where the “new day” is first recognized on Earth.

Q54. B

- **Bangladesh:** The “July Uprising” (or **Gen Z Revolution**) in 2024, led by student coordinators, resulted in the resignation and departure of Prime Minister Sheikh Hasina in August 2024.

- **Nepal:** In September 2025, a movement dubbed the **Gen Z Revolution** (triggered by a social media ban and corruption scandals) led to the resignation of Prime Minister K.P. Sharma Oli and the dissolution of Parliament.
- **Kenya:** The **Gen Z Protests** (or #RejectFinanceBill2024) began in June 2024 against tax hikes and continued into 2025, forcing the withdrawal of the Finance Bill and a major cabinet reshuffle.
- **Nigeria:** The #EndBadGovernance protests in August 2024 were widely identified by media and analysts as Nigeria's "Gen Z" movement, inspired by the success of youth-led protests in Kenya.

While,

- **France:** Protests exist but not framed as Gen Z-led uprising specifically.
- **Hungary:** Hungary saw significant student-led protests (e.g., against education reforms and the ban on Pride marches in 2025), but these have generally not been classified under the specific "Gen Z Uprising" moniker or revolutionary wave that toppled or fundamentally altered national governments in the same manner as the other four.

Q55. A

Context: Israel officially recognized Somaliland as a sovereign, independent state on December 26, 2025, becoming the first UN member state to do so.

- **Statement I is correct:** The Horn of Africa (comprising Djibouti, Eritrea, Ethiopia, and Somalia) is currently one of the most volatile regions in the world. The "breakdown of long-standing security arrangements" refers to the collapse of the AU-led security frameworks, the internal civil war in Sudan, and the deteriorating relationship between Ethiopia and its neighbours.
- **Statement II is correct and explains statement I:** Somaliland, which declared independence from Somalia in 1991 but lacks international recognition, has indeed become a major flashpoint. The **January 2024 MoU** between Ethiopia and Somaliland (granting Ethiopia sea access in exchange for potential recognition) has drawn in big powers like Turkey, the UAE, and Egypt, creating a new layer of regional tension. Statement-II directly **explains** why there is significant geopolitical friction and a breakdown in security (Statement-I).

Q56. D

- **Statement I is incorrect:** High albedo means a surface reflects a *large* amount of light. Dark-coloured surfaces like oceans and forests have **low albedo** (roughly 0.05 to 0.15). Instead of reflecting, they **absorb** the majority of incoming solar radiation, which leads to warming.
- **Statement II is correct:** Fresh snow has one of the highest albedos on Earth (up to 0.90 or 90%). Because these regions reflect most of the solar energy back into space rather than absorbing it as heat, they have a significant cooling effect on the planet's surface.

Q57. A

- **Statement I is correct:** This describes a major environmental challenge in regions like Punjab, Haryana, and parts of Rajasthan. When land is over-irrigated in dry climates, the water table rises, eventually leading to a salt crust on the surface (**Salinization**).

- **Statement II is correct:** In arid regions, the rate of evaporation exceeds the rate of precipitation. This creates a suction force that pulls moisture upward through the tiny pores in the soil, a physical phenomenon known as **capillary action**.
- **Statement III is correct:** As the water moves upward, it acts as a solvent, dissolving minerals and salts (like sodium chloride and calcium) from the lower soil layers. Once the water reaches the surface and evaporates, the salts are left behind, accumulating over time.
- **Both statement II and III explains statement I:** Both Statement II (the **mechanism** of movement) and Statement III (the **process** of deposition) are necessary to fully explain *how* irrigation leads to the degradation mentioned in Statement I. Without capillary action, the salts wouldn't move up; without the dissolved salts being carried by that water, the surface would remain fertile.

Q58. B

- **Statements 1, 2, and 3 are correct:** These are the primary environmental stressors that define the mangrove habitat. Mangroves have developed specialized adaptations (like pneumatophores for oxygen and salt-excreting leaves) specifically to survive these conditions.
- **Statement 4 is correct:** Mangroves are **tropical and subtropical** plants. They are extremely sensitive to frost and freezing temperatures, which is why they are absent from temperate and polar coastlines. This is a major “check” on their global distribution.
- **Statement 5 is not correct:** Unlike the Savannah, where fire is a natural and frequent ecological tool for maintaining grasslands, **forest fires are not a characteristic or limiting factor** for Mangroves due to their waterlogged, humid environment.

