NEXT IAS

AANKALAN-II : 2026

GENERAL STUDIES-I

Answer Key

1.	(b)	26.	(d)	51.	(d)	76.	(b)	101.	(b)	126.	(c)
2.	(a)	27.	(d)	52.	(b)	77.	(b)	102.	(a)	127.	(a)
3.	(a)	28.	(c)	53.	(d)	78.	(c)	103.	(d)	128.	(b)
4.	(c)	29.	(a)	54.	(b)	79.	(d)	104.	(a)	129.	(c)
5.	(d)	30.	(c)	55.	(c)	80.	(d)	105.	(d)	130.	(d)
6.	(a)	31.	(c)	56.	(b)	81.	(d)	106.	(a)	131.	(b)
7.	(c)	32.	(a)	57.	(b)	82.	(a)	107.	(b)	132.	(a)
8.	(b)	33.	(b)	58.	(b)	83.	(b)	108.	(b)	133.	(c)
9.	(d)	34.	(c)	59.	(a)	84.	(c)	109.	(b)	134.	(c)
10.	(c)	35.	(d)	60.	(c)	85.	(b)	110.	(c)	135.	(a)
11.	(a)	36.	(a)	61.	(c)	86.	(c)	111.	(c)	136.	(c)
12.	(a)	37.	(b)	62.	(a)	87.	(c)	112.	(c)	137.	(d)
13.	(d)	38.	(a)	63.	(a)	88.	(a)	113.	(b)	138.	(b)
14.	(b)	39.	(b)	64.	(b)	89.	(b)	114.	(d)	139.	(a)
15.	(c)	40.	(a)	65.	(c)	90.	(a)	115.	(a)	140.	(a)
16.	(b)	41.	(b)	66.	(d)	91.	(b)	116.	(b)	141.	(b)
17.	(a)	42.	(a)	67.	(c)	92.	(c)	117.	(a)	142.	(c)
18.	(c)	43.	(d)	68.	(d)	93.	(a)	118.	(d)	143.	(b)
19.	(a)	44.	(d)	69.	(a)	94.	(b)	119.	(c)	144.	(d)
20.	(b)	45.	(c)	70.	(c)	95.	(d)	120.	(d)	145.	(b)
21.	(d)	46.	(a)	71.	(c)	96.	(d)	121.	(a)	146.	(c)
22.	(a)	47.	(b)	72.	(a)	97.	(a)	122.	(c)	147.	(d)
23.	(d)	48.	(d)	73.	(a)	98.	(b)	123.	(d)	148.	(c)
24.	(c)	49.	(d)	74.	(b)	99.	(b)	124.	(b)	149.	(d)
25.	(a)	50.	(c)	75.	(d)	100.	(c)	125.	(c)	150.	(b)

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AANKALAN-II : 2026
GENERAL STUDIES-I

1. (b)

The Uttaramerur inscriptions are found on the walls of the Vaikunta Perumal Temple at Uttaramerur in present-day Kanchipuram district, Tamil Nadu. They provide valuable information about village administration and local self-government during the Chola period.

The inscriptions, particularly those issued during the reign of Parantaka I (907–955 CE), describe the functioning of the village assembly (Sabha), its various committees (Variyams), and the qualifications and disqualifications prescribed for committee membership.

They explain the Kudavolai system, under which eligible candidates were selected through a lottery system using palm-leaf tickets placed in a pot. The inscriptions also highlight accountability, financial integrity and rules governing village administration.

Thus, the Uttaramerur inscriptions constitute important epigraphic evidence of the sophisticated system of local self-government under the Cholas.

2. (a)

Atmiya Sabha (1815): Founded by Raja Rammohan Roy in Calcutta to promote monotheism and religious and social reform.

Hindu College (1817): Established in Calcutta through the efforts of David Hare, Raja Rammohan Roy and other prominent individuals to promote Western education.

Sambad Kaumudi (1821): A Bengali weekly newspaper associated with Raja Rammohan Roy that advocated social reforms, particularly the abolition of Sati.

Vedanta College (1825): Established by Raja Rammohan Roy in Calcutta to combine Western scientific education with traditional Indian philosophical learning.

3. (a)

Kritya Kalpataru was composed by Lakshmidhara, a minister in the court of the Gahadavala ruler Govindachandra. It is an important Sanskrit digest dealing with Dharmashastra, religious duties and legal practices.

Naishadhacharita was composed by Sriharsha. It is a celebrated Sanskrit Mahakavya narrating the story of King Nala and Princess Damayanti.

Prabodhachandrodaya was written by Krishnamishra. It is a philosophical allegorical Sanskrit drama depicting the victory of knowledge and spiritual awakening over ignorance.

Lalita Vigraharaja Nataka was composed by Somadeva in praise of the Chauhan ruler Vigraharaja IV (Visaladeva) of Shakambhari. It is an important source for the political and cultural history of the Chauhans.

4. (c)

Statement 1 is correct: The Nagpur Session of December 1920 ratified the Non-Cooperation Programme, which had been adopted at the Calcutta Special Session in September 1920.

Statement 2 is correct: The Congress organisation was reorganised on a linguistic basis to strengthen its regional organisation and broaden public participation.

Statement 3 is correct: The annual membership fee was reduced to four annas (one-quarter of a rupee), making Congress membership more accessible to ordinary people.

Statement 4 is incorrect: The session was presided over by C. Vijayaraghavachariar, not C. R. Das.

5. **(d)**

Dharmapala (c. 770–810 CE) was the second ruler of the Pala dynasty and the son of its founder, Gopala. He considerably expanded Pala influence in northern India and participated in the Tripartite Struggle for control over Kannauj against the Gurjara-Pratiharas and Rashtrakutas. He is traditionally credited with establishing Vikramashila University.

Devapala (c. 810–850 CE) succeeded Dharmapala and brought the Pala Empire to the height of its territorial expansion. His military achievements are recorded in the Badal Pillar Inscription. The Buddhist ruler Balaputradeva of Suvarnadvipa obtained his permission to establish a monastery at Nalanda.

Mahipala I (c. 988–1038 CE) restored Pala authority after a period of political decline. He recovered significant territories in Bengal and Bihar and is therefore regarded as the second founder of the Pala dynasty. He also patronised Buddhist religious institutions.

Rampala (c. 1077–1130 CE) was the last major ruler of the Pala dynasty. He suppressed the Kaivarta rebellion in Varendra and temporarily restored Pala authority in northern Bengal. His achievements are described in the Ramacharita, composed by Sandhyakar Nandi.

6. **(a)**

During the Early Vedic period, Sabha, Samiti and Vidatha were important assemblies that facilitated collective participation in the social, political and religious affairs of tribal society.

1. **Sabha – Correct:** The Sabha was a relatively smaller and more selective assembly, generally comprising elders and prominent members of society. It performed deliberative and judicial functions, including the settlement of disputes. Its membership was comparatively restricted, distinguishing it from the broader Samiti.
2. **Samiti – Correct:** The Samiti was a broader tribal assembly associated with public participation in political affairs. It discussed matters concerning tribal governance, leadership and the authority of the king (Rajan). It also had a role in the selection or recognition of the king. Thus, it represented a wider participatory institution than the Sabha.
3. **Vidatha – Incorrect:** Vidatha was one of the important assemblies mentioned in the Rigveda. It was a multifunctional institution associated with religious ceremonies, distribution of resources, economic activities and military affairs. Both men and women are believed to have participated in its activities. It was not an exclusive assembly constituted for the selection of the king.

7. **(c)**

A. **Akalavarsha – Krishna III:** Krishna III was a powerful Rashtrakuta ruler who bore the title Akalavarsha.

B. **Adhiraja – Nedunjeral Adan:** The Chera ruler Nedunjeral Adan attained the title Adhiraja after defeating seven crowned kings, as described in Sangam literature.

C. **Shivapadasekhara – Rajaraja Chola I:** The Chola emperor was a devoted follower of Shiva and assumed the title Shivapadasekhara, meaning one who bears the feet of Shiva on his crown.

D. **Gangaikonda – Rajendra Chola I:** He assumed the title Gangaikonda (Conqueror of the Ganga) to commemorate his successful northern military expedition and established Gangaikondacholapuram.

8. **(b)**

The Chola Empire had a well-organised administrative system consisting of several territorial divisions, from large provinces to individual villages.

1. **Mandalam (Province):** It was the largest administrative division of the Chola Empire. The empire was divided into several Mandalams, such as Cholamandalam, Pandimandalam and Tondaimandalam. Royal princes or appointed officials often supervised provincial administration.
2. **Valanadu/Kottam (Division):** Mandalams were subdivided into Valanadus, particularly following the administrative reorganisation under Rajaraja Chola I. Kottam was an important territorial division, especially in Tondaimandalam.

3. **Nadu (District-level unit):** It comprised a group of villages and formed an important unit of local administration. Its affairs were managed by an assembly of influential local representatives known as Nattar.
4. **Kurram:** It denoted a smaller territorial unit or grouping of villages. Its administrative position and usage varied across regions and periods.
5. **Village:** It constituted the basic unit of Chola administration. Village-level institutions included:

Ur: Assembly of ordinary villages.

Sabha or Mahasabha: Assembly of Brahmadeya villages.

Nagaram: Organisation associated primarily with merchants and trading settlements.

9. (d)

Lothal – S. R. Rao: Located in Gujarat, Lothal was excavated by S. R. Rao between 1955 and 1962. It is particularly famous for its dockyard, bead-making industry, warehouse and evidence of maritime trade.

Dholavira – R. S. Bisht: Located on Khadir Bet in the Kutch district of Gujarat, Dholavira was discovered by J. P. Joshi in 1967–68 and extensively excavated under R. S. Bisht from 1990 onwards. It is renowned for its sophisticated water-management system, reservoirs, large signboard and distinctive threefold town planning.

Ropar – Y. D. Sharma: Situated on the banks of the Sutlej River in Punjab, Ropar (Rupnagar) was excavated by Y. D. Sharma in 1953. It revealed a continuous cultural sequence from the Harappan period to the historical period. Evidence of human burial accompanied by a dog was also discovered here.

Kalibangan – B. B. Lal and B. K. Thapar: Located on the banks of the ancient Ghaggar River in Rajasthan, Kalibangan was excavated under B. B. Lal and B. K. Thapar between 1960 and 1969. It is particularly known for evidence of a ploughed agricultural field, fire altars and both Early and Mature Harappan cultural phases.

10. (c)

Statement 1 is correct: The Aihole Inscription (634–635 CE) was composed by Ravikirti, the court poet of Pulakeshin II of the Badami Chalukya dynasty.

Statement 2 is incorrect: The inscription is engraved on the Meguti Jain Temple at Aihole, Karnataka, not on the Virupaksha Temple.

Statement 3 is correct: It records the military achievements of Pulakeshin II, including his successful resistance against Harshavardhana on the banks of the Narmada River.

Statement 4 is incorrect: The inscription was composed in Sanskrit, using the Old Kannada script, rather than in the Kannada language.

11. (a)

A. **Fundamental Rights Subcommittee:** Chaired by J. B. Kripalani, it examined and recommended provisions relating to Fundamental Rights for inclusion in the Constitution.

B. **Minorities Subcommittee:** Headed by H. C. Mookherjee, it examined the rights and constitutional safeguards necessary for protecting minority communities.

C. **North-East Frontier Tribal Areas and Assam Excluded and Partially Excluded Areas Subcommittee:** Chaired by Gopinath Bardoloi, it examined the administrative arrangements and constitutional safeguards for tribal areas in Assam and the North-East. Its recommendations contributed to the Sixth Schedule.

D. **Excluded and Partially Excluded Areas (Other than Assam) Subcommittee:** Headed by A. V. Thakkar, it examined the administration and protection of tribal areas outside Assam. Its recommendations contributed to the formulation of the Fifth Schedule.

12. (a)

Statement 1 is correct: The First Constitutional Amendment Act, 1951, added public order and friendly relations with foreign States as grounds for imposing reasonable restrictions under Article 19(2).

Statement 2 is incorrect: The Sixteenth Constitutional Amendment Act, 1963, added the expression "sovereignty and integrity of India" to Article 19(2). Security of the State was already an existing ground for imposing reasonable restrictions before this amendment.

13. (d)

Article 252: Empowers Parliament to legislate on a State List matter for two or more States with the consent of their respective State Legislatures.

Article 253: Empowers Parliament to enact laws for implementing international treaties, agreements and conventions.

Article 275: Provides for statutory grants-in-aid from the Union to certain States, charged on the Consolidated Fund of India.

Article 282: Enables the Union or a State to make discretionary grants for any public purpose, even if that purpose falls outside its respective legislative competence.

14. (b)

Statement 1 is incorrect: Article 28(1) prohibits religious instruction in educational institutions wholly maintained out of State funds. However, Article 28(2) creates an exception: religious instruction is permitted in an institution administered by the State if it was established under an endowment or trust that requires such instruction. Therefore, religious instruction is not prohibited in every State-administered institution.

Statement 2 is correct: Under Article 28(3), students attending State-recognised or State-aided educational institutions cannot be compelled to participate in religious instruction or religious worship without their consent. If the student is a minor, consent must be obtained from their guardian.

Key distinction: Article 28(1) deals with the prohibition of religious instruction in wholly State-funded institutions, whereas Article 28(3) deals with protection against compulsory participation in religious instruction or worship.

15. (c)

Tarkunde Committee (1974): Headed by V. M. Tarkunde, it recommended electoral reforms, including lowering the voting age from 21 to 18 years and establishing a multi-member Election Commission.

Dinesh Goswami Committee (1990): Recommended measures to prevent booth capturing, curb misuse of official machinery and improve the fairness of elections.

Indrajit Gupta Committee (1998): Examined State funding of elections and recommended partial State funding, primarily through facilities provided in kind rather than direct cash assistance.

Law Commission's 170th Report (1999): Titled Reform of Electoral Laws, it recommended measures relating to the criminalisation of politics, regulation of political parties and electoral transparency.

16. (b)

Under Article 352, the President may proclaim a National Emergency on the grounds of war, external aggression or armed rebellion.

The Proclamation must be approved by both Houses of Parliament within one month of its issuance, subject to special provisions when the Lok Sabha is dissolved.

Once approved by both Houses, it remains in force for six months from the date on which the second House passes the resolution approving it, rather than six months from the original date of proclamation.

A National Emergency may be extended for successive periods of six months, provided both Houses approve each extension by a special majority. There is no maximum constitutional limit on its total duration.

17. (a)

Assertion (A) is correct: A government formed through democratic elections does not automatically qualify as a constitutional government. Elections establish the representative character of a government, but an elected government may still exercise arbitrary or unlimited powers.

Reason (R) is correct: Constitutional government is based on the principle of limited government. It requires that governmental powers be exercised within the framework of the Constitution, subject to constitutional restrictions, the rule of law and the protection of fundamental rights.

The existence of representative institutions or popular consent alone is insufficient to establish constitutional government. Even a government enjoying an electoral majority cannot legitimately exercise powers beyond constitutional limits.

Thus, Reason (R) correctly explains Assertion (A), as the defining feature of constitutional government is the limitation of governmental power by the Constitution, not merely its democratic origin.

18. (c)

Pair 1 is correct: The National Flag of India was adopted by the Constituent Assembly on 22 July 1947.

Pair 2 is incorrect: Jana Gana Mana was adopted as the National Anthem on 24 January 1950, not 26 January 1950.

Pair 3 is correct: On 24 January 1950, Dr. Rajendra Prasad declared in the Constituent Assembly that Vande Mataram, which had played a historic role in the freedom struggle, would be honoured equally with Jana Gana Mana. This declaration established its status as the National Song.

Pair 4 is incorrect: The State Emblem of India, adapted from the Lion Capital of Ashoka at Sarnath, was adopted on 26 January 1950, not 24 January 1950.

Important distinction: The National Anthem was formally adopted on 24 January 1950, whereas the National Song received equal honour and status through a declaration by Dr. Rajendra Prasad on the same date.