Q59. D

- **Netravati:** Originates in the Western Ghats (Karnataka) and flows west into the Arabian Sea near Mangalore.
- **Pamba:** The third longest river in Kerala, originating in the Pulachimalai hill in the Western Ghats and emptying into the Vembanad Lake.
- **Vaitarna:** Rises in the Sahyadri range (Western Ghats) in the Nashik district of Maharashtra and flows west.
- **Sharavati:** Famous for the Jog Falls, this river originates in the Western Ghats (Karnataka) and flows westward.

Q60. A

Context: A severe winter storm has brought life to a standstill across the Kamchatka Peninsula in Russia's Far East, with heavy snowfall burying streets and homes.

Kamchatka Peninsula:

- The Kamchatka Peninsula lies along the **Pacific Ring of Fire** and is one of the most volcanically active regions in the world.

- It hosts a **high concentration of active volcanoes**, including some of the tallest in Eurasia, and is famous for the **Valley of Geysers**.
- Its remote location ensures **minimal human interference**, making it an important natural laboratory for studying volcanic processes and island arc systems.

Q61. A

Under the **Basel III Norms**, bank capital is divided into two main categories: **Tier-1** (Core Capital) and **Tier-2** (Supplementary Capital).

1. **Common Equity Tier 1 (CET1):** This is the highest quality of capital. It includes common shares, stock surplus, and retained earnings. It is the primary way a bank absorbs losses. **(Correct)**
2. **Additional Tier 1 (AT1) Bonds:** These are perpetual bonds that have no maturity date. They carry a “loss-absorbency” clause, meaning if a bank’s capital falls below a certain threshold, these bonds can be written off or converted into equity. Together with CET1, they form the **Total Tier-1 Capital**. **(Correct)**
3. **Revaluation Reserves:** These are reserves created by the revaluation of assets (like real estate). Under Basel III, these are generally classified as **Tier-2 Capital** because their value is subjective and can fluctuate significantly, making them less reliable for immediate loss absorption. **(Incorrect for Tier-1)**
4. **Subordinated Debt:** This is debt that ranks below other loans and securities in the event of a blowout or bankruptcy. Because it has a fixed maturity and is not permanent, it is classified as **Tier-2 Capital**. **(Incorrect for Tier-1)**

Q62. A

Context: Economic Survey 2025-26 notes that India received sovereign rating upgrade in three global rating agencies.

India received three major sovereign credit rating upgrades in 2025, driven by strong GDP growth, fiscal consolidation, and robust external balances. Rating and Investment Information (R&I) upgraded India to BBB+ in September, following S&P’s upgrade to BBB in August and Morningstar DBRS to BBB in May.

Key 2025 Upgrades:

- **R&I (September 2025):** Raised rating to BBB+ (Stable), highlighting strong tax revenue and low external debt.
- **S&P Global (August 2025):** Upgraded India to BBB (Stable) from BBB- after 18 years, citing strong growth and reduced fiscal deficit.
- **Morningstar DBRS (May 2025):** Upgraded to BBB (Low).

Q63. B

Context: The Financial Sector Assessment Program found that banks and NBFCs of India possess adequate capital buffers even under severe stress scenarios.

Financial Sector Assessment Program (FSAP):

- Established in 1999, the FSAP is the primary tool for international financial surveillance.
- In developing countries and emerging markets, it is conducted jointly by the IMF and the World Bank.
- The IMF focuses on financial stability (stress tests, systemic risk), while the World Bank focuses on developmental needs (financial inclusion, legal frameworks).
- In advanced economies, the assessments are conducted by the IMF alone.

India's Context:

- India is one of the “systemically important” jurisdictions for which an FSAP assessment is mandatory every five years.
- The last major report highlighted the strength of the Indian banking system’s capital buffers.

Q64. D

Context: According to the UNCTAD’s Trade and Development Report 2025, India ranked among the leading economies in trade partner diversification, ranking third in the Global South and recording a trade diversity score higher than all Global North economies.

- The **Herfindahl-Hirschman Index (HHI)** is a widely used indicator to measure **market concentration** and assess the level of competition in an industry.
- It measures how concentrated a market is by summing the **squares of the market shares** of all firms in the industry.
- **HHI < 1500** → Competitive market
- **1500 – 2500** → Moderately concentrated
- **>2500** → Highly concentrated (less competition / near monopoly)

Key Features

- Gives **higher weight to larger firms** (due to squaring)
- Used by competition regulators to assess **mergers & acquisitions**
- Reflects **market dominance and potential anti-competitive behaviour**

Q65. C

- **Statement 1 is correct:** This is the foundational definition of **Capital Expenditure**. It either creates an asset (like building a bridge, a school, or buying shares in a company) or reduces a liability (like the repayment of the principal amount of a loan).
- **Statement 2 is not correct:** Direct benefit transfers (DBTs) and subsidies to any sector (agriculture, fisheries, etc.) are recurring in nature and do not result in the creation of a physical asset or the reduction of a debt. Therefore, they are classified as **Revenue Expenditure**.
- **Statement 3 is correct:** This is a crucial accounting nuance in the Indian Budget. Under the Constitution and accounting rules, any grant given by the Center to a State is treated as **Revenue**

Expenditure in the Center's books. This is true even if the State specifically uses that money to build a permanent asset like a hospital. To show a more accurate picture of productive spending, the government often cites "**Effective Capital Expenditure**," which adds these specific grants to the main Capital Expenditure figure.

Q66. A

Context: Recently, the Union Home and Cooperation Minister, at the 'Co-op Kumbh 2025', called on Urban Cooperative Banks (UCBs) to play a transformative role in empowering India's youth and underprivileged communities.

- **Statement 1 is not correct:** The first **Cooperative Credit Societies Act** was passed in **1904** during the tenure of **Lord Curzon**, not Lord Ripon. While Lord Ripon is known as the "Father of Local Self-Government" in India (1882), the formal legal framework for cooperatives came much later to address rural indebtedness.
- **Statement 2 is correct:** The first urban cooperative credit society in India was the **Anyonya Sahakari Mandala**, established in **1889** in the princely state of **Baroda** (now Vadodara, Gujarat) under the guidance of Vithal Laxman Kavthekar.
- **Statement 3 is incorrect:** the Multi-Unit Cooperative Societies Act was passed in 1942, which delegated the power of the Central Registrar of Cooperatives to the State Registrars for all practical purposes. But it was replaced by the MSCS Act of 1984, a comprehensive central legislation to facilitate the organization and functioning of genuine multi-state societies and to bring uniformity in their administration.

Q67. D

Context: The Securities and Exchange Board of India (SEBI) has cautioned the general public against investing in digital gold and e-gold products.

- **Statement I is incorrect:** Unlike Sovereign Gold Bonds (regulated by the **RBI**) or Gold ETFs (regulated by **SEBI**), **digital gold is currently an unregulated financial product** in India. It does not fall under the direct supervision of any market regulator, which means it lacks the same level of formal investor protection and grievance redressal mechanisms as other gold-backed instruments.
- **Statement II is correct:** The rapid growth of digital gold is driven by its accessibility. It allows for "micro-investing" (starting with as little as **₹1**), eliminates the need for physical storage or a demat account, and offers high liquidity, as it can be sold or converted into physical coins/jewellery easily through mobile apps and online platforms.

Q68. D

Context: Amid pressure on goods exports to the US due to high 50% tariffs, the Union Cabinet has approved a six-year (FY 2025–26 to FY 2030–31) Export Promotion Mission with an outlay of Rs 25,060 crore.

- **Statement 1 is not correct:** The **National Credit Guarantee Trustee Company Ltd (NCGTC)** primarily manages trust funds for credit guarantees for Micro and Small Enterprises (MSEs), skill development, and education loans. While it provides significant guarantees (such as under the ECLGS during the pandemic), it does **not** provide 100% credit guarantees for exporters covering *force majeure* conditions. That specific function- protecting exporters against commercial and political risks (including *force majeure*), is the mandate of the **Export Credit Guarantee Corporation (ECGC) Ltd.**
- **Statement 1 is not correct:** The **Interest Equalisation Scheme (IES)**, which provides pre- and post-shipment export credit at subsidized rates-has indeed been scrutinized at the WTO (notably by the US), as have many of India's export subsidy programs. However, **India has not dropped the scheme.** In fact, the government has consistently extended the scheme (most recently extending it for MSME exporters through 2024 and into 2025) to maintain the competitiveness of Indian exports.