19. (a)

Statement 1 is correct: Under Article 243(c), the intermediate level refers to a level between the village and district levels, specified by the Governor through public notification.

Statement 2 is incorrect: Article 243B(2) exempts States having a population not exceeding 20 lakh, not 25 lakh, from the mandatory establishment of intermediate-level Panchayats.

20. (b)

The correct sequence of Fundamental Duties under Article 51A is:

Article 51A(d): To defend the country and render national service when called upon to do so.

Article 51A(e): To promote harmony and the spirit of common brotherhood amongst all the people of India, transcending religious, linguistic, regional or sectional diversities, and to renounce practices derogatory to the dignity of women.

Article 51A(f): To value and preserve the rich heritage of our composite culture.

Article 51A(g): To protect and improve the natural environment, including forests, lakes, rivers and wildlife, and to have compassion for living creatures.

21. (d)

Rohtang Pass connects the Kullu Valley with the Lahaul Valley in Himachal Pradesh, not the Spiti Valley. Therefore, the given pair is incorrectly matched.

Zoji La connects the Kashmir Valley with the Dras–Kargil region of Ladakh, providing an important route between Kashmir and Ladakh. It does not directly connect the Kashmir Valley with the Zanskar Valley. Hence, the given pair is incorrectly matched.

Pensi La connects the Suru Valley with the Zanskar Valley in Ladakh. It serves as an important gateway to the Zanskar region. Therefore, the given pair is correctly matched.

Kunzum Pass connects the Lahaul Valley with the Spiti Valley in Himachal Pradesh. It lies on the route between Gramphu and Kaza and provides seasonal access to Spiti. Hence, the given pair is correctly matched.

22. (a)

The Suez Canal connects the Mediterranean Sea with the Red Sea through Egypt, providing a direct maritime route between Europe and Asia without circumnavigating Africa.

After crossing the Red Sea, vessels pass through the Bab-el-Mandeb Strait, situated between Yemen on the Arabian Peninsula and Djibouti and Eritrea on the African side. It connects the Red Sea with the Gulf of Aden.

From the Gulf of Aden, vessels enter the Arabian Sea, which forms the northwestern part of the Indian Ocean and provides access to major maritime routes connecting West Asia, South Asia and East Africa.

Ships then proceed towards the Gulf of Oman and pass through the Strait of Hormuz to enter the Persian Gulf.

Correct sequence: Mediterranean Sea → Suez Canal → Red Sea → Bab-el-Mandeb Strait → Gulf of Aden → Arabian Sea → Gulf of Oman → Strait of Hormuz → Persian Gulf.



23. (d)

Statement 1 is correct: Golan Heights

The Golan Heights is a strategically important rocky plateau situated along the Israel–Syria frontier. It was captured by Israel from Syria during the Six-Day War of 1967 and subsequently annexed by Israel in 1981, although this annexation is not internationally recognised by most countries. Its strategic importance arises from its elevated terrain, which overlooks northern Israel, including the Sea of Galilee. The area is also significant because of its proximity to important water resources in the Jordan River basin.

Statement 2 is correct: Wakhan Corridor

The Wakhan Corridor is a narrow strip of territory in northeastern Afghanistan, situated in the Pamir mountain region. It separates Tajikistan to the north from Pakistan to the south and provides Afghanistan with a short international boundary with China's Xinjiang region. The corridor was established as a buffer between British India and the Russian Empire during the Great Game in the nineteenth century. The Wakhjir Pass lies near its eastern end along the Afghanistan–China border.

Statement 3 is incorrect: Fergana Valley

The Fergana Valley is a fertile and densely populated intermontane valley in Central Asia. It is shared by three countries: Uzbekistan, Kyrgyzstan and Tajikistan, not Kazakhstan and Turkmenistan. It is surrounded by the Tian Shan mountain system to the north and the Alay Mountains to the south. The Syr Darya River flows through the valley, making it an important agricultural region, particularly for cotton cultivation and fruit production.

Statement 4 is incorrect: Sinai Peninsula

The Sinai Peninsula is a triangular landmass belonging to Egypt, situated geographically in Asia. It lies to the east of the Suez Canal, between the Mediterranean Sea to the north and the Red Sea to the south. Its western boundary is formed by the Gulf of Suez and the Suez Canal, while the Gulf of Aqaba lies to its east. The peninsula forms a geographical land bridge between Africa and Asia.

24. (c)

Malnad – Karnataka: Malnad refers to the hilly, high-rainfall region of Karnataka associated with the Western Ghats. It is characterised by dense forests, rugged terrain and plantation agriculture, particularly coffee.

Duns – Lesser Himalayas and Siwaliks: Duns are longitudinal valleys situated between the Lesser Himalayas and the Siwalik ranges. Dehradun and Kotli Dun are prominent examples.

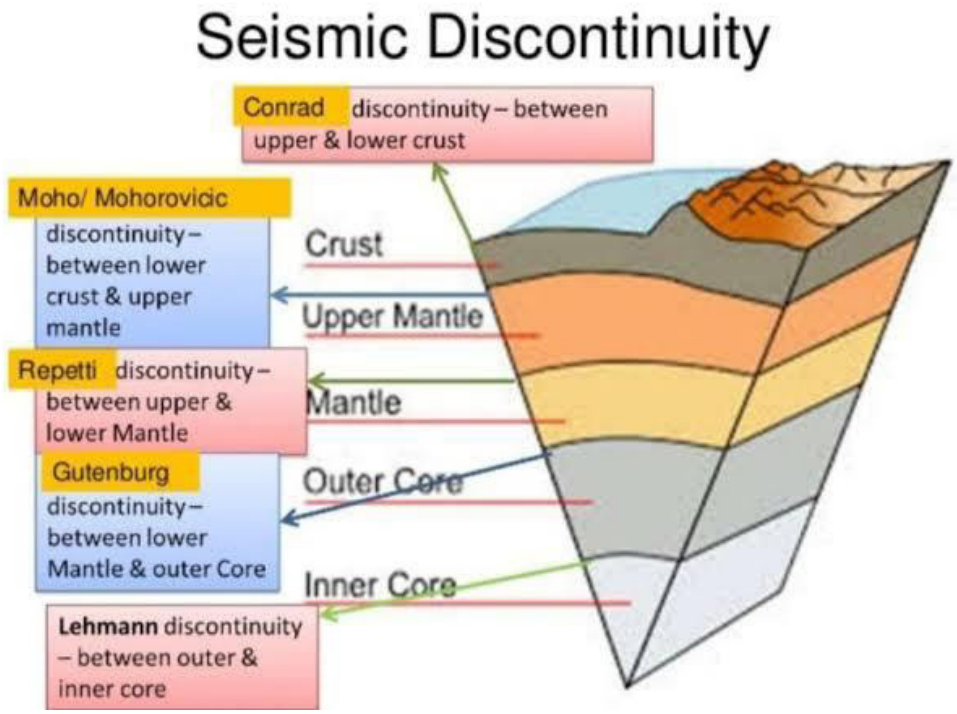
Khondalite Hills – Eastern Ghats: Khondalite is a metamorphic rock formation commonly associated with the Eastern Ghats, particularly in Odisha and Andhra Pradesh.

Patland – Chotanagpur Plateau: Patlands are flat-topped, elevated plateau surfaces, particularly prominent in the western part of the Chotanagpur Plateau. The Netarhat Pat in Jharkhand is an important example.

25. (a)

Statement 1 is correct: The Mohorovičić Discontinuity (Moho) separates the Earth's crust from the mantle. Discovered by Andrija Mohorovičić in 1909, it is characterised by a sharp increase in seismic wave velocities due to changes in rock composition and elastic properties.

Statement 2 is incorrect: The Lehmann Discontinuity separates the liquid outer core from the solid inner core at approximately 5,150 km depth. It was discovered by Danish seismologist Inge Lehmann in 1936. The mantle–outer core boundary is known as the Gutenberg Discontinuity, located at approximately 2,900 km depth, where S-waves disappear and P-waves slow down significantly.



26. (d)

The correct geographical sequence from west to east is:

Sumatra → Java → Bali → Sulawesi

Sumatra lies in western Indonesia, separated from the Malay Peninsula by the Strait of Malacca. Java lies southeast of Sumatra, separated by the Sunda Strait. Bali is situated immediately east of Java, separated by the Bali Strait. Sulawesi lies farther east, across the Flores Sea region.



27. (d)

A. Tandur – Telangana: Tandur is associated with the Singareni coalfields in the Mancherial district of Telangana. Coal mining in this region is undertaken by Singareni Collieries Company Limited (SCCL).

B. Warora – Maharashtra: Warora Coalfield is situated in Chandrapur district of Maharashtra. It forms part of the Wardha Valley coal-bearing region, an important coal-producing belt of Maharashtra.

C. Lalmatia – Jharkhand: Lalmatia is associated with the Rajmahal Coalfield in Godda district of Jharkhand. The Rajmahal Open Cast Project is operated by Eastern Coalfields Limited (ECL).

D. Bishrampur – Chhattisgarh: Bishrampur Coalfield is located in Surajpur district of Chhattisgarh. It is an important coal-mining area operated by South Eastern Coalfields Limited (SECL), a subsidiary of Coal India Limited.

28. (c)

Statement 1 is correct: Red and Yellow Soils develop mainly on crystalline igneous and metamorphic rocks in areas of low rainfall, particularly in the eastern and southern Deccan Plateau. Their reddish colour results from the diffusion of iron oxides within the soil.

Statement 2 is correct: These soils acquire a yellowish colour when iron compounds occur in hydrated form. Thus, variations in the chemical state of iron are responsible for their red and yellow appearance.

Additional Fact: These soils are generally poor in nitrogen, phosphorus and humus but relatively rich in potash.

29. (a)

Pair 1 is correct: Doyang Hydroelectric Project is located on the Doyang River, a tributary of the Dhansiri, in Wokha district of Nagaland. It has an installed capacity of 75 MW.

Pair 2 is correct: Tuirial Hydroelectric Project is situated on the Tuirial River in Mizoram. It has an installed capacity of 60 MW and was commissioned in 2017.

Pair 3 is incorrect: The Pauk Hydroelectric Project is located in Arunachal Pradesh, on the Yarjep River in the West Siang region. It is not located in Meghalaya.

Pair 4 is incorrect: The Kulsi project is associated with the Kulsi River and the Assam–Meghalaya region. It is not located in Arunachal Pradesh.

30. (c)

Sacred Valley – Peru: Located in the Andes Mountains near Cusco, along the Urubamba River. It was an important agricultural and cultural centre of the Inca civilisation.

Nubian Nile Valley – Egypt and Sudan: Extends along the Nile River across southern Egypt and northern Sudan. It was home to the ancient Nubian civilisation, including the Kingdom of Kush.

Beqaa Valley – Lebanon: A fertile intermontane valley situated between the Lebanon and Anti-Lebanon mountain ranges. It is an important agricultural region of Lebanon.

Yosemite Valley – California (USA): A glacially carved valley in the Sierra Nevada Mountains, renowned for its granite cliffs, including El Capitan and Half Dome.

31. (c)

Statement 1 is correct: On **27 January 2026**, at the **India–EU Summit** at Hyderabad House, New Delhi, Prime Minister **Narendra Modi**, European Council President **António Costa** and European Commission President **Ursula von der Leyen** announced the **conclusion of negotiations** on the FTA. Talks had been launched in **2007** (as the Broad-based Trade and Investment Agreement), stalled in **2013**, and relaunched in **2022**.

Statement 2 is not correct: The agreement has **not yet been signed or brought into force**. Concluding negotiations is followed by legal scrubbing, translation, approval by the EU Council and European Parliament, and signature. The Commission sent its proposals for signature to the Council in **September 2026**, and signing is targeted for around **December 2026**, with entry into force expected in **2027**.

Statement 3 is correct: The same summit saw the signing of an **India–EU Security and Defence Partnership**, covering **maritime security, counter-terrorism and cyber security**, along with an understanding on **mobility**.

Hence option (c).

According to the EU, the deal will remove or reduce tariffs on about **96.6% of EU goods exports** to India by value. Indian duties on **cars** will fall from as high as **110%** to as low as **10%** in stages, and duties on **wine** will come down from **150%**. EU–India trade in goods and services exceeds **€180 billion** a year, and the EU is one of India's largest trading partners. Distinguish this from the **India–EFTA Trade and Economic Partnership Agreement (TEPA)**, signed with Switzerland, Norway, Iceland and Liechtenstein (non-EU countries), and the **India–UK CETA** (2025). The EU's **Carbon Border Adjustment Mechanism (CBAM)** remains a sensitive issue outside the FTA.

32. (a)

2. **Shekha Jheel (April 2026):** Designated on **22 April 2026** as India's **99th** Ramsar site. It is a freshwater lake in **Aligarh** that came into being around **1852** with the construction of the **Upper Ganga Canal**, and records about **249 bird species** on the **Central Asian Flyway**.
4. **Surha Tal (June 2026):** The **Jai Prakash Narayan Bird Sanctuary (Surha Tal)** in **Ballia** became India's **100th Ramsar site**, which the Prime Minister welcomed on **World Environment Day, 5 June 2026**. It is an **oxbow lake** of the Ganga, declared a bird sanctuary in **1991**.
3. **Glaw Lake (August 2026):** Designated as India's **101st** Ramsar site, Glaw Lake became the **first Ramsar site of Arunachal Pradesh**.
1. **Sauj Jheel (October 2026):** Designated along with **Sukhna Wetland (Chandigarh)**, taking India's total to **103**. Sauj Jheel is a perennial floodplain lake in **Mainpuri** that supports more than **30,000 waterbirds**, including the **Sarus Crane**. It lies close to **Saman Bird Sanctuary**, also in Mainpuri, a Ramsar site since **2019**.

Hence option (a).

These additions take **Uttar Pradesh to 14 Ramsar sites**, second only to **Tamil Nadu**. The **Ramsar Convention** was signed in **1971** at **Ramsar, Iran**; India joined in **1982**, and its first sites were **Chilika Lake** and **Keoladeo National Park**. **World Wetlands Day** is observed on **2 February**. The **Montreux Record** lists sites under threat; **Keoladeo** and **Loktak** are India's entries. Wetlands in India are regulated

under the **Wetlands (Conservation and Management) Rules, 2017**, and the **Amrit Dharohar** initiative (2023) promotes the conservation of Ramsar sites. So the order is 2, 4, 3, 1.

33. (b)

Statement 1 is not correct: The resolution was adopted on **17 November 2025** by **13 votes in favour, none against, and 2 abstentions**: **China and Russia** abstained. Under the Council's practice, an **abstention by a permanent member does not amount to a veto**.

Statement 2 is correct: The resolution **endorses the US-backed Comprehensive Plan to End the Gaza Conflict**. It welcomes the **Board of Peace** as a **transitional governance and oversight body** and authorises the Board and participating States to set up a **temporary International Stabilization Force (ISF)**. The mandate runs until **31 December 2027**, and the Board must report to the Council **every six months**.

Hence option (b).

The resolution followed the **Sharm el-Sheikh Peace Summit** in **Egypt** on **13 October 2025**, co-chaired by US President **Donald Trump** and Egyptian President **Abdel Fattah el-Sisi**, where the **US, Egypt, Qatar and Türkiye** signed a declaration backing the ceasefire. India was represented at the summit by Minister of State for External Affairs **Kirti Vardhan Singh**. The **UN Security Council** has **15 members** (5 permanent and 10 non-permanent members elected for **two-year terms**), and a substantive resolution needs **9 affirmative votes** with no negative vote by a permanent member. Resolutions under **Chapter VII** of the UN Charter are binding enforcement measures. India last served on the Council in **2021–22**, its eighth term.

34. (c)

Statement 1 is correct: In the **243-member** Bihar Assembly, elections were held in **two phases (6 and 11 November 2025)**, and results came on **14 November 2025**. The **NDA won 202 seats** (**BJP 89, JD(U) 85**, LJP(RV) 19, HAM(S) 5, RLM 4), while the Mahagathbandhan was reduced to **35**. **Nitish Kumar** was sworn in for a **record tenth time** on **20 November 2025** at **Gandhi Maidan, Patna**, by Governor **Arif Mohammad Khan**, with **Samrat Choudhary** and **Vijay Kumar Sinha** as Deputy Chief Ministers.

Statement 2 is correct: After Nitish Kumar was elected to the **Rajya Sabha** and resigned as Chief Minister, **Samrat Choudhary** was sworn in on **15 April 2026**, becoming the **first BJP Chief Minister of Bihar**.

Hence option (c).

Under **Article 164**, the Chief Minister is appointed by the **Governor**, and other ministers on the CM's advice; the Council of Ministers is collectively responsible to the **Legislative Assembly**. A person who is not a member of the legislature can be a minister for up to **six months**. Bihar is one of the six States with a **bicameral legislature** (Legislative Council under **Article 169**), the others being **Uttar Pradesh, Maharashtra, Karnataka, Andhra Pradesh and Telangana**. The 2025 election was the first after the **Special Intensive Revision** of Bihar's electoral rolls, and recorded a turnout of about **67%**, the highest in the State's history.

35. (d)

Statement 1 is correct: The **Meja** power station is in **Prayagraj** district. Stage-II will add **2,400 MW (3 × 800 MW)** to the existing Stage-I of **2 × 660 MW**.

Statement 2 is correct: It is being built by **Meja Urja Nigam Private Limited**, a **50:50 joint venture of NTPC and UPRVUNL**. In 2026, **BHEL** won the engineering, procurement and construction (EPC) order worth over **₹21,000 crore**, and **REC and PFC** signed a common loan agreement of about **₹26,850 crore** to fund it.

Statement 3 is not correct: Stage-II will use **ultra-supercritical** technology with an **air-cooled condenser**. Ultra-supercritical units work at very high steam temperatures and pressures, which raises efficiency and lowers coal use and emissions per unit of power. Air-cooled condensers sharply cut **water consumption**, which matters in a water-stressed region.

Hence option (d).

Despite rapid growth in renewables, **coal still provides about three-fourths of India's electricity generation**, and the Centre plans significant new thermal capacity by 2032 to meet peak demand, which

renewables alone cannot yet guarantee at night. Uttar Pradesh is one of India's largest power consumers. Its other major thermal plants include **Anpara, Obra** and **Singrauli** (on the border of the **Sonbhadra** coal belt), **Rihand**, **Tanda**, **Unchahar**, **Ghatampur** (Kanpur, a JV of NLC India and UPRVUNL) and **Jawaharpur** (Etah). Note the difference: **NTPC** is a Maharatna **central PSU**, while **UPRVUNL** is the **State's** power generation company.

36. (a)

Statement 1 is correct: On **20 November 2025**, the Supreme Court accepted the definition recommended by a **committee led by the Ministry of Environment, Forest and Climate Change (MoEFCC)**: an **Aravalli Hill** is any landform in the Aravalli districts with an elevation of **100 metres or more from the local relief**, measured from the lowest contour line around it.

Statement 2 is correct: Two or more such hills **within 500 metres** of each other form an **Aravalli Range**. The Court also barred **new mining leases** until a **Management Plan for Sustainable Mining** is prepared through **ICFRE**.

Statement 3 is not correct: The Aravallis run through **Delhi, Haryana, Rajasthan and Gujarat**, and the definition applied to Aravalli districts in these four States/UT. **Madhya Pradesh** is not part of it.

Hence option (a).

The new definition drew strong criticism, because a height-based test could leave large parts of the low, eroded range without protection; it was argued that only about **1,048 of 12,081** mapped hills in Rajasthan meet the 100-metre test. On **29 December 2025**, a Bench headed by **CJI Surya Kant**, hearing a suo motu case, **held its earlier directions in abeyance**, and in 2026 constituted a **high-powered expert committee** chaired by the **Director-General of ICFRE** to re-examine the definition. The **Aravallis** are among the **oldest fold mountains** in the world, running about 690 km from Gujarat to Delhi; the highest peak is **Guru Shikhar (1,722 m)** at Mount Abu. They act as a barrier against the eastward spread of the **Thar Desert** and are a key groundwater recharge zone for north-western India. The **Aravalli Green Wall Project** (2025) aims to create a green belt around the range.

37. (b)

Statement 1 is correct: The treaty was signed on **8 April 2010** in **Prague** by US President **Barack Obama** and Russian President **Dmitry Medvedev**, and entered into force on **5 February 2011**.

Statement 2 is correct: It capped each side at **1,550 deployed strategic warheads**, **700 deployed** ICBMs, SLBMs and heavy bombers, and **800 deployed and non-deployed launchers**, backed by on-site inspections and data exchanges.

Statement 3 is not correct: The treaty had already been extended once, for **five years in February 2021**, the maximum the treaty allowed. It **expired on 5 February 2026** without a replacement, leaving the world's two largest nuclear arsenals **without any binding limits for the first time in over 50 years**. So only two statements are correct.

Hence option (b).

Russia suspended its participation in February 2023, halting inspections. In September 2025, President Putin offered to keep observing the central limits for a year after expiry if the US did the same, but no formal arrangement followed; UN Secretary-General **António Guterres** called the expiry "a grave moment", and the US has pressed for any new treaty to include **China**. The earlier arms-control landmarks are worth remembering: **SALT I (1972)** with the **ABM Treaty**, the **INF Treaty (1987)** from which the US withdrew in **2019**, **START I (1991)** and **SORT (2002)**. India is **not a party to the NPT**, and follows a policy of **credible minimum deterrence** and **No First Use**.

38. (a)

Statement 1 is correct: The **Kukrail Night Safari** in the **Kukrail reserve forest** of Lucknow is planned as **India's first urban night safari**, which would also make it one of only a handful in the world, after those in **Singapore, Thailand, China and Indonesia**. The project, costing about **₹1,500 crore**, is to be built in two phases, with around **38 enclosures** in the first phase.

Statement 2 is not correct: In **July 2026**, a Bench led by **CJI Surya Kant** allowed the project to go ahead, but **rejected the proposal to shift the Lucknow Zoo** (the **Nawab Wajid Ali Shah Zoological Park**). It also imposed conditions: the forest road is to be restricted to **two lanes**, the planned **adventure zone was dropped**, and **ten trees are to be planted for every tree felled**.

Hence option (a).

Kukrail is also home to the **Kukrail Gharial Rehabilitation Centre**, set up in **1978**, which has released gharials into rivers such as the **Chambal** and **Ghaghara**. The **gharial** (Gavialis gangeticus) is **Critically Endangered** on the IUCN Red List and listed in **Schedule I** of the **Wild Life (Protection) Act, 1972**. Zoos and safaris in India are regulated by the **Central Zoo Authority**, a statutory body under the WPA. A night safari allows visitors to see **nocturnal animals** in naturalistic settings, which is why its design and lighting are closely regulated.

39. (b)

Statement 1 is correct: The Act, passed by Parliament in the **Winter Session of December 2025**, levies a **capacity-based cess** on the **machinery or processes** used to make **pan masala** (and other goods the Centre may notify). For machines, the amount depends on their rated speed and pack weight, and units working **manually** pay a **fixed monthly amount**.

Statement 2 is correct: The cess is credited to the **Consolidated Fund of India**, and the proceeds are meant to be spent on **public health** and **national security**.

Statement 3 is not correct: Pan masala **continues to attract GST**, at the **40% demerit rate**. What ended on **1 February 2026** was the **GST compensation cess**. On that date, the new cess on pan masala and the higher **excise duty on tobacco** under the **Central Excise (Amendment) Act, 2025** both came into force. Since the question asks for the statement that is not correct, the answer is 3 only.

Hence option (b).

The **compensation cess** was levied under the **GST (Compensation to States) Act, 2017** to compensate States for revenue loss for five years. It was later extended to repay loans taken during the Covid period, which are now cleared. A key constitutional point is that, under **Article 270**, **cesses and surcharges are not part of the divisible pool** shared with States on the Finance Commission's recommendation. This is why States often object to the Centre's growing reliance on them. Under **GST 2.0** (from **22 September 2025**), the main rates are **5%** and **18%**, with a special **40%** rate for sin and luxury goods.

40. (a)

Statement 1 is correct: COP31 (with CMP21 and CMA8) is scheduled in **Antalya, Türkiye**, from **9 to 20 November 2026**. Under an unusual arrangement agreed at **COP30 in Belém, Brazil**, **Türkiye hosts the conference and holds the COP Presidency**, with Environment Minister **Murat Kurum** as President-designate. **Australia** takes the role of **"President of Negotiations"**, filled by its Climate Change and Energy Minister **Chris Bowen**.

Statement 2 is not correct: The Pre-COP was hosted in the **Pacific**, at **Nadi, Fiji**, on **5–8 October 2026**, with a leaders' event in **Tuvalu**. This was part of the deal to give the Pacific island States, which are among the most vulnerable to sea-level rise, a central place in the COP31 process.

Hence option (a).

COP hosting rotates among the **five UN regional groups**. COP31 fell to the **Western European and Others Group (WEOG)**, where both Australia and Türkiye were bidding, which led to the compromise. Key milestones to remember: **COP26 Glasgow (2021)** – India's **Panchamrit** and **net zero by 2070**; **COP27 Sharm el-Sheikh (2022)** – **Loss and Damage Fund**; **COP28 Dubai (2023)** – first **Global Stocktake** and "transition away from fossil fuels"; **COP29 Baku (2024)** – new climate finance goal (**NCQG**) of **US$300 billion a year by 2035**; **COP30 Belém (2025)**. The UNFCCC secretariat is in **Bonn, Germany**. India has offered to host **COP33 in 2028**.

41. (b)

Statement 1 is incorrect: the time period of a simple pendulum is $T = 2\pi\sqrt{(L/g)}$, where L is its effective length and g the acceleration due to gravity. The mass of the bob does not appear in the formula, so a heavy

bob and a light bob of the same length swing with the same period. For small swings, the period also does not depend on the amplitude.

Statement 2 is correct: the value of g is slightly smaller at a height. A smaller g gives a longer period, so each swing takes longer and the clock runs slow, that is, it loses time.

Statement 3 is correct: since T is proportional to the square root of L, making the length four times multiplies the period by $\sqrt{4} = 2$. Doubling the length increases the period only by a factor of $\sqrt{2}$ (about 1.41). Since statements 2 and 3 are correct, the answer is option (b).

42. (a)

A is true: the top of an induction cooktop itself stays relatively cool, and a glass, ceramic or clay vessel placed on it does not heat up.

R is true and correctly explains A: a coil beneath the cooktop carries a high-frequency alternating current, producing a rapidly changing magnetic field. By electromagnetic induction (Faraday's law), this field induces circulating currents, called eddy currents, in a conducting vessel base, and the resistance of the metal turns these currents into heat. Iron and many types of steel work best because they are ferromagnetic and have suitable resistance. Glass does not conduct electricity, so no eddy currents are induced and no heat is produced. Hence option (a).

Michael Faraday discovered electromagnetic induction in 1831. Lenz's law states that an induced current always flows in a direction that opposes the change producing it, which is a consequence of the conservation of energy. Eddy currents are useful in induction furnaces, electromagnetic braking in some trains, speedometers and metal detectors. They are wasteful in transformers and motors, so the iron cores of transformers are made of thin insulated sheets (laminations) to reduce eddy current losses. Vessels made only of aluminium or copper generally do not work well on an ordinary induction cooktop, which is why induction-compatible cookware often has a magnetic steel base; a simple test is whether a magnet sticks to the base.

43. (d)

Statement 1 is incorrect: a solar eclipse occurs when the Moon comes between the Sun and the Earth, which can happen only at new moon (amavasya). A lunar eclipse occurs when the Earth comes between the Sun and the Moon, which can happen only at full moon (purnima).

Statement 2 is incorrect: the main reason is that the plane of the Moon's orbit is tilted by about 5° to the plane of the Earth's orbit around the Sun (the ecliptic). At most new and full moons, the Moon passes a little above or below the Sun-Earth line, so its shadow misses the Earth or the Earth's shadow misses the Moon. Eclipses happen only when a new or full moon occurs near one of the two points (nodes) where the Moon's orbit crosses the ecliptic; in Indian tradition these points are Rahu and Ketu. The elliptical orbit does matter in another way, explained below. Since both statements are incorrect, the answer is option (d).

Because the Moon's orbit is elliptical, its distance from the Earth varies. When a solar eclipse occurs while the Moon is far away, it cannot cover the whole Sun, and a bright ring remains visible: an annular eclipse or 'ring of fire'. During a total solar eclipse, the Sun's faint outer atmosphere, the corona, becomes visible. During a total lunar eclipse, the Moon often looks coppery red (a 'blood moon') because sunlight bent and filtered through the Earth's atmosphere, with blue light scattered away, still reaches it. There are at least two solar eclipses every year somewhere on Earth. A solar eclipse must never be viewed with the naked eye or through ordinary sunglasses.

44. (d)

Statement 1 is correct: ISRO announced the Debris-Free Space Missions initiative at the 42nd annual meeting of the Inter-Agency Space Debris Coordination Committee (IADC), held in Bengaluru in April 2024. The aim is that by 2030, all Indian space missions, by government and private players, leave no debris behind in orbit.

Statement 2 is correct: IS4OM is ISRO's system for space situational awareness: monitoring objects in orbit, assessing the risk of close approaches and planning collision avoidance manoeuvres for Indian satellites. It is the nodal point for implementing the DFSM goal.

Statement 3 is correct: the idea was put forward by NASA scientist Donald Kessler in 1978. If the density of objects in an orbit becomes high enough, each collision produces fragments that cause further collisions, potentially making some orbits unusable for generations. All three statements are correct, so the answer is option (d).

Space debris includes dead satellites, spent rocket stages, fragments from explosions and collisions, and even flecks of paint, all travelling at several kilometres per second, so even tiny pieces can damage a spacecraft. Measures to limit debris include lowering spent rocket stages so that they burn up in the atmosphere, moving satellites at the end of their life into disposal orbits, and designing missions to leave nothing behind; ISRO safely brought down the upper stage of the PSLV-C60 rocket after its December 2024 mission. ISRO publishes an annual Indian Space Situational Awareness Report (ISSAR). Low Earth Orbit is the most crowded region because of large satellite constellations.

45. (c)

Pair 1 is correct: light reflected from the top and bottom surfaces of a thin oil film (or a soap bubble) travels slightly different distances. The two reflected waves reinforce each other for some colours and cancel for others, depending on the thickness of the film, producing bands of colour. This is interference.

Pair 2 is correct: light spreads slightly into the region behind a very small obstacle or narrow slit. This bending of waves around edges is diffraction. It is noticeable only when the size of the obstacle is comparable to the wavelength of light, which is why it is not usually seen with large objects.

Pair 3 is not correct: the surface of a CD or DVD has very closely spaced tracks that act like a diffraction grating. Light reflected from them is split into colours by diffraction and interference, not by total internal reflection.

Pair 4 is correct: air just above a hot road is hotter and less dense than the air above it. Light from the sky bends gradually as it passes through these layers and is finally totally internally reflected upwards, so the eye sees an image of the sky on the road that looks like water. Since three pairs are correct, the answer is option (c).

Thomas Young's double-slit experiment (1801) demonstrated the interference of light and supported the wave theory of light. Polarisation shows that light waves are transverse. Anti-reflection coatings on spectacle and camera lenses work by interference. Diffraction limits how fine a detail a microscope or telescope can show (its resolving power). Holograms are recorded using the interference of laser light.

46. (a)

Statements 1 and 2 are correct: The **Standing Deposit Facility was introduced in April 2022** as the RBI's principal tool for absorbing surplus liquidity. Its distinguishing feature is that it is **uncollateralised** — unlike the fixed-rate reverse repo, under which the RBI had to deliver government securities to the depositing bank, the SDF requires **no collateral**. The enabling power came from the 2018 amendment to **Section 17 of the RBI Act, 1934**.