Q69. A

Context: The Union Cabinet has approved to specify/revise the royalty rate of four critical minerals- caesium, Graphite, Rubidium and Zirconium to promote domestic production and reduce import dependency.

- **Statement 1 is not correct:** For **Major Minerals** (like Coal, Iron Ore, Bauxite), the **Central Government** has the power to fix and enhance the royalty rates. For **Minor Minerals** (like sand, gravel, building stone), the **State Governments** have the power to fix the rates.
- **Statement 2 is not correct:** The royalty is paid by the lessee (the mining entity) **directly to the State Government** where the mine is located. It does not go to the Central Government. The State is the "owner" of the minerals in its territory (except for offshore minerals), and the royalty is the price paid to the State for the extraction of those resources.
- **Statement 3 is correct:** This refers to the **Finance Commission's** methodology. When the Finance Commission decides how to distribute the "divisible pool" of taxes among different states (**Horizontal Devolution**), it considers the "Fiscal Capacity" of a state. Since states with high mineral wealth can generate significant revenue through royalties, the Commission factors this in to ensure equitable distribution between mineral-rich and mineral-poor states.

Q70. B

Context: RBI announced Rupees 1,00,000 crore in Open Market Operations to inject durable liquidity into the economy.

Open Market Operation (OMO):

- **The Mechanism:** When the RBI **sells** securities, it sucks out liquidity from the banking system because banks pay the RBI for these securities. This reduces the "surplus" cash banks have available to lend.
- **The Application:** In an inflationary environment, the RBI wants to "tighten" liquidity. By selling G-Secs, the money supply decreases, which helps in tempering demand and controlling inflation.

- **Impact on Rates:** As liquidity tightens, the cost of borrowing (interest rates) typically goes up, aligning with the RBI's “dear money” or contractionary policy.

Q71. B

Context: RBI tightened Large Exposures Framework (LEF) norms for foreign banks to limit risky concentrated lending.

Large Exposures Framework (LEF):

- The LEF is a tool used by central banks (including the RBI, based on Basel III guidelines) to ensure that a bank's exposure to a single “connected group” does not exceed a certain percentage of its Tier-1 capital.
- It aims to protect the stability of the financial system by ensuring that the failure of one large borrower (or a group) does not lead to the insolvency of the bank itself.
- The RBI has set the limit for exposure to a single counterparty at 20% of the bank's Tier-1 capital (extendable to 25% for a group of connected counterparties).

Q72. B

- Fiscal Deficit = Total Expenditure – (Revenue Receipts + Non-debt Capital Receipts) = 2,00,000 – (1,20,000 + 30,000) = 2,00,000 – 1,50,000 = 50,000 crores
- Primary Deficit (Gross Primary Deficit) = Fiscal Deficit – Interest Payments = 50,000 – 12,000 = 38,000 crores

Q73. C

- **Statement 1 is correct: IMPS (Immediate Payment Service)** is an instant, real-time interbank electronic funds transfer system that operates **24×7×365**. **NEFT (National Electronic Funds Transfer)**, while also available 24×7 now, does not transfer money instantly; instead, it settles transactions in **half-hourly batches**.
- **Statement 2 is correct:** Both systems generally allow for very small transactions (as low as ₹1). However, while the RBI does not mandate a maximum limit for NEFT, **IMPS** traditionally has a functional upper limit (usually **₹5 lakh** per transaction, though individual banks may set lower limits for security).

Q74. C

- **Statement I is correct:** The **Co-Lending Model (CLM)** is designed to improve the flow of credit to the unserved and underserved sectors of the economy by making funds available at an affordable cost. It allows for the sharing of risks and rewards between banks (which have low-cost deposits) and NBFCs (which have a deep reach into local markets).