Statement 3 is not correct: The SDF is the **floor (lower bound)** of the LAF corridor, taking over that role from the fixed-rate reverse repo. The **Marginal Standing Facility (MSF) is the ceiling** of the corridor. The corridor is symmetric around the policy repo rate: **SDF = repo rate minus 25 basis points** and **MSF = repo rate plus 25 basis points**, giving a corridor width of 50 basis points.

Hence option (a).

Because the SDF needs no securities, the RBI's ability to absorb liquidity is no longer limited by the stock of government securities on its balance sheet — a key reason it was introduced after the large liquidity overhang of the pandemic years.

47. (b)

Statement 1 is not correct: Under **Article 266(1)**, all revenues received by the Government of India, all loans raised by it and all moneys received in repayment of loans form the **Consolidated Fund of India** — not the Public Account. The **Public Account of India (Article 266(2))** holds moneys for which the government acts merely as a **banker or trustee** — provident funds, small savings collections, deposits and remittances — which are eventually repayable to the depositors.

Statement 2 is correct: Article 267 provides for the **Contingency Fund of India, placed at the disposal of the President**, from which advances may be made to meet **unforeseen expenditure pending authorisation by Parliament**; the amount drawn is subsequently **recouped** from the Consolidated Fund. Its corpus was enhanced from ₹500 crore to **₹30,000 crore by the Finance Act, 2021**, and it is operated on the President's behalf by the Secretary, Department of Economic Affairs.

Statement 3 is correct: Article 266(3), read with **Article 114**, lays down that no money shall be withdrawn from the Consolidated Fund except under an **appropriation made by law** — that is, an Appropriation Act. Withdrawals from the Public Account, by contrast, do **not** require parliamentary appropriation, since that money does not belong to the government. Hence option (b).

48. (d)

The correct matching is A-2, B-3, C-4, D-1. India's **four Labour Codes were brought into force with effect from 21 November 2025**, rationalising **29 existing central labour laws** into four consolidated codes.

The **Code on Wages, 2019** subsumes the **Minimum Wages Act, 1948**, along with the Payment of Wages Act, 1936, the Payment of Bonus Act, 1965 and the Equal Remuneration Act, 1976. The **Industrial Relations Code, 2020** subsumes the **Trade Unions Act, 1926**, the Industrial Employment (Standing Orders) Act, 1946 and the Industrial Disputes Act, 1947.

The **Code on Social Security, 2020** subsumes the **Employees' Provident Funds and Miscellaneous Provisions Act, 1952**, the Employees' State Insurance Act, 1948, the Maternity Benefit Act, 1961, the Payment of Gratuity Act, 1972 and the Unorganised Workers' Social Security Act, 2008, among others. The **Occupational Safety, Health and Working Conditions Code, 2020** subsumes the **Factories Act, 1948**, the Mines Act, 1952, the Contract Labour (Regulation and Abolition) Act, 1970 and the Inter-State Migrant Workmen Act, 1979, among others. Note that only the Code on Wages is of 2019; the other three are of 2020. Hence option (d).

49. (d)

All three statements are correct. The **National Green Hydrogen Mission was approved by the Union Cabinet in January 2023** with an **initial outlay of ₹19,744 crore**, and the **Ministry of New and Renewable Energy (MNRE)** is the nodal ministry that notified and implements it.

The Mission targets the development of **green hydrogen production capacity of at least 5 million metric tonnes (MMT) per annum by 2030**, with the potential to reach 10 MMT per annum if export markets develop. Associated goals include adding about 125 GW of renewable energy capacity, substantial reduction in fossil-fuel imports and annual abatement of greenhouse-gas emissions.

Its largest component is the **SIGHT programme — Strategic Interventions for Green Hydrogen Transition** — with an outlay of ₹17,490 crore, which provides incentives for domestic **electrolyser manufacturing** and for **green hydrogen production**. 'Green' hydrogen is distinguished from 'grey' (from fossil fuels) and 'blue' (fossil fuels with carbon capture) by being produced through electrolysis of water using renewable electricity. Hence option (d).

50. (c)

The correct matching is A-2, B-3, C-1, D-4. The **Carbon Credit Trading Scheme (CCTS) was notified on 28 June 2023 by the Ministry of Power** under the **Energy Conservation Act, 2001**, as amended by the Energy Conservation (Amendment) Act, 2022, to establish India's domestic **compliance carbon market**.

The **Bureau of Energy Efficiency (BEE)** is the **Administrator** of the Indian Carbon Market and is responsible for developing the scheme and recommending greenhouse-gas emission-intensity targets for obligated entities. **Grid Controller of India Limited** functions as the **Registry**, registering obligated entities and recording the issue and transfer of carbon credit certificates. The **Central Electricity Regulatory Commission (CERC)** is the **regulator for trading** of carbon credit certificates on power exchanges.

Overall governance rests with the **National Steering Committee for the Indian Carbon Market (NSCICM)**, **chaired by the Secretary, Ministry of Power**, with the Secretary, Ministry of Environment, Forest and Climate Change as co-chair. The scheme has two arms — a **compliance mechanism** for

notified obligated entities that must meet emission-intensity targets, and an **offset mechanism** for voluntary registration of projects that reduce or remove emissions. Hence option (c).

51. (d)

1. **Calcutta Madrasah (1781):** It was established by Warren Hastings in Calcutta to promote the study of Arabic, Persian and Islamic law. It reflected the early Orientalist approach of the British towards Indian education, particularly the preservation of traditional systems of learning.
2. **Asiatic Society of Bengal (1784):** It was founded by Sir William Jones in Calcutta to promote research into Indian history, languages, literature, philosophy and antiquities. It played a significant role in the development of Indology and the scholarly study of India's cultural heritage.
3. **Sanskrit College at Banaras (1791):** It was established by Jonathan Duncan, the British Resident at Banaras, to encourage the study of Sanskrit literature, Hindu law and philosophy. Its establishment reflected British support for traditional Indian learning during the Orientalist phase.
4. **Fort William College (1800):** It was established by Lord Wellesley in Calcutta to provide training to the civil servants of the East India Company. It promoted the study of Indian languages, laws, customs and administrative practices to improve colonial governance.

52. (b)

Statement 1 is correct: The Mountbatten Plan, also known as the 3 June Plan, was announced on 3 June 1947. It provided for the partition of British India into two independent Dominions, India and Pakistan.

Statement 2 is incorrect: On 20 February 1947, British Prime Minister Clement Attlee announced that power would be transferred to responsible Indian hands by June 1948, not August 1948.

Statement 3 is incorrect: The All India Congress Committee accepted the Mountbatten Plan at its Delhi session on 14–15 June 1947, not at Bombay. The resolution was passed despite opposition from several Congress members.

The Indian Independence Act received Royal Assent on 18 July 1947 and provided for the establishment of two independent Dominions with effect from 15 August 1947.

53. (d)

Chandogya Upanishad: Associated with the Samaveda, particularly the Chandogya Brahmana.

Jaiminiya Upanishad: Associated with the Jaiminiya branch of the Samaveda. It is also known as the Jaiminiya Upanishad Brahmana.

Shvetashvatara Upanishad: Associated with the Krishna (Black) Yajurveda. It is particularly significant for its philosophical treatment of Rudra-Shiva and the concept of Brahman.

Isha Upanishad: Associated with the Shukla (White) Yajurveda. It constitutes the 40th chapter of the Vajasaneyi Samhita.

54. (b)

Muhammad Shah (1719–1748): Known as Rangila. His reign witnessed Nadir Shah's invasion of India in 1739.

Ahmad Shah Bahadur (1748–1754): Son and successor of Muhammad Shah. He was deposed by Imad-ul-Mulk.

Alamgir II (1754–1759): Ascended the throne with the support of Imad-ul-Mulk and was subsequently assassinated in 1759.

Shah Alam II (1759–1806): His reign witnessed the Battle of Buxar (1764) and the Treaty of Allahabad (1765).

55. (c)

Statement 1 is incorrect: The Poona Pact was signed on 24 September 1932, following negotiations between Mahatma Gandhi and Dr. B. R. Ambedkar. It emerged in response to the Communal Award announced by British Prime Minister Ramsay MacDonald on 16 August 1932.

Statement 2 is correct: The Pact replaced separate electorates for the Depressed Classes with joint electorates while retaining reserved seats for their political representation. It also provided for a system of primary elections involving voters belonging to the Depressed Classes.

Statement 3 is incorrect: The number of reserved seats for the Depressed Classes in the Provincial Legislatures was increased from 71 under the Communal Award to 148 under the Poona Pact, not in the Central Legislature. The Pact also provided for 18% representation for the Depressed Classes in the seats allotted to the general electorate in the Central Legislature.

56. (b)

Nashik Conspiracy Case (December, 1909): It arose from the assassination of A. M. T. Jackson, the Collector of Nashik, by Anant Laxman Kanhere. V. D. Savarkar was also implicated in the conspiracy.

Howrah Conspiracy Case (March, 1910): Also known as the Howrah-Sibpur Conspiracy Case, it involved revolutionary activities associated with the Anushilan Samiti and Jatindranath Mukherjee (Bagha Jatin).

Lahore Conspiracy Case (April, 1915): It was associated with the Ghadar Movement and the revolutionary conspiracy to organise an armed uprising against British rule during the First World War. Kartar Singh Sarabha was among the prominent revolutionaries implicated.

Kanpur Bolshevik Conspiracy Case (March-April, 1924): It involved communist leaders accused of attempting to overthrow British rule through revolutionary activities. Prominent accused included S. A. Dange, Muzaffar Ahmad, Shaukat Usmani and Nalini Gupta.

57. (b)

Statement 1 is correct: The Matsya Purana contains accounts of Vishnu's incarnations. The ten-incarnation tradition, known as the Dashavatara, is associated with Puranic literature.

Statement 2 is incorrect: The Shvetashvatara Upanishad is primarily concerned with philosophical and theological ideas, including Brahman and Rudra-Shiva. The discussion traditionally associated with three Ashramas occurs in the Chandogya Upanishad.

Statement 3 is correct: The Jabala Upanishad discusses all four Ashramas: Brahmacharya, Grihastha, Vanaprastha and Sannyasa.

58. (b)

1. **Tughlaq Dynasty (1320–1414):** Founded by Ghiyasuddin Tughlaq, it was the longest-ruling dynasty of the Delhi Sultanate, lasting approximately 94 years. Its prominent rulers included Muhammad bin Tughlaq and Firoz Shah Tughlaq. Timur invaded India in 1398 during the later Tughlaq period.
4. **Mamluk or Slave Dynasty (1206–1290):** Founded by Qutbuddin Aibak, it ruled for approximately 84 years. Its prominent rulers included Iltutmish, Razia Sultan and Ghiyasuddin Balban. It laid the institutional foundations of the Delhi Sultanate.
3. **Lodi Dynasty (1451–1526):** Founded by Bahlul Lodi, it was the first Afghan dynasty of the Delhi Sultanate and ruled for approximately 75 years. Sikandar Lodi founded Agra in 1504. Its last ruler, Ibrahim Lodi, was defeated by Babur in the First Battle of Panipat (1526).
5. **Sayyid Dynasty (1414–1451):** Founded by Khizr Khan following the decline of the Tughlaq dynasty, it ruled for approximately 37 years. Its last ruler, Alauddin Alam Shah, relinquished power in favour of Bahlul Lodi.
2. **Khalji Dynasty (1290–1320):** Founded by Jalaluddin Khalji, it ruled for approximately 30 years, making it the shortest-ruling dynasty of the Delhi Sultanate. Alauddin Khalji was its most prominent ruler, known for market-control measures, military reforms and territorial expansion.

59. (a)

A. **Bombay Darpan — Balshastri Jambhekar:** Founded in 1832, it was an important early newspaper in Marathi journalism. Jambhekar is widely regarded as the father of Marathi journalism.

B. The Tribune — Sardar Dyal Singh Majithia: Founded in Lahore in 1881, it became an influential newspaper that highlighted political, social and administrative issues in India.

C. Modern Review — Ramananda Chatterjee: Established in 1907, it was an influential English-language monthly journal covering political, social, literary and cultural issues.

D. Dig-Darshan — John Clark Marshman: Launched in 1818 by the Serampore Mission, it was among the earliest Bengali periodical/journal. Initially published monthly, it later became a weekly. The Serampore Mission was also associated with Samachar Darpan, a Bengali weekly newspaper launched in 1818.

60. (c)

The Damodarpur Copper Plate Inscriptions, discovered in the Dinajpur region of present-day Bangladesh, are important sources for understanding provincial and district administration during the Gupta period, particularly under Kumaragupta I and Budhagupta.

They provide information about the administration of Pundravardhana Bhukti, where the provincial governor (Uparika) supervised the district administration.

The district (Vishaya) was administered by an officer known as the Vishayapati, assisted by an advisory board comprising representatives of influential economic groups:

- Nagarashreshthin – Chief banker or merchant.
- Sarthavaha – Chief caravan trader.
- Prathama Kulika – Chief artisan.
- Prathama Kayastha – Chief scribe or record keeper.

The inscriptions also provide valuable information about land transactions, revenue administration and the participation of local elites in governance.

61. (c)

Statement 1 is correct: PFAS are a large family of synthetic chemicals whose carbon chains are partly or fully bonded to fluorine. The **carbon-fluorine bond** is among the strongest in organic chemistry, so PFAS hardly break down in soil, water or living bodies. This is why they are called **"forever chemicals"**; they build up in wildlife and people and have been linked to cancers, thyroid and immune effects.

Statement 2 is correct: Under the **Stockholm Convention**, **PFOS** was listed in **2009** (Annex B, restriction), **PFOA** in **2019** and **PFHxS** in **2022** (both Annex A, elimination). In **2025** the parties also listed **long-chain perfluorocarboxylic acids (PFCAs)**.

Statement 3 is not correct: PFAS are **man-made**. They have been produced since the 1940s for their ability to repel water, grease and stains and to resist heat. Volcanoes are not their source.

Hence option (c) is correct.

PFAS are used in **non-stick cookware coatings, stain- and water-resistant fabrics, food packaging, cosmetics and aqueous film-forming firefighting foams (AFFF)**; firefighting foam at airports and military bases is a major source of groundwater contamination. The Stockholm Convention (2001, in force 2004) deals with POPs, chemicals that persist, bioaccumulate, travel long distances and are toxic. Its original list of 12 POPs, the **"dirty dozen"**, included DDT, aldrin and dioxins.

62. (a)

Assertion is true: GWP compares the warming caused by one tonne of a gas with that caused by one tonne of **carbon dioxide** over a chosen time horizon. In the IPCC's Sixth Assessment Report (AR6), methane's GWP is roughly **80** over **20 years**, but only about **27 to 30** over **100 years** (about 29.8 for fossil methane and 27.0 for non-fossil methane).

Reason is true and explains A: Methane has an atmospheric lifetime of only about **12 years**, because it is removed mainly by reaction with the **hydroxyl (OH) radical**. CO_2, by contrast, keeps warming the planet for centuries. Over a 20-year window, methane's strong early warming is compared with only 20 years

of CO_2 warming, so the ratio is large; over 100 years, methane has largely disappeared while CO_2 keeps warming, so the ratio falls. Hence R correctly explains A.

Hence option (a) is correct.

On a 100-year basis, AR6 gives **nitrous oxide** a GWP of about **273**, **nitrogen trifluoride** about 17,400 and **sulphur hexafluoride** about 24,300, the highest of the Kyoto gases. Because methane is short-lived, cutting it is the fastest way to slow near-term warming; it is a **short-lived climate pollutant**. Its main human sources are agriculture (livestock and flooded rice), fossil fuel production and landfills.

63. (a)

Statement 1 is correct: Brazil formally launched the **Tropical Forest Forever Facility** on **6 November 2025** at the **COP30 Leaders' Summit in Belém**, in the Amazon. Unlike a grant fund, it is designed as an **investment fund**: it aims to raise about **US$125 billion** from sovereign and private investors, invest it, and use the returns to make **long-term payments to tropical forest countries for every hectare of forest they keep standing**. Countries lose payments for forest that is cleared or degraded. The **World Bank** has been confirmed as its interim host.