- **Statement II is incorrect:** This statement contradicts the fundamental “co-lending” principle. In this model, the **NBFC is the originator** of the loan and is required to retain a **minimum of 20% share** of the individual loans on its books, while the bank takes the remaining 80%. Furthermore, the NBFC typically acts as the **servicing agent** throughout the life cycle of the loan, handling the “last-mile” interaction, collection, and monitoring, rather than having “no role” after origination.

Q75. C

Context: A recent case of profits earned by predicting a political event revived concerns over opinion trading platforms.

- **Statement I is correct:** This describes the core economic function of these platforms. By allowing people to “bet” on outcomes using their knowledge, the market price aggregates scattered information into a single forecast. If a “Yes” contract for a candidate winning an election is trading at ₹70 (on a scale of 0-100), the market is essentially pricing in a 70% probability of that win.
- **Statement II is incorrect:** Opinion trading platforms in India currently operate in a regulatory gray area. They are not officially recognized as “derivatives” by SEBI, nor are they regulated as “wagering” by most state laws yet. SEBI has, in fact, issued advisories cautioning investors that these platforms lack formal regulatory oversight and investor protection mechanisms.

Q76. C

Context: India’s plan to tighten fuel-efficiency rules under the proposed third phase of the Corporate Average Fuel Efficiency (CAFE) rules from FY28 has opened a sharp divide within the auto industry.

- **Statement I is correct: CAFE (Corporate Average Fuel Efficiency)** norms focus on the overall fuel efficiency of a manufacturer’s entire fleet rather than individual models. The target for **CAFE III** (expected to roll out around 2027) is to significantly tighten these standards to reduce the average CO₂ emissions of the fleet, thereby lowering the carbon footprint of the transport sector in India.
- **Statement II is correct and explains statement I:** Since CAFE norms are calculated as a “corporate average,” manufacturers can offset the higher emissions of their Internal Combustion Engine (ICE) SUVs by selling more **Electric Vehicles (EVs)** and **Hybrids**, which have zero or very low emissions. Stricter norms act as a regulatory push for this transition. Statement II explains Statement I because the *method* by which manufacturers will achieve the “tightened fuel efficiency standards” (Statement I) is precisely by “shifting towards electric and hybrid vehicles” (Statement II).
- **Statement III is incorrect:** CAFE-III norms are designed to **limit and reduce** emissions, not to “eliminate” ICE vehicles. While they make it more expensive for manufacturers to sell inefficient ICE vehicles (due to penalties), they do not place an outright ban on them.

Q77. A

Context: A Supreme Court-appointed Central Empowered Committee (CEC) has recently recommended notifying a tiger reserve in Goa in two phases.

The protected areas mentioned are part of a vital ecological corridor in the **Western Ghats**, spanning the border regions of **Goa** and **Karnataka**.

- **Bhagwan Mahavir National Park (and Mollem Wildlife Sanctuary):** Located in Sanguem taluka, Goa. It forms the core of this contiguous forest patch.
- **Netravali Wildlife Sanctuary:** Located to the **south** of Bhagwan Mahavir National Park in Goa.
- **Cotigao Wildlife Sanctuary:** Located further **south** of Netravali, near the Goa-Karnataka border.
- **Bhimgad Wildlife Sanctuary:** Located in the Belagavi district of **Karnataka**, it shares a boundary with the forests of Bhagwan Mahavir and Netravali.

Together with the **Madei Wildlife Sanctuary** (Goa) and **Kali Tiger Reserve** (Karnataka), these areas form a massive, unbroken protected landscape that is critical for the movement of Tigers and the conservation of the Malabar Giant Squirrel and the rare Black Panther.

Q78. A

Context: A new study finds that excessive sardine fishing off southern Africa led to the deaths of over 60,000 African penguins between 2004 and 2011, especially around Dassen and Robben Islands.

- **Statement 1 is correct:** In a significant and alarming update in late 2024/early 2025, the **IUCN (International Union for Conservation of Nature)** officially reclassified the African Penguin (*Spheniscus demersus*) from “Endangered” to “**Critically Endangered**”. This move was triggered by a catastrophic decline in their population-nearly 97% of the historical population has been lost-primarily due to competition with commercial fisheries for food (sardines and anchovies).
- **Statement 2 is not correct:** African Penguins do **not** live on glaciers or permafrost. They are also known as “Jackass Penguins” or “Bush Penguins” because they inhabit the **temperate, rocky coastlines and islands** of South Africa and Namibia. They nest in burrows or under boulders to protect themselves from the sun. The geography of South Africa and Namibia is sub-tropical to arid; there are no glaciers or permafrost in their natural habitat.