Statement 2 is not correct: The design requires that **20 per cent** of the payments go to **Indigenous peoples and local communities**, who protect a large share of the world's tropical forests.

Early pledges came from **Norway (up to about US$3 billion over ten years, as a conditional loan)**, **Brazil** and **Indonesia** (about US$1 billion each), among others. The TFFF rewards forest that is **kept intact**, while the older **REDD+** mechanism under the UNFCCC pays mainly for **reductions in deforestation** measured against a baseline. Tropical forests store huge amounts of carbon and regulate rainfall; the Amazon is also identified by scientists as a system at risk of a **tipping point** through dieback.

Hence option (a) is correct.

64. (b)

Statement 1 is correct: CITES was signed on **3 March 1973 in Washington, D.C.** (hence also called the Washington Convention) and entered into force on **1 July 1975**. **India** became a Party in **1976**. Its Secretariat, in **Geneva**, is administered by **UNEP**. 3 March is observed as **World Wildlife Day**.

Statement 2 is not correct: That describes **Appendix I**, which covers species threatened with extinction, where commercial trade is generally prohibited. **Appendix II** covers species not necessarily threatened now but which could become so unless trade is controlled. **Appendix III** contains species that are **protected in at least one country, which has asked other Parties for help in controlling the trade**. A country can add a species to Appendix III on its own, without a vote of the CoP.

Statement 3 is correct: CoP20 was held in **Samarkand, Uzbekistan**, from late November to early December 2025, the first CITES CoP in Central Asia. It strengthened trade controls on more than 70 shark and ray species, among others. **CoP21** is to be held in **Panama**.

Also remember: CITES regulates **international trade** only; protection within a country depends on national law, such as India's Wild Life (Protection) Act, 1972, which was amended in 2022 partly to give effect to CITES.

Hence option (b) is correct.

65. (c)

Statement 1 is correct: A study published in **2024** in the *European Journal of Taxonomy*, led by Indian herpetologist **P. Gowri Shankar**, concluded that the king cobra, long treated as the single species *Ophiophagus hannah*, is really **four species**: the **Northern king cobra** (*O. hannah*: northern and eastern India, Andaman Islands and mainland Southeast Asia), the **Sunda king cobra** (*O. bungarus*), the **Western Ghats king cobra** (*O. kaalinga*, newly named) and the **Luzon king cobra** (*O. salvatana*, Philippines, newly named).

Statement 2 is correct: The female king cobra gathers leaf litter with her body into a **mound-like nest**, lays her eggs in it and guards it. No other snake is known to build a nest in this way.

The king cobra is the **world's longest venomous snake**, sometimes exceeding 5 metres. Its genus name *Ophiophagus* means "snake-eater", as it feeds mainly on other snakes. It is listed as **Vulnerable** by the IUCN and is protected in India under the Wild Life (Protection) Act. The split matters for conservation, since each new species has a smaller range, and for medicine, because antivenom made from one species may not work well against another. The king cobra is not a true cobra of the genus *Naja*, such as the spectacled cobra of the "big four".

Hence option (c) is correct.

66. (d)

Article 240(1) of the Constitution empowers the President to make regulations for the peace, progress and good government of specified Union Territories. Andaman and Nicobar Islands and Lakshadweep are expressly mentioned in this Article. Dadra and Nagar Haveli and Daman and Diu, as well as Puducherry subject to the constitutional provisos, are also covered.

Chandigarh is not included in the list under Article 240(1). However, Ladakh is covered by a separate statutory provision. Section 58(2) of the Jammu and Kashmir Reorganisation Act, 2019, specifically authorises the President to make regulations for the peace, progress and good government of Ladakh under Article 240.

Therefore, Statements 1, 3 and 4 are correct, while Statement 2 is incorrect.

67. (c)

A. State Finance Commission – Article 243I: The Governor constitutes a State Finance Commission every five years to review the financial position of Panchayats and recommend principles governing the distribution of financial resources between the State and Panchayats.

B. Finance Commission – Article 280: The President constitutes the Finance Commission every five years or earlier, if necessary. It recommends the distribution of tax revenues between the Union and the States and other matters relating to fiscal federalism.

C. State Election Commission – Article 243K: It provides for the superintendence, direction and control of the preparation of electoral rolls and the conduct of elections to Panchayats by the State Election Commission, headed by the State Election Commissioner appointed by the Governor.

D. District Planning Committee – Article 243ZD: It provides for the constitution of a District Planning Committee in every district to consolidate plans prepared by Panchayats and Municipalities and prepare a draft development plan for the district.

68. (d)

Statement 1 is incorrect: Article 338 originally provided for the appointment of a Special Officer for Scheduled Castes and Scheduled Tribes, not a National Commission.

Statement 2 is incorrect: The 65th Constitutional Amendment Act, 1990 established a multi-member National Commission for SCs and STs. It was the 89th Constitutional Amendment Act, 2003 that bifurcated the combined Commission into two separate constitutional bodies:

National Commission for Scheduled Castes – Article 338.

National Commission for Scheduled Tribes – Article 338A.

69. (a)

The Second Schedule of the Indian Constitution contains provisions relating to the emoluments, allowances and other specified entitlements of certain constitutional authorities.

Statement 1 is correct: Part C of the Second Schedule covers the presiding officers of Parliament and State Legislatures, including the Speaker and Deputy Speaker of a State Legislative Assembly.

Statement 2 is incorrect: The Attorney-General of India is not covered under the Second Schedule. Under Article 76(4), the Attorney-General receives such remuneration as the President may determine.

Statement 3 is correct: Part E of the Second Schedule deals with the Comptroller and Auditor-General of India. Article 148(3) provides that the salary and other conditions of service of the CAG shall be determined by Parliament by law and, until so determined, shall be as specified in the Second Schedule.

Statement 4 is incorrect: The Chairman of the UPSC is not covered under the Second Schedule. Under Article 318, the President is empowered to determine the conditions of service of the Chairman and other members of the UPSC through regulations.

Statement 5 is correct: Part D of the Second Schedule contains provisions relating to the Judges of the Supreme Court and High Courts, including pension-related entitlements of High Court Judges.

Thus, statements 1, 3 and 5 only are correct.

70. (c)

Under Article 179(c), a resolution for the removal of the Speaker or Deputy Speaker of a State Legislative Assembly must be passed by a majority of all the then members of the Assembly (Effective Majority).

This majority is calculated on the basis of the existing strength of the House, excluding vacant seats.

Step 1: Calculate the effective strength

Total sanctioned strength = 403

Vacant seats = 15

Effective strength = 403 − 15 = 388

Step 2: Calculate the required majority

Required majority = (388 ÷ 2) + 1

= 194 + 1 = 195 votes

The number of members present (350) and those abstaining (20) do not affect the calculation because Article 179(c) requires an effective majority, not a simple majority.

71. (c)

The correct chronological order is 2, 3, 4, 1, based on the years in which the respective Constitutional Amendment Acts were enacted.

The Anti-Defection Law was introduced through the 52nd Constitutional Amendment Act, 1985, which added the Tenth Schedule to the Constitution. It aimed to curb political defections by legislators.

Constitutional status to Panchayati Raj Institutions was provided by the 73rd Constitutional Amendment Act, 1992. It inserted Part IX, comprising Articles 243 to 243O, and the Eleventh Schedule into the Constitution. The amendment came into effect on 24 April 1993.

The Goods and Services Tax (GST) was introduced through the 101st Constitutional Amendment Act, 2016. It provided the constitutional framework for the introduction of GST in India, which came into effect on 1 July 2017.

Constitutional status to the National Commission for Backward Classes (NCBC) was granted through the 102nd Constitutional Amendment Act, 2018. It inserted Article 338B, providing constitutional status to the Commission, and Article 342A concerning the identification of socially and educationally backward classes.

Thus, the correct sequence is 2 → 3 → 4 → 1 (1985 → 1992 → 2016 → 2018).

72. (a)

Part XII (Articles 264–300A): Finance, Property, Contracts and Suits.

Part XIII (Articles 301–307): Trade, Commerce and Intercourse within the Territory of India.

Part XIV (Articles 308–323): Services under the Union and the States, including provisions relating to Public Service Commissions.

Part XVII (Articles 343–351): Official Language.

73. (a)

Assertion (A) is correct: India has a federal structure with a strong unitary bias, reflected in features such as a strong Centre, single citizenship, integrated judiciary and emergency provisions.

Reason (R) is not correct: Under Article 155 of the Constitution of India, the governor is appointed by the president by warrant under his hand and seal.He holds office at the pleasure of the President and may be removed by the President at any time. For the appointment of Governor of a state, the consent of the council of ministers of that state is not mandatory

74. (b)

Statement 1 is incorrect: Article 124(4) lays down the constitutional framework for removing a Supreme Court Judge, including the grounds, required parliamentary majority and same-session requirement. However, it does not prescribe the detailed procedure. Article 124(5) empowers Parliament to regulate the procedure for investigation and proof through legislation. Accordingly, the Judges (Inquiry) Act, 1968 provides the detailed procedure.

Statement 2 is correct: Under Article 124(4), a Supreme Court Judge can be removed by an order of the President only on two grounds:

Proved misbehaviour

Incapacity

Statement 3 is correct: Article 124(4) requires an address to be passed separately by each House of Parliament with a special majority consisting of:

A majority of the total membership of that House (more than 50% of its sanctioned strength).

A majority of not less than two-thirds of the members present and voting.

Both conditions must be satisfied simultaneously in each House.

Statement 4 is incorrect: Article 124(4) expressly requires the address for removal to be presented to the President by both Houses in the same session.

In contrast, Article 61, which governs the impeachment of the President, does not expressly prescribe such a same-session requirement.

75. (d)

Pair 1 is correctly matched. Dr. Rajendra Prasad withheld assent to the PEPSU Appropriation Bill, 1954, an example conventionally cited as an exercise of Absolute Veto.

Pair 2 is correctly matched. Giani Zail Singh kept the Indian Post Office (Amendment) Bill, 1986, pending without granting assent or returning it for reconsideration. This is commonly cited as an example of Pocket Veto.

Pair 3 is incorrectly matched. R. Venkataraman withheld assent to the Salary, Allowances and Pension of Members of Parliament (Amendment) Bill, 1991. This is conventionally classified as Absolute Veto, not Suspensive Veto.

Pair 4 is incorrectly matched. Dr. A. P. J. Abdul Kalam returned the Parliament (Prevention of Disqualification) Amendment Bill, 2006, commonly known as the Office of Profit Bill, for reconsideration. This was an exercise of Suspensive Veto, not Absolute Veto.

76. (b)

Statement 1 is not correct: PM GatiShakti was launched on **13 October 2021** and completed **five years** in October 2026. The **National Infrastructure Pipeline (NIP)** is a separate initiative, launched in **2019–20**.

Statement 2 is correct: The **Network Planning Group (NPG)**, made up of the heads of the network-planning divisions of infrastructure ministries, evaluates projects for integrated planning. By August 2026, it had evaluated **396 projects worth about ₹18.66 lakh crore**. The NPG works under an **Empowered Group of Secretaries** chaired by the **Cabinet Secretary**, with a **Technical Support Unit** for assistance.

Statement 3 is correct: The platform covers **58 Central ministries and departments** and **all 36 States and UTs**, with thousands of **data layers** of geospatial information such as roads, railways, utilities, forests and land records.

Hence option (b).

GatiShakti is built on the **seven engines** of growth: **railways, roads, ports, waterways, airports, mass transport and logistics infrastructure**. The digital platform was developed by **BISAG-N** (Bhaskaracharya

National Institute for Space Applications and Geo-informatics, Gandhinagar), and in 2025 limited query-based access was opened to the **private sector**. Related initiatives are the **National Logistics Policy (September 2022)**, the **Unified Logistics Interface Platform (ULIP)**, and **Gati Shakti Vishwavidyalaya, Vadodara**, set up in 2022 as a Central University for transport and logistics. The **LEADS** index ranks States on logistics ease. The aim is to cut India's logistics cost and end the "silo" approach under which different departments dug up the same road at different times.

77. (b)

Statement 1 is not correct: APEDA is a statutory body set up under the **APEDA Act, 1985**, and functions under the **Ministry of Commerce and Industry**, not the Ministry of Agriculture. On **30 April 2026**, APEDA signed a **70-year lease** with the **UP Agriculture Department** for about **7 acres** of land in Pilibhit for the centre.

Statement 2 is correct: The centre is described as India's **first Basmati and organic training and demonstration farm**, covering both conventional and organic Basmati. It is to have an auditorium, a **Basmati and organic museum or gallery**, a laboratory and storage for inputs, to train farmers in good agricultural practices and export-quality production.

Hence option (b).

Basmati rice received a **Geographical Indication (GI)** in **2016**, with **APEDA** as the registered proprietor. The GI area covers parts of **seven States/UTs** in the Indo-Gangetic plain: **Punjab, Haryana, Himachal Pradesh, Delhi, Uttarakhand, western Uttar Pradesh and Jammu and Kashmir**. APEDA's **Basmati Export Development Foundation (BEDF)** is located at **Modipuram, Meerut**. India is the world's **largest exporter of Basmati rice**, with **Saudi Arabia, Iran, Iraq and the UAE** among the major buyers, and a dispute with Pakistan over the **EU GI** for Basmati is still pending. Overuse of pesticides can lead to export rejections because of **Maximum Residue Limits (MRLs)**, which is one reason the centre emphasises organic and safe cultivation practices.

78. (c)

Statement 1 is correct: The Agreement, popularly called the **High Seas Treaty**, was adopted on **19 June 2023**. The **60-ratification** threshold was crossed on **19 September 2025**, and it **entered into force 120 days later, on 17 January 2026**.

Statement 2 is not correct: India **signed** the Agreement in **2024**, but has **not yet ratified** it; a domestic legal framework is being prepared.

Statement 3 is correct: It is the **third implementing agreement under UNCLOS**, after the **1994 Agreement on Part XI** (deep seabed) and the **1995 UN Fish Stocks Agreement**.

Hence option (c).

The **high seas** lie beyond the **200-nautical-mile Exclusive Economic Zones** of countries and cover about **two-thirds of the ocean**. The Agreement has four main pillars: **marine genetic resources** (including fair sharing of benefits from **digital sequence information**), **area-based management tools including Marine Protected Areas**, **environmental impact assessments**, and **capacity building and transfer of marine technology**. It is a key tool for reaching the **"30x30"** target of the **Kunming-Montreal Global Biodiversity Framework**. UNCLOS was adopted in **1982** and has three bodies: the **International Seabed Authority (Kingston, Jamaica)**, the **International Tribunal for the Law of the Sea (Hamburg)** and the **Commission on the Limits of the Continental Shelf**. India's own ocean initiatives include the **Deep Ocean Mission** and **Samudrayaan**.

79. (d)

Statement 1 is correct: The Cabinet approved the **Regional Connectivity Scheme (Modified UDAN)** in **March 2026**, with an outlay of **₹28,840 crore** for **ten years, FY 2026-27 to FY 2035-36**.

Statement 2 is correct: It plans **100 airports** to be developed from existing **unserved airstrips** (about ₹12,159 crore) and **200 modern helipads** at about ₹15 crore each, to improve last-mile connectivity in hilly, remote and North-Eastern areas.

Statement 3 is not correct: Viability Gap Funding remains a core part of the scheme: about **₹10,043 crore** has been earmarked as VGF to airline operators over ten years, to keep fares on regional routes affordable.

Hence option (d).

UDAN (Ude Desh ka Aam Nagrik) was launched on **21 October 2016** under the **National Civil Aviation Policy, 2016**, and completed **ten years** in October 2026. By February 2026, **663 routes** had been operationalised across **95 airports, heliports and water aerodromes**, carrying over **1.62 crore passengers**. Airlines bid for routes through a **reverse-bidding** mechanism, and a part of the seats on each UDAN flight carries **capped fares**. The scheme is run by the **Ministry of Civil Aviation**, with the **Airports Authority of India** as the implementing agency. Modified UDAN also provides for buying **HAL Dhruv** helicopters for **Pawan Hans** and **HAL Dornier** aircraft for **Alliance Air**. Uttar Pradesh now has one of the largest airport networks in India, with international airports at **Lucknow, Varanasi, Kushinagar, Ayodhya** and **Jewar**.

80. (d)

Statement 1 is not correct: Under the RBI's circular of **10 October 2026**, **Authorised Dealer banks** must keep a reserve equal to **20% of the rupee-equivalent notional amount** of specified contracts, held **in cash with the RBI** and maintained daily until the contract matures. It is not held in government securities and is not part of the SLR.

Statement 2 is not correct: The reserve applies to rupee-linked forex derivative contracts with users, above **US$2 million** in notional value, that hedge **current-account transactions** in which the user **buys foreign currency against the rupee** (for example, an importer hedging dollar payments). The aim is to curb **speculative demand for dollars** and support the **rupee**, which had been under pressure.

Hence option (d).

On the same day, the RBI cut the limit for forex derivative contracts **without underlying exposure** from **US$100 million to US$5 million**, and raised the **daily minimum CRR** maintenance from **90% to 99%** of the requirement. The reserve was issued under **FEMA, 1999** (Sections 10(4) and 11(1)) and **Section 45W of the RBI Act**. Recall the difference between the reserve ratios: the **CRR** is held as **cash with the RBI** and earns no interest, while the **SLR** is held by banks themselves in **cash, gold or approved securities**. The RBI's other rupee-management tools include **forex market intervention**, **swaps** and changes to interest rates on **NRI deposits**.

81. (d)

Statement 1 is incorrect: The Bhabar belt is generally more prominent in the western Himalayan foothills and becomes narrower or less distinct towards the east.

Statement 2 is incorrect: Anamudi, situated in the Anaimalai Hills of Kerala, is the highest peak of the Western Ghats. Doddabetta is the highest peak of the Nilgiri Hills.

Statement 3 is incorrect: The Palghat Gap separates the Nilgiri Hills to the north from the Anaimalai Hills to the south, not the Palani Hills.

82. (a)

Bina Refinery is located in Sagar district of Madhya Pradesh. It was established by Bharat Oman Refineries Limited (BORL), which became a wholly owned subsidiary of Bharat Petroleum Corporation Limited (BPCL) in 2021 and was subsequently merged with BPCL in 2022.

Haldia Refinery is situated in West Bengal and is operated by Indian Oil Corporation Limited (IOCL). Commissioned in 1975, it is one of the major refineries serving eastern India.

Manali Refinery is located near Chennai in Tamil Nadu and is operated by Chennai Petroleum Corporation Limited (CPCL), a subsidiary of IOCL. It was originally established as Madras Refineries Limited in 1965.

Tatipaka Refinery is located in Andhra Pradesh and is operated by Oil and Natural Gas Corporation (ONGC). It is a mini-refinery associated with ONGC's operations in the Krishna-Godavari Basin.

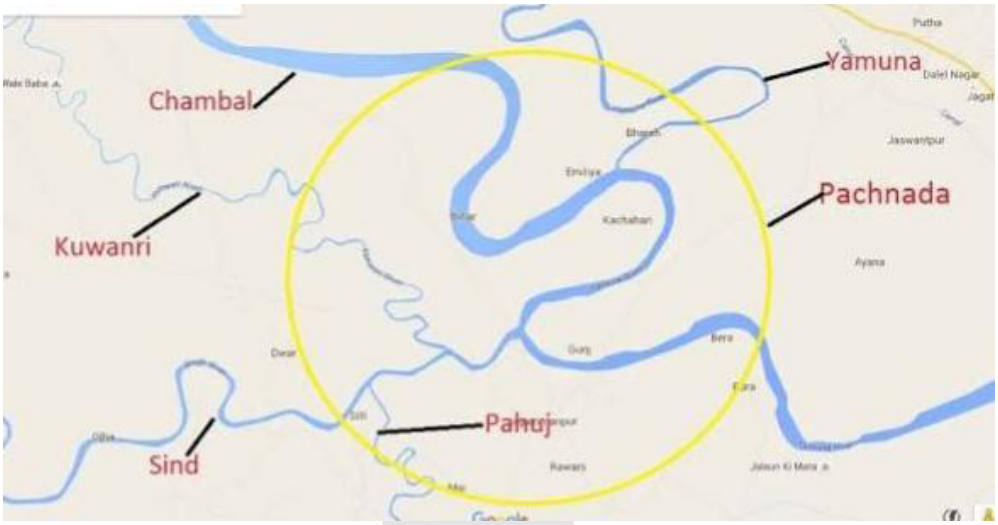
83. (b)

Pair 1 is correctly matched: The Gomti River originates near Pilibhit in Uttar Pradesh and joins the Ganga near Kaithi, close to the Varanasi–Ghazipur boundary. It is a major left-bank tributary of the Ganga.

Pair 2 is incorrectly matched: The Ken River joins the Yamuna near Chilla in Banda district of Uttar Pradesh, not Hamirpur. The Betwa River joins the Yamuna near Hamirpur.

Pair 3 is incorrectly matched: The Ghaghara River, known as Karnali in Nepal, joins the Ganga near Revelganj (Chapra) in Saran district of Bihar, not Bankipur.

Pair 4 is correctly matched: The Chambal River joins the Yamuna near Pachnada in Etawah district of Uttar Pradesh. It is a major right-bank tributary of the Yamuna .



84. (c)

Jordan has a short coastline at the northern end of the Red Sea, near the port city of Aqaba.

Israel has a narrow coastline at the northern end of the Red Sea, near the coastal city of Eilat.

Socotra Island belongs to Yemen and is located in the Arabian Sea, near the entrance to the Gulf of Aden. It does not share a coastline with the Red Sea.

Saudi Arabia has an extensive coastline along the eastern shore of the Red Sea, extending from the northern region towards the Bab-el-Mandeb Strait in the south.



85. (b)

Statement 1 is correct: South Korea occupies the southern portion of the Korean Peninsula and shares its only land boundary with North Korea. The two countries are separated by the Korean Demilitarized Zone (DMZ), established following the Korean Armistice Agreement of 1953.

Statement 2 is incorrect: The Yellow Sea lies between the Korean Peninsula and mainland China, whereas South Korea is separated from Japan by the Korea Strait.

Statement 3 is correct: The Korea Strait lies between the southern coast of the Korean Peninsula and the Japanese islands of Kyushu and Tsushima. It connects the East China Sea with the Sea of Japan (East Sea). Tsushima Island divides the strait into western and eastern channels.

Statement 4 is incorrect: The Tsugaru Strait lies entirely within Japan and separates the islands of Honshu and Hokkaido. It connects the Sea of Japan with the Pacific Ocean.



86. (c)

Kune Falls is located near Lonavala and Khandala in Pune district of Maharashtra. It is a three-tiered waterfall situated in the Western Ghats.

Soochipara Falls, also known as Sentinel Rock Waterfalls, is situated in Wayanad district of Kerala. It is a three-tiered waterfall surrounded by dense forest.

Vantawng Falls is located near Thenzawl in Serchhip district of Mizoram. It is one of the highest waterfalls in northeastern India.

Barehipani Falls is situated within Similipal National Park in Mayurbhanj district of Odisha. It is a two-tiered waterfall and one of the highest waterfalls in India.

87. (c)

Maithon Dam is constructed on the Barakar River in Jharkhand. It is part of the Damodar Valley Corporation (DVC) multipurpose project.

Krishna Raja Sagara Dam is constructed across the Kaveri River in Karnataka, not the Krishna River. It is located near Mysuru.

Panchet Dam is constructed on the Damodar River near the Jharkhand–West Bengal border. It is also part of the Damodar Valley Corporation project.

Koteshwar Dam is constructed on the Bhagirathi River in Uttarakhand, downstream of the Tehri Dam, not on the Alaknanda River.

88. (a)

Chola bronze sculpture achieved exceptional artistic refinement, particularly in representations of Shiva as Nataraja, the Lord of Dance.

The lost-wax technique, also known as the cire-perdue process, was used to produce these sculptures.

The Brihadisvara Temple at Thanjavur was commissioned by Rajaraja Chola I, not Rajendra Chola I.

Chola temples also functioned as major economic and social institutions. They received land grants, managed resources, employed people, and participated in local economic activities. Therefore, the fourth statement is incorrect.

89. (b)

The National Capital Region (NCR) is an inter-state regional planning area comprising the entire National Capital Territory of Delhi and designated districts of Haryana, Uttar Pradesh and Rajasthan. According to the National Capital Region Planning Board (NCRPB), Uttar Pradesh has eight districts, Haryana has 14 districts, and Rajasthan has two districts included in the NCR. Therefore, Statement 1 is incorrect because Haryana has more districts included in the NCR than Uttar Pradesh.

Statement 2 is correct. The eight districts of Uttar Pradesh included in the NCR are Meerut, Muzaffarnagar, Ghaziabad, Gautam Buddha Nagar, Bulandshahr, Baghpat, Hapur and Shamli.

90. (a)

Article 88 of the Constitution grants the Attorney General the right to speak and participate in the proceedings of either House of Parliament, a joint sitting, and any parliamentary committee of which he may be named a member. However, the Attorney General does not have the right to vote. This distinction reflects the advisory role of the Attorney General as the highest law officer of the Union.

91. (b)

Statement 1 is not correct: the boson is named after Satyendra Nath Bose of Calcutta. In 1924 he sent Albert Einstein a paper deriving Planck's radiation law by a new method of counting photons. Einstein had it published and extended the idea to atoms, giving rise to Bose-Einstein statistics. Particles that obey these statistics are called bosons. C.V. Raman is known for the Raman effect in light scattering.

Statement 2 is correct: The discovery of the Higgs boson was announced on 4 July 2012 by the ATLAS and CMS experiments at the Large Hadron Collider of CERN, near Geneva. It confirmed the existence of the Higgs field, which gives elementary particles their mass. Peter Higgs and François Englert, who had predicted it in 1964, received the Nobel Prize in Physics in 2013. Since only statement 2 is correct, the answer is option (b).

Particles are classified as bosons, which have integer spin (photon, gluon, W and Z bosons, Higgs boson), and fermions, which have half-integer spin (electron, proton, neutron, quarks) and are named after Enrico Fermi. Many bosons can occupy the same state, which allows a Bose-Einstein condensate, sometimes called the fifth state of matter; it was first produced in 1995, and the work earned the 2001 Nobel Prize in Physics. The popular nickname 'God particle' for the Higgs boson comes from a book title and is disliked by many physicists. India became an Associate Member State of CERN in January 2017, and Indian scientists took part in the CMS experiment. S.N. Bose received the Padma Vibhushan in 1954.

92. (c)

Statement 1 is correct: Magnesium and zinc are more reactive than iron, so when they are connected to iron in the presence of water, they give up electrons and corrode first, keeping the iron safe. This is called sacrificial protection (a form of cathodic protection), and the blocks are called sacrificial anodes. They are replaced from time to time. The method is used for ships, underground pipelines, storage tanks and water heaters.

Statement 2 is not correct: Tin is *less* reactive than iron. It protects iron only as long as the coating is unbroken. Once it is scratched, the exposed iron becomes the anode and rusts *faster* than it would without the tin. Tin is still used for food cans because it is non-toxic and resists attack by food acids.

Statement 3 is correct: stainless steel contains at least about 10.5% chromium (often with nickel). The

chromium reacts with oxygen to form a very thin, invisible, tightly bound layer of chromium oxide that prevents further corrosion and quickly re-forms if scratched. Since statements 1 and 3 are correct, the answer is option (c).

The reactivity (activity) series of common metals, from most to least reactive, is: potassium, sodium, calcium, magnesium, aluminium, zinc, iron, tin, lead, (hydrogen), copper, mercury, silver, gold. A more reactive metal displaces a less reactive one from its salt solution; for example, an iron nail placed in copper sulphate solution gets coated with copper. Other methods of preventing rusting include painting, oiling and greasing, electroplating and alloying. Aluminium, though reactive, does not corrode easily because it too forms a protective oxide layer, which is thickened deliberately in anodising.

93. (a)

A is true: a fuel cell vehicle does not burn any carbon-containing fuel, so there is no carbon dioxide, carbon monoxide or soot at the tailpipe; the only tailpipe emission is water vapour.

R is true and correctly explains A: in a fuel cell, hydrogen is supplied to the anode, where it splits into protons and electrons. The electrons flow through an external circuit as electric current to drive the motor, while the protons pass through an electrolyte to the cathode. There they combine with oxygen from the air and the returning electrons to form water. The overall reaction is $2H_2 + O_2 \rightarrow 2H_2O$, the same as burning hydrogen, but the energy is released directly as electricity instead of as a flame. Hence option (a).

Unlike a battery, a fuel cell does not run down; it keeps producing electricity as long as fuel and oxygen are supplied. Because it converts chemical energy directly into electrical energy without the losses of combustion, it is more efficient than a heat engine. Fuel cells provided electricity and drinking water to astronauts on the Apollo missions. Hydrogen has the highest energy content per unit mass of any fuel, but it is very light and must be stored at high pressure or as a very cold liquid, which is a major practical challenge. A fuel cell vehicle is truly clean only if the hydrogen itself is produced cleanly; green hydrogen comes from splitting water using renewable electricity, while grey hydrogen comes from natural gas.

94. (b)

Statement 1 is correct: the 2019 Nobel Prize in Chemistry was shared by John B. Goodenough, M. Stanley Whittingham and Akira Yoshino for the development of lithium-ion batteries. Goodenough, at 97, became the oldest person to receive a Nobel Prize.

Statement 2 is correct: sodium is one of the most abundant elements, easily obtained from common salt, while lithium is scarce and concentrated in a few countries. Sodium-ion batteries avoid lithium (and often cobalt) and are safer and cheaper, though they currently store less energy per kilogram. They are suited to stationary storage of solar and wind power and to low-cost vehicles.

Statement 3 is incorrect: during discharge, lithium ions move from the anode (usually graphite) through the electrolyte to the cathode (a metal oxide or phosphate), while electrons flow through the external circuit to power the device. During charging, the charger forces the ions back from the cathode to the anode. Since two statements are correct, the answer is option (b).

Related facts: common cathode materials include lithium cobalt oxide (in phones and laptops), nickel-manganese-cobalt (NMC) and lithium iron phosphate (LFP), which is cheaper and safer and is widely used in electric vehicles and grid storage. Lithium-ion batteries can catch fire if damaged, overcharged or overheated because of a process called thermal runaway. India launched a production linked incentive (PLI) scheme in 2021 for advanced chemistry cell (ACC) battery manufacturing. Batteries store energy chemically, while supercapacitors store it electrostatically and can charge and discharge much faster but hold less energy.

95. (d)

Statement 1 is correct: turmeric is yellow in acidic and neutral solutions and turns reddish-brown in a basic solution. This is why a yellow turmeric stain on a cloth turns reddish-brown when washed with soap, which is basic, and becomes yellow again after rinsing with water.

Statement 2 is correct: litmus is extracted from lichens, which are symbiotic associations of algae and fungi. Litmus solution is purple when neutral; it turns red in acids and blue in bases.

Statement 3 is correct: olfactory indicators change their smell with the medium. The characteristic smell of onion and of vanilla essence cannot be detected in a basic solution but remains in an acidic solution, and clove oil behaves similarly. They help visually impaired students test acids and bases. All three statements are correct, so the answer is option (d).

Other natural indicators include red cabbage juice and the petals of hydrangea, petunia, geranium and China rose (Hibiscus). China rose extract turns dark pink (magenta) in acids and green in bases. Methyl orange and phenolphthalein are synthetic indicators: methyl orange is red in acids and yellow in bases, while phenolphthalein is colourless in acids and pink in bases. Universal indicator, a mixture of several indicators, shows different colours over the whole pH range and so indicates approximately how strong an acid or base is. Hydrangea flowers are blue in acidic soils and pink in alkaline soils.