Q79. D

- *Crepuscular* behaviour refers to animals that are most active during **twilight hours-early morning (dawn) and evening (dusk)**. Many Indian herbivores like the Chital follow this pattern to avoid predators and extreme daytime heat.

Q80. B

- **Clouded Leopard (Nocturnal):** Found in the Himalayan foothills and Northeast India, this elusive cat is primarily **nocturnal**. It uses the cover of darkness to hunt both on the ground and in trees. While it can be active during the day in undisturbed areas, its peak activity is after sunset.

- **Indian Pangolin (Nocturnal):** This scaly mammal is strictly **nocturnal**. It spends the daylight hours resting in deep burrows and emerges only at night to forage for ants and termites using its powerful claws and long tongue.
- **Great Indian Bustard (Diurnal):** This is a large, ground-dwelling bird found in the dry grasslands of Rajasthan and Gujarat. Like most birds, it is **diurnal**, meaning it is active during the day-foraging for insects, rodents, and seeds-and rests at night to avoid ground predators.

Q81. D

- *Stotting* (or *pronking*) is a behavior seen in animals like gazelles and Springbok where they leap high with stiff legs. This serves as a **signal to predators** that the animal is **strong, alert, and not worth chasing**, thereby discouraging pursuit.

Q82. D

- **Statement 1 is correct:** Many frogs and salamanders (like the Tree Frog) use **chromatophores** in their skin to change color to blend into their surroundings or to absorb/reflect heat.
- **Statement 2 is correct:** The most famous example is the **Poison Dart Frog**, but many toads (like the Common Indian Toad) also secrete toxins from parotoid glands to make themselves unpalatable or lethal to predators.
- **Statement 3 is correct:** While most amphibians lay eggs (oviparous), some species of **Caecilians** (limbless amphibians) and certain salamanders are viviparous, meaning the young develop inside the mother and are born as miniature adults.
- **Statement 4 is correct:** This is a fascinating evolutionary trait seen in species like the **Axolotl**. They reach sexual maturity while still looking like larvae, keeping their feathery external gills and staying aquatic.

Q83. C

Context: Ornithologists raised an extinction alarm as Finn's Weaver sightings vanished from Terai wetlands (Haripura Dam, Uttarakhand) in 2025-no birds or nests found after 17 males + 10 females in 2021.

- **Statement 1 is correct:** While the Common Weaver (Baya Weaver) nests on thorny trees or palms, the Finn's Weaver is a specialist of the **Terai grasslands** and nests in reeds (*Saccharum* species) or occasionally on the tops of trees in flooded areas.
- **Statement 2 is correct:** They are highly social and are known for their unique **communal nesting** behavior, often building large, complex structures that look different from the solitary hanging nests of the Baya Weaver.
- **Statement 3 is not correct:** As of the latest assessment, the Finn's Weaver is classified as '**Vulnerable**', not 'Critically Endangered', though its population is extremely small and fragmented (estimated at fewer than 1,000 individuals).
- **Statement 4 is correct:** The conversion of seasonal marshes and tall grasslands into **croplands** (especially for sugarcane and rice) is the single biggest threat to their survival.

Q84. B

- **Sea Otter:** These marine mammals are one of the few non-primate species known to use tools. They often collect a flat stone from the ocean floor, place it on their chest while floating on their back, and use it as an **anvil** to smash open hard-shelled prey like clams, mussels, and crabs.

Q85. D

- **PFAS (“Forever Chemicals”):** These are a large group of synthetic chemicals used since the 1940s. They are characterized by a carbon-fluorine bond, which is one of the strongest in organic chemistry, making them highly resistant to heat, water, and oil.
- **Applications:**
 - **Cookware:** Used in PTFE (Teflon) to create slippery, heat-resistant surfaces.
 - **Textiles:** Used in membranes (like Gore-Tex) and sprays to make boots, jackets, and tents waterproof.
 - **Home Decor:** Applied to carpets and sofas to prevent liquid stains from soaking in.
 - **Firefighting:** Critical in specialized foams used to extinguish high-heat liquid fuel fires (like at airports).