96. (d)

Option (d) is correct: India has signed the following environmental conventions/agreements:

- **Paris Agreement (2015):** Signed and ratified to limit global temperature rise and combat climate change.
- **Stockholm Convention on Persistent Organic Pollutants (POPs):** Ratified to restrict or eliminate hazardous POPs (such as regulating DDT use).
- **Rotterdam Convention:** Acceded to promote shared responsibility in the international trade of hazardous chemicals.
- **Chemical Weapons Convention (CWC):** Signed and enacted under the CWC Act 2000, making India a party that has eliminated its chemical weapons stockpiles.
- **Ramsar Convention on Wetlands (1971):** Ratified for the conservation and sustainable use of wetlands.

The Bamako Convention is a regional environmental treaty negotiated by African nations in 1991 (enforced in 1998) to ban the import of hazardous and radioactive waste into Africa. Designed to strengthen the global Basel Convention, it promotes sustainable waste management and protects developing African countries from becoming dumping grounds for toxic industrial waste. India has no direct legal association or membership with the treaty.

97. (a)

- **A-3: Caracal.** A medium-sized wild cat of dry scrub and open forest, known for its **long black ear tufts**. It is **Least Concern** globally, but in India only small populations survive, mainly around **Ranthambhore (Rajasthan) and Kutch (Gujarat)**, perhaps about 50 animals. In 2021 it was included in the species recovery programme of the National Board for Wildlife.
- **B-1: Tibetan antelope (chiru).** It lives on the **Tibetan Plateau**, with a small population in northern **Ladakh**. Its warm underfur is the source of **shahtoosh**; making one shawl needs the wool of three to five antelopes, which are killed for it. Trade is banned; the species is in CITES Appendix I and is now **Near Threatened** (improved from Endangered in 2016 as numbers recovered).
- **C-4: Dhole (Asiatic wild dog).** A social canid that hunts in **packs** and communicates with **whistles**. It is **Endangered**, found in the Western Ghats, central India and the North-East.
- **D-2: Sloth bear.** It uses its long claws and mobile lips to suck up **termites and ants**, and also eats fruit and honey. It is **Vulnerable**; the **Daroji Sloth Bear Sanctuary** is in Ballari district, Karnataka. Mothers carry cubs on their backs.

Hence the correct combination is A-3, B-1, C-4, D-2, and option (a) is correct.

98. (b)

Statement 1 is correct: In 2024 a series of attacks, mostly on children, took place in villages of **Mahsi tehsil in Bahraich district**, on the floodplains of the **Ghaghara** river. The Uttar Pradesh Forest Department launched **"Operation Bhediya"** to track and capture the suspected pack of about six wolves using thermal drones and camera traps; several were captured and one was killed by villagers in October 2024.

Statement 2 is correct: In **2025** the IUCN's canid specialists assessed the Indian wolf (*Canis lupus pallipes*) **separately from the grey wolf** for the first time, noting that it **may be a distinct species**, and placed it in the **Vulnerable** category. Its population is estimated at about **3,000** animals, almost all in India, with a few in Pakistan.

Statement 3 is not correct: The Indian wolf is an animal of **semi-arid grasslands, scrub and open farmland** in peninsular and north-western India, not of dense rainforest.

The Indian wolf is protected under **Schedule I** of the Wild Life (Protection) Act. Few of its habitats are protected areas; grasslands are often classed as "wastelands" and diverted to other uses, and wolves come into conflict with herders. Genetic studies suggest it is one of the **oldest surviving wolf lineages**. Experts noted that the Bahraich attacks may have been linked to flooding, loss of natural prey and close contact with people.

Hence option (b) is correct.

99. (b)

Statement 1 is not correct: CEPI was developed by the **Central Pollution Control Board (CPCB)** with **IIT Delhi**, and in **2009** it was applied to **88 industrial clusters**. A cluster with a CEPI score of **70 or more** is **critically polluted**, and **60 to 70** is **severely polluted**. In January 2010 the Ministry placed a temporary **moratorium** on new projects in critically polluted areas. The method was revised in **2016**: each of air, surface water and groundwater gets its own sub-index, which combines the pollution source, how badly the norms are exceeded, health effects and compliance by industry.

Statement 2 is correct: The **Singrauli** region, spread over **Sonbhadra (UP)** and Singrauli district (MP), has a dense cluster of **opencast coal mines and large coal-fired thermal power stations**, along with fly ash ponds, and is often called India's **energy capital**. It was among the critically polluted areas identified in 2009, with high air and water pollution scores. Studies have reported **fluoride** and **mercury** contamination in the region.

Also remember: Other UP clusters assessed in 2009 included Ghaziabad, Noida, Kanpur, Agra, Mathura, Moradabad, Varanasi-Mirzapur and Firozabad. The Rihand reservoir (Govind Ballabh Pant Sagar), which supplies water to many of the Singrauli power plants, also receives their effluents.

Hence option (b) is correct.

100.(c)

Pair 1 is correctly matched: The **African catfish** is native to **Africa**. A fast-growing predatory fish, it was spread through illegal fish farming, and the Government of India **banned its culture in 2000**; it still threatens native fish in many rivers and lakes.

Pair 2 is not correctly matched: The **red-eared slider** is native to the **south-central United States**, in the **Mississippi river basin**, not Australia. Released or escaped pets, it now competes with native freshwater turtles in Indian water bodies and is on the IUCN's list of the world's 100 worst invasive species.

Pair 3 is correctly matched: The **giant African snail** (*Achatina fulica*) comes from **East Africa**. It eats a wide range of crops and garden plants and can carry a parasitic lungworm that causes meningitis in people.

Pair 4 is correctly matched: ***Mikania micrantha**, the "mile-a-minute" weed, is a fast-growing climber native to Central and South America**. It smothers crops, plantations and forest edges in Kerala, the North-East and other humid regions.

Also remember: Invasive alien species are a major driver of biodiversity loss. Target 6 of the **Kunming-Montreal Global Biodiversity Framework** aims to reduce the rate of their introduction and establishment by at least 50 per cent by 2030.

Hence option (c) is correct.

101.(b)

1. Second Factories Act

The Factories Act of 1891 was enacted during the tenure of Lord Lansdowne (1888–1894), not Lord Curzon. It reduced working hours for certain categories of workers, particularly women, and introduced other labour protections.

Related Viceroy: Lord Lansdowne.

2. **Younghusband Mission to Tibet (1903–1904)**

   The British expedition to Tibet was undertaken during Lord Curzon's tenure (1899–1905). Led by Colonel Francis Younghusband, it aimed to counter perceived Russian influence in Tibet and secure British strategic interests. The expedition culminated in the Treaty of Lhasa in 1904.

   Related Viceroy: Lord Curzon.

3. **Swaraj as the goal of the Indian National Congress (1906)**

   At the Calcutta Session of 1906, presided over by Dadabhai Naoroji, the Congress declared Swaraj as its goal. This occurred after Lord Curzon's tenure had ended in 1905.

   Related Viceroy: Lord Minto II (1905–1910).

4. **Co-operative Credit Societies Act (1904)**

   The Co-operative Credit Societies Act was enacted in 1904 during Lord Curzon's tenure. It encouraged the establishment of cooperative credit societies to provide loans to rural populations and reduce dependence on moneylenders.

   Related Viceroy: Lord Curzon.

102.(a)

Lucknow Session of the Indian National Congress (April 1936): Presided over by Jawaharlal Nehru, it emphasised socialism and the mobilisation of workers and peasants.

Independent Labour Party (August 1936): B. R. Ambedkar founded the party to represent the interests of industrial workers, peasants and oppressed sections.

Faizpur Session of the Indian National Congress (December 1936): Presided over by Jawaharlal Nehru, it was the first Congress session held in a rural setting and highlighted agrarian issues.

National Planning Committee (1938): Established under the chairmanship of Jawaharlal Nehru following an initiative by Subhas Chandra Bose, it aimed to formulate a comprehensive plan for India's economic development.

103.(d)

Statement 1 is incorrect: Nadir-ul-Asr (Wonder of the Age) was the title conferred upon Ustad Mansur, who specialised in naturalistic paintings of birds, animals and flowers.

Statement 2 is incorrect: Nadir-uz-Zaman (Wonder of the Time) was the title bestowed upon Abu'l Hasan, a distinguished portrait painter in Jahangir's court.

Both artists received their respective titles from Emperor Jahangir.

104.(a)

1. **London Indian Society (1865)**

   The London India Society was established in London in 1865 to promote awareness of Indian affairs and represent Indian interests in Britain. Dadabhai Naoroji was closely associated with the organisation. It sought to inform British public opinion about India's political and administrative concerns.

2. **Prarthana Samaj (1867)**

   Founded in Bombay in 1867 by Atmaram Pandurang, the Prarthana Samaj was an important socio-religious reform movement in western India. It advocated monotheism, opposed caste discrimination and worked towards social reforms, including widow remarriage and women's education. M. G. Ranade and R. G. Bhandarkar were among its prominent associates.

3. **India League (1875)**

   Established in Calcutta in 1875 by Sisir Kumar Ghosh, the India League aimed to stimulate national consciousness and encourage political awareness among Indians. It sought to represent Indian interests and promote a sense of national unity.

4. **Madras Mahajana Sabha (1884)**

Established in Madras in 1884 by M. Veeraraghavachariar, G. Subramania Iyer and P. Ananda Charlu, the Madras Mahajana Sabha became an important political organisation in southern India. It raised public grievances, demanded administrative reforms and helped develop the political consciousness that contributed to the growth of Indian nationalism. It also played a role in the political developments preceding the establishment of the Indian National Congress in 1885.

105.(d)

A. **Muntakhab-ut-Tawarikh — Abdul Qadir Badauni:** Written in Persian, this historical work provides a critical account of Akbar's reign, particularly his religious policies and court developments.

B. **Maasir-i-Alamgiri — Saqi Mustaid Khan:** This Persian chronicle describes the reign of Aurangzeb, including his military campaigns and administrative affairs. It was compiled after Aurangzeb's death.

C. **Alamgirnama — Muhammad Kazim:** This work chronicles the first ten years of Aurangzeb's reign (1658–1667) and was written under imperial patronage.

D. **Tabaqat-i-Akbari — Nizamuddin Ahmad:** Completed around 1593–1594, this historical work chronicles Muslim rule in India from the early period to Akbar's reign.

106.(a)

Statements 1 and 2 are correct: The **National Critical Mineral Mission (NCMM)** was **announced in the Union Budget 2024-25** and approved by the Union Cabinet in **January 2025**, with the **Ministry of Mines** as the implementing ministry. It carries a **Mission expenditure of ₹16,300 crore** and an expected **₹18,000 crore of investment by public sector undertakings and others**, totalling **₹34,300 crore over seven years**.

Statement 3 is not correct: The Mission is explicitly designed to cover the **entire value chain**, and one of its central objectives is to **encourage Indian PSUs and private companies to acquire critical mineral assets overseas** and to expand trade with resource-rich countries. It also provides for intensified domestic and offshore exploration, a faster regulatory approval route for mining projects, recovery of minerals from **overburden and tailings**, creation of a **domestic stockpile**, mineral processing parks, recycling and a **Centre of Excellence on Critical Minerals**.

Critical minerals such as lithium, cobalt, nickel, graphite and rare earth elements are vital to green technologies — batteries, electric vehicles, solar panels and wind turbines — and India is heavily import-dependent for most of them, which is the strategic rationale for the Mission. Hence option (a).

107.(b)

Statement 1 is not correct: RoDTEP, which came into effect from **1 January 2021**, replaced the **Merchandise Exports from India Scheme (MEIS)** — not the Advance Authorisation Scheme, which continues separately as a duty-exemption scheme for inputs used in export production. MEIS had been found **inconsistent with World Trade Organization rules** because it amounted to a prohibited export subsidy.

Statement 2 is correct: RoDTEP is built on the globally accepted principle that **taxes should not be exported**. It **remits embedded central, state and local duties and taxes** borne on the exported product that are **not refunded under any other mechanism** — for example VAT on fuel used in transportation, mandi tax, duty on electricity used in manufacturing and stamp duty — making it **WTO-compatible**.

Statement 3 is correct: The benefit is credited as **transferable duty credit scrips issued electronically** in an electronic credit ledger maintained in the Customs system; these can be used to pay basic customs duty or sold to other importers. The rates are notified by the **Department of Commerce (DGFT)** and the scheme is administered through the **Central Board of Indirect Taxes and Customs**. Hence option (b).

108.(b)

Statement 1 is not correct: NPCI is **not a government-owned, for-profit company**. It is incorporated as a **'not for profit' company under Section 8 of the Companies Act** (originally Section 25 of the Companies Act, 1956), and it is **owned by a consortium of banks**, not by the Government of India.

Statement 2 is correct: NPCI was **incorporated in December 2008 as an initiative of the Reserve Bank of India and the Indian Banks' Association (IBA)** and functions as the **umbrella organisation for retail payments and settlement systems in India**. It operates under the statutory framework of the **Payment and Settlement Systems Act, 2007**, under which the RBI is the designated regulator of payment systems.

Statement 3 is correct: NPCI's systems include the **Unified Payments Interface (UPI)**, launched in 2016 and now the world's largest real-time retail payments platform by volume, **RuPay** cards, the **Immediate Payment Service (IMPS)**, the **National Automated Clearing House (NACH)**, the **Aadhaar Enabled Payment System (AePS)**, BHIM, the National Common Mobility Card and National Electronic Toll Collection (FASTag). Hence option (b).

109.(b)

Both (A) and (R) are true, and (R) correctly explains (A). Participatory Notes (P-Notes), formally termed **Offshore Derivative Instruments (ODIs)** under SEBI's Foreign Portfolio Investor Regulations, are **derivative instruments issued outside India against underlying Indian securities** — equity, debt, derivatives or an index.

Because the instrument is **issued by an entity that is itself already registered with SEBI as an FPI**, the overseas subscriber obtains the **economic exposure** to the Indian security — the gains, losses and dividends — **without having to register with SEBI**, and without being the legal owner of the underlying security. The subscriber therefore also has **no voting rights** in the Indian company. This is exactly why the Reason explains the Assertion.

The route offers speed and confidentiality to foreign investors, but it historically raised concerns about **opacity of beneficial ownership, round-tripping and money laundering**. SEBI has therefore progressively tightened the regime — subscribers must be **regulated entities from FATF-compliant jurisdictions**, must meet KYC norms, cannot have opaque ownership structures, and **NRIs and resident Indians are barred** from subscribing. Hence option (b).

110.(c)

Statements 1 is correct: The **CGTMSE was set up in the year 2000** jointly by the **Ministry of Micro, Small and Medium Enterprises and the Small Industries Development Bank of India (SIDBI)**, which are its settlors, to implement the Credit Guarantee Scheme for Micro and Small Enterprises.

Statement 2 is not correct: CGTMSE guarantees credit extended by eligible lending institutions **without the requirement of collateral security or third-party guarantee**. The absence of collateral is precisely the market failure the Trust was created to correct: viable micro and small units often cannot borrow because they lack mortgageable assets, so the Trust substitutes its guarantee for the missing collateral.

Statement 3 is correct: the cover is available for credit to **micro and small enterprises (MSEs)**. The **maximum guarantee cover was raised from ₹5 crore to ₹10 crore with effect from 1 April 2025**, substantially widening the scheme's reach. Hence option (c).

111.(c)

Karnaprayag is situated at the confluence of the Alaknanda and Pindar rivers in Chamoli district of Uttarakhand. It is one of the five sacred confluences collectively known as the Panch Prayag.

The five Panch Prayags, arranged from upstream to downstream along the Alaknanda River, are:

Vishnuprayag: Alaknanda and Dhauliganga.

Nandprayag: Alaknanda and Nandakini.

Karnaprayag: Alaknanda and Pindar.

Rudraprayag: Alaknanda and Mandakini.

Devprayag: Alaknanda and Bhagirathi.