Q86. A

Context: India has become the first country to commercially produce bio-bitumen (plant-based alternative to petroleum bitumen) for road construction, supporting sustainable infrastructure development.

What is Bitumen?

- Bitumen is a black, viscous hydrocarbon mixture (thick petroleum product) obtained from crude oil fractionation (separation of crude oil into usable components). It acts as a binder (material that binds aggregates) in road construction.

What is Bio-Bitumen?

- Bio-bitumen is a renewable binder (eco-friendly replacement) in which part of fossil-based bitumen is replaced by biomass derived material (plant-based organic waste), reducing carbon emissions (release of heat-trapping gases).

Q87. C

Ants:

- Many ant species have a mutualistic relationship with aphids. The ants protect the aphids from predators and even carry them to fresh plants; in exchange, the ants "milk" the aphids by stroking them with their antennae to stimulate the release of **honeydew**, a sugary liquid.

While,

- **Termites:** Known for cultivating fungi (similar to some ants), but they do not herd aphids.
- **Ladybugs:** These are the primary *predators* of aphids, not their farmers.
- **Grasshoppers:** These are generalist herbivores and do not engage in complex social herding behaviours.

Q88. B

- Much like **Greenwashing** focuses on environmental deception, **Blue-rinsing** refers to corporations that use the “blue” branding of the United Nations (like the UN Global Compact) to appear socially responsible while their actual business practices involve labor exploitation or human rights violations.

Q89. C

- The term “bioshield” refers to a biological entity that provides protection against physical force.
- Mangroves, with their stilt roots and dense canopies, act as a buffer zone that reduces the impact of high-energy waves and wind during extreme weather events, protecting inland human settlements and infrastructure.

Q90. D

	<i>Species in the news</i>	<i>Descriptions</i>
1	Himalayan Quail	Rediscovered in India after declared extinct
2	Bridgeoporus kanadii	A leathery new species of macro-fungi discovered
3	Dolomedes indicus	A new species of ‘fishing spider’

Q91. A

Context: Recently, the Asia-Pacific Economic Cooperation (APEC) Summit (2025), held in Gyeongju, South Korea, concluded with the adoption of APEC Leaders’ Gyeongju Declaration (2025).

About Asia-Pacific Economic Cooperation (APEC)

- It is a regional economic forum established in 1989 to strengthen the interdependence of economies across the Asia-Pacific region.
- **Member Economies (21 Members):** Australia; Brunei Darussalam; Canada; Chile; People’s Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; The Philippines; The Russian Federation; Singapore

(APEC Secretariat & Headquarter); Chinese Taipei; Thailand; United States of America; and Viet Nam.

Q92. C

Context: The US President confirmed Kazakhstan has formally joined the Abraham Accords.

About

- The Abraham Accords refer to a series of normalisation agreements signed in 2020 between Israel and several Arab countries, brokered by the United States under the Trump administration.
- For decades, most Arab nations refused to recognise Israel until the Palestinian issue was resolved.
- The Abraham Accords marked a major shift in Middle East diplomacy by establishing open relations between Israel and certain Arab states without prior resolution of the Israel– Palestine conflict.
- UAE became the first Gulf country to normalise relations with Israel in 2020 as part of the Abraham Accords.
- **Countries:** Israel, UAE, Bahrain, Sudan, Morocco and Kazakhstan.

Q93. B

Context: The Systematic Observations Financing Facility provides grants for the collection of weather and climate data.

- **Statement 1 is correct:** SOFF's primary technical objective is to close the hydrometeorological data gap in Least Developed Countries (LDCs) and Small Island Developing States (SIDS). It ensures these countries can contribute to the **Global Basic Observing Network (GBON)**, which is essential for accurate global weather forecasting.
- **Statement 2 is correct:** It is a UN multi-partner trust fund co-founded by the **WMO, UNEP, and UNDP**. It represents a collaborative effort to treat weather and climate observations as a "Global Public Good."
- **Statement 3 is not correct:** While polar data is important, SOFF's mandate is **not exclusive** to polar regions. Its priority is supporting **LDCs and SIDS** (mainly in tropical and temperate zones) where the lack of basic weather data currently undermines global climate models and local disaster preparedness.

Q94. C

	<i>Name of missiles</i>	<i>Types</i>
1	Arrow	Surface-to-air missile
2	HAMMER	Air-to-Surface missile
3	Javelin	Anti-tank missile
4	Nirbhay	Cruise missile

Q95. A

Context: President Droupadi Murmu made the first-ever Indian presidential visit to Angola to strengthen bilateral ties under the India–Africa Forum Summit framework.

About Angola (Capital: Luanda)

- Angola is located on the southwestern Atlantic Coast of Africa between Namibia and the Republic of Congo.
- It also is bordered by the Democratic Republic of the Congo and Zambia to the east.



Q96. A

Context: Eight people were killed in an explosion at an Alawite Mosque in Homs, Syria.

	<i>Minority communities</i>	<i>Associated countries</i>
1	Alawites	Syria
2	Yazidis	Iraq
3	Copts	Egypt
4	Maronites	Lebanon

Q97. A

Context: India participated for the first time in the Weimar Triangle format, a significant diplomatic development.

About

- It is a trilateral political and diplomatic grouping of France, Germany & Poland established in 1991 named after Weimar, where the three foreign ministers of these nations first met.
- It aims to build a united, secure, and resilient Europe & strengthen political, security, and economic cooperation among Western and Central European powers.

Q98. B

Context: The US strikes on Venezuela have brought to the forefront concerns over violations of international law, breach of national sovereignty & reinforcing perceptions of U.S. imperialism.

- **Statement 1 is not correct:** The Equator (0°latitude) does **not** pass through Venezuela. It passes through its neighbors to the south: **Ecuador, Colombia, and Brazil**. Venezuela lies entirely in the Northern Hemisphere, with its southernmost tip reaching approximately 0°38' N.
- **Statement 2 is correct:** Lake Maracaibo is a large brackish tidal bay (often referred to as a lake) in northwest Venezuela. It is famously one of the world's richest and oldest oil-producing regions. The **Maracaibo Basin** contains a significant portion of Venezuela's proven hydrocarbon reserves, though the **Orinoco Belt** to the east contains larger deposits of extra-heavy crude oil.



Q99. B

Context: The United Nations Economic and Social Council (ECOSOC) completed 80 years of its functioning.

- **Statement 1 is correct:** ECOSOC consists of 54 member states which are elected by the UN General Assembly for overlapping three-year terms. Seats on the Council are allotted based on geographical representation (e.g., 14 to African States, 11 to Asian States, etc.).
- **Statement 2 is not correct:** Unlike some “important questions” in the General Assembly that require a two-thirds majority, decisions in ECOSOC are taken by a **simple majority** of the members present and voting. Each member has one vote.

- **Statement 3 is correct:** ECOSOC is the principal body for coordination, policy review, policy dialogue, and recommendations on the **economic, social, and environmental issues**, as well as for the implementation of internationally agreed development goals.

Q100. C

Context: Recently, Bulgaria became the 21st country to switch to the euro, nearly 20 years after the Balkan nation joined the European Union (EU).

- **Statement 1 is not correct:** Recently, Bulgaria became the 21st country to switch to the euro, nearly 20 years after the Balkan nation joined the European Union (EU).
- **Statement 2 is not correct:** The **United Kingdom (UK)** officially left the European Union (Brexit) on January 31, 2020. Furthermore, even when it was an EU member, the UK **never joined the Eurozone**; it maintained the Pound Sterling.
- **Statement 3 is correct:** **Turkey** is not a member of the EU (its accession process has been stalled for years). However, the **EU-Turkey Customs Union** has been in force since 1995, allowing for the free movement of goods (excluding agriculture and services) between the two.
- **Statement 4 is correct:** Ireland is a member of European Union (EU) and Eurozone but not a member of Schengen Area. The Schengen area is a European visa-free zone comprising 29 countries that have abolished internal borders and instead focused on strengthening external borders. The Area includes 29 countries: 25 EU Member States and 4 non-EU countries (Iceland, Norway, Switzerland and Liechtenstein).

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