At Devprayag, the combined waters of the Alaknanda and Bhagirathi are known as the River Ganga.



112.(c)

Pair 1 is incorrectly matched: Selvas refers to the dense tropical evergreen rainforests of the Amazon Basin in South America, not tropical grasslands.

Pair 2 is correctly matched: Prairies are extensive temperate grasslands found primarily in the central parts of North America, particularly the United States and Canada.

Pair 3 is correctly matched: Campos are tropical to subtropical grasslands found mainly in Brazil, particularly in its central and southern regions.

Pair 4 is incorrectly matched: Pampas are temperate grasslands extending mainly across Argentina and Uruguay, rather than tropical grasslands.

113.(b)

Assertion (A) is correct: Temperate cyclones derive their energy primarily from horizontal temperature contrasts between warm and cold air masses, particularly along the polar front. This process, known as baroclinic instability, converts atmospheric potential energy into kinetic energy, facilitating cyclone development.

Reason (R) is correct: Temperate cyclones can develop over both land and oceans because their formation does not depend on warm ocean waters, unlike tropical cyclones.

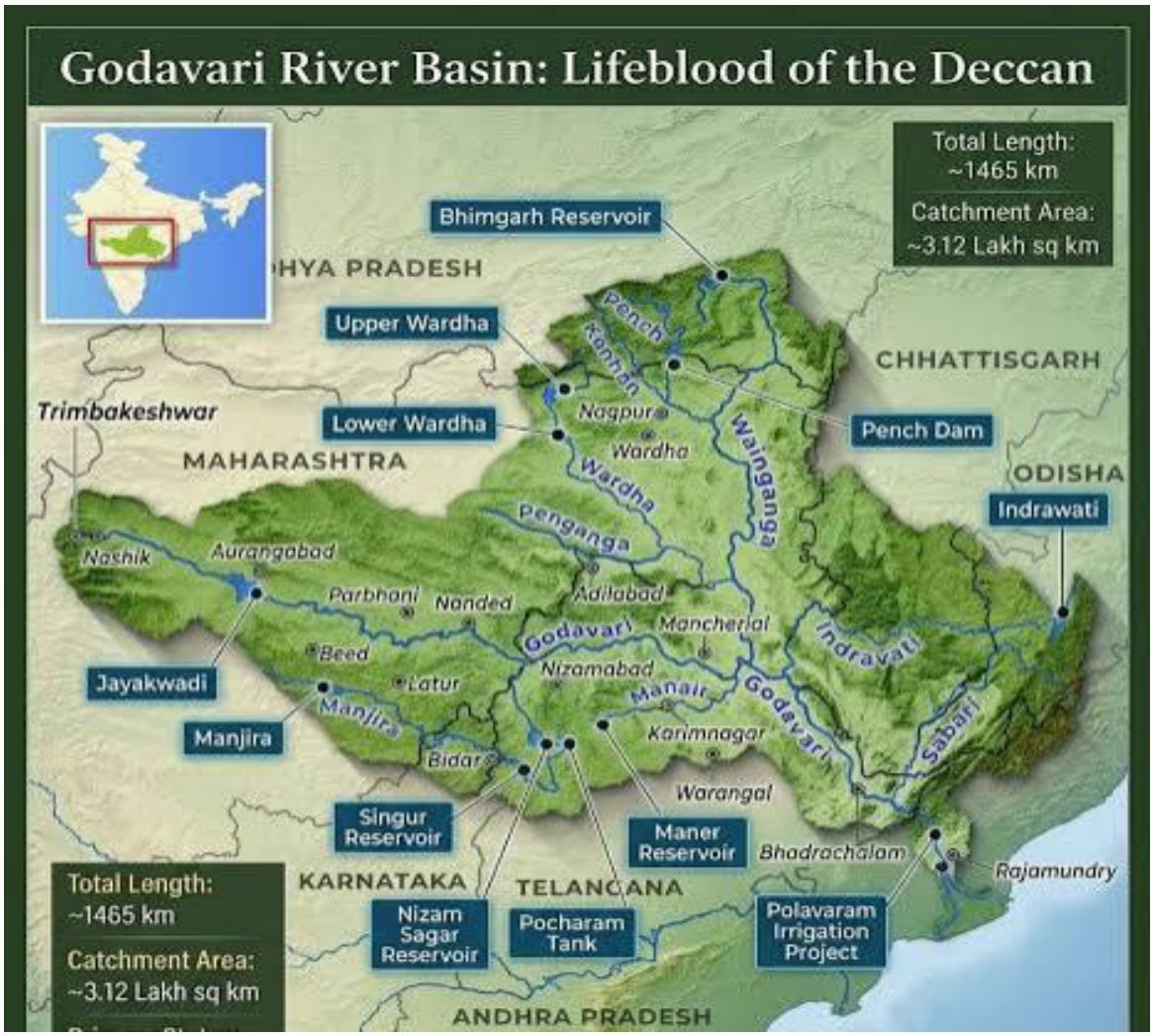
However, R is not the correct explanation of A. The ability of temperate cyclones to develop over both land and oceans is a consequence of their energy mechanism, not the cause of it. Thus, the causal relationship is reversed.

114.(d)

Statement 1 is correct: The Penganga is a tributary of the Wardha River and forms part of the larger Godavari drainage system.

Statement 2 is incorrect: The Pranhita is formed by the confluence of the Wardha and Wainganga rivers, not the Wardha and Penganga. The Penganga joins the Wardha upstream of this confluence.

Statement 3 is correct: The Pranhita joins the Godavari near Kaleshwaram in Telangana, after flowing largely along the Maharashtra–Telangana boundary.



115.(a)

The Pennines are located in northern England and are popularly known as the Backbone of England. They form an important watershed between rivers flowing towards the Irish Sea and the North Sea.

The Apennines extend along the Italian Peninsula from north to south, forming its mountainous backbone. Corno Grande (2,912 m) is their highest peak.

The Zagros Mountains extend primarily through western Iran and northeastern Iraq. They were formed due to the convergence of the Arabian and Eurasian tectonic plates.

Mount Toubkal is situated in the High Atlas Mountains of Morocco. With an elevation of approximately 4,167 metres, it is the highest peak in North Africa and the Atlas Mountain system.

116.(b)

Statement 1: Correct. The Rekha Deul is the characteristic curvilinear tower over the sanctum in the Kalinga tradition of Odisha. The Pidha Deul, with its tiered pyramidal roof, is commonly associated with the assembly hall (Jagamohana).

Statement 2: Correct. The temples at Khajuraho, built mainly under the Chandela dynasty, predominantly follow the Nagara style of temple architecture, characterised by curvilinear Shikharas and elaborate sculptural decoration.

Statement 3: Correct. The Hoysala temples at Belur and Halebidu are renowned for intricate soapstone carvings, detailed sculptural ornamentation and complex star-shaped ground plans.

Statement 4: Incorrect. In the Dravida tradition, the principal tower over the sanctum is called the Vimana, generally characterised by a pyramidal, tiered superstructure. A Gopuram is a monumental entrance gateway, particularly prominent in South Indian temple complexes.

117.(a)

Assertion (A) is true: Widespread and unscientific canal irrigation across canal commands in Western Uttar Pradesh (such as the Upper Ganga Canal and Eastern Yamuna Canal networks covering Aligarh, Bulandshahr, Mathura, Meerut, and Muzaffarnagar) has resulted in severe soil salinization and alkalinization. This white, sterile saline efflorescence that encrusts the agricultural topsoil is locally known as Reh, Kallar, or Usar.

Reason (R) is true and directly provides the scientific cause for (A):

- Over-irrigation combined with poor drainage causes severe waterlogging, steadily raising the underground water table toward the surface.
- High atmospheric temperatures drive rapid surface evaporation, creating a tension gradient that draws groundwater upward through soil pores via capillary action.
- This ascending groundwater carries dissolved sodium salts (principally , , and). As water evaporates off the surface, these soluble salts precipitate and accumulate on the topsoil, destroying soil structure and vegetation.

118.(d)

A. Indira Gandhi Planetarium — 2. Lucknow:

Located at Suraj Kund Park in Lucknow, this planetarium is visually famous for its unique Saturn-shaped building design complete with surrounding rings.

B. Veer Bahadur Singh Planetarium — 4. Gorakhpur:

Situated in the Taramandal locality of Gorakhpur, it is a key center for astronomical education and public scientific shows in eastern Uttar Pradesh (*Purvanchal*).

C. Dr. Bhimrao Ambedkar (Aryabhatta) Planetarium — 1. Rampur:

Located in Rampur, it is popularly referred to as the Aryabhatta Planetarium and holds the distinction of being India's first planetarium built with digital laser technology.

D. Jawahar Planetarium — 3. Prayagraj:

Situated on the campus of the historic Anand Bhavan in Prayagraj, it was managed by the Jawaharlal Nehru Memorial Trust and commissioned in 1979.

119.(c)

A. Auraiya — 4. Desi Ghee:

Auraiya is famous across the state for its traditional milk-processing units and high-quality Desi Ghee, which is its official One District One Product (ODOP) flagship item.

B. Pratapgarh — 1. Amla Products:

Pratapgarh is renowned as Uttar Pradesh's prime hub for Indian gooseberry (*Amla*) cultivation and processed fruit products, such as murabba, pickles, and candy.

C. Kushinagar — 2. Banana Fiber Products:

Kushinagar is designated under the ODOP scheme for Banana Fiber Products, turning agri-waste from banana trunks into eco-friendly handicrafts and woven goods.

D. Aligarh — 3. Lock Industry:

Aligarh is historically celebrated as *Tala Nagari* (City of Locks) due to its centuries-old Lock, Hardware & Metal Crafting manufacturing sector.

120.(d)

1. **Amethi — Ayodhya Division:** Amethi district was carved out of Sultanpur and Rae Bareli districts in 2010. It falls under Ayodhya Division.

2. **Kasganj — Aligarh Division:** Kasganj district, formerly known as Kanshiram Nagar, was created in 2008. It is part of Aligarh Division.
3. **Shamli — Saharanpur Division:** Shamli district, earlier known as Prabuddh Nagar, was created in 2011. It falls under Saharanpur Division.
4. **Amroha — Moradabad Division:** Amroha district, formerly known as Jyotiba Phule Nagar, belongs to Moradabad Division.

121.(a)

Statement 1 is correct: The Arctic Council was set up by the **Ottawa Declaration of 1996** as the main intergovernmental forum for cooperation on Arctic issues, especially **environmental protection and sustainable development**. It does not deal with military security.

Statement 2 is not correct: India became an **observer**, not a member, in **2013**, together with China, Italy, Japan, South Korea and Singapore. Membership is limited to the **eight Arctic states**: **Canada, Denmark (including Greenland), Finland, Iceland, Norway, Russia, Sweden and the United States**. Six organisations of Arctic **Indigenous peoples** take part as **Permanent Participants**.

Statement 3 is correct: The Council has a **permanent Secretariat in Tromsø, Norway**, set up in the early 2010s. Its chairship rotates every two years among the member states; Denmark holds it for 2025-27.

Hence option (a) is correct.

Agreements negotiated under the Council's auspices include the **Arctic Search and Rescue Agreement (2011)**, its first legally binding agreement, and agreements on marine oil pollution and scientific cooperation. India released its **Arctic Policy** in **2022**, built on six pillars including science and research, climate and environmental protection, and economic and human development. The Arctic matters to India because changes there can influence the Indian monsoon and sea-level rise.

122.(c)

Assertion is true: A study published in **2022** in *Communications Earth & Environment* found that over **1979 to 2021**, the Arctic warmed **nearly four times faster than the globe as a whole**, faster than the earlier common estimate of "twice as fast". This phenomenon is called **Arctic amplification**.

Reason is false: The Arctic receives **far less** solar energy over a year than the tropics, because the sun is low in the sky and there is months-long polar night. Arctic amplification is not caused by more sunlight. Its main driver is the **ice-albedo feedback**: as bright, reflective **sea ice and snow** melt, they expose darker ocean and land that absorb more sunlight, causing further warming and melting. Other contributors include the release of heat from newly ice-free ocean in autumn and winter, changes in clouds and water vapour, and heat carried in from lower latitudes.

Arctic warming thaws **permafrost**, which can release carbon dioxide and methane, speeds up the melting of the **Greenland ice sheet** and raises sea levels. Scientists are studying whether a weaker temperature contrast between the Arctic and the mid-latitudes makes the **jet stream** wavier, which may favour persistent extreme weather.

Hence option (c) is correct.

123.(d)

Assertion is false: Red mud, now often called **bauxite residue**, is produced in the **Bayer process**, the **refining of bauxite into alumina** (aluminium oxide). It is not a waste of the **Hall-Heroult process**, the next stage, in which alumina is reduced to aluminium metal by electrolysis.

Reason is true: In the Bayer process, crushed bauxite is digested with hot **sodium hydroxide (caustic soda)** under pressure, which dissolves the alumina. The insoluble remainder is separated as red mud. Some caustic soda stays with it, giving it a **high pH, typically about 10 to 13**. Its red colour comes from **iron oxides**, which can make up a large part of its mass.

Also remember: Roughly **1 to 1.5 tonnes** of red mud are produced for every tonne of alumina, and it is usually stored in large ponds or dry stacks. A dam failure at an alumina plant near **Ajka (Kolontár),**

Hungary in 2010 released about a million cubic metres of red mud, killing ten people. Uses being developed include cement and bricks, road building and the recovery of iron and other metals, including rare earth elements. In India, alumina refineries are concentrated in **Odisha**, which has the largest bauxite reserves.

Hence option (d) is correct.

124.(b)

Pair 1 is correctly matched: An **electrostatic precipitator (ESP)** gives a negative electric charge to dust particles in the flue gas; the charged particles are then attracted to positively charged collecting plates and removed. ESPs capture well over 99 per cent of **fly ash** and other particulate matter.

Pair 2 is correctly matched: In **wet limestone FGD**, flue gas is sprayed with a slurry of **limestone (calcium carbonate)**, which reacts with **sulphur dioxide** to form calcium sulphite, oxidised to **gypsum (calcium sulphate)**. The gypsum can be sold for cement and wallboard.

Pair 3 is not correctly matched: Selective catalytic reduction removes **oxides of nitrogen (NOx)**, not carbon dioxide. Ammonia or urea is injected into the flue gas and, over a catalyst, converts NOx into harmless **nitrogen and water**. Removing CO_2 requires **carbon capture** technologies, which are different and far more costly.

Also remember: In India, emission limits for SO_2, NOx and mercury from coal power plants were first notified in **2015**. Bag filters (fabric filters) are another way of capturing fine particles. ESP and FGD reduce air pollution but generate solid wastes (fly ash, gypsum) that must be used or safely disposed of.

Hence option (b) is correct.

125.(c)

2: **Forest (Conservation) Act, 1980.** It requires the **Centre's prior approval** before forest land is used for non-forest purposes. It was amended in **2023** and renamed the **Van (Sanrakshan Evam Samvardhan) Adhiniyam**.

1: **Air (Prevention and Control of Pollution) Act, 1981.** Enacted after India took part in the 1972 **Stockholm Conference**, it gave the Central and State Pollution Control Boards (first created under the Water Act, 1974) powers over air pollution and allowed States to declare **air pollution control areas**.

3: **Biological Diversity Act, 2002.** Enacted to give effect to the **Convention on Biological Diversity**, it set up a **three-tier structure**: the **National Biodiversity Authority** (Chennai), State Biodiversity Boards and local **Biodiversity Management Committees**, which prepare People's Biodiversity Registers. It was amended in 2023.

4: **Forest Rights Act, 2006.** It recognises the individual and community forest rights of Scheduled Tribes and other traditional forest dwellers, with the **Gram Sabha** given a key role. It is administered by the **Ministry of Tribal Affairs**.

Also remember: The Wild Life (Protection) Act was enacted in 1972, the Water Act in 1974, the Environment (Protection) Act in 1986 after the Bhopal gas tragedy, and the National Green Tribunal Act in 2010.

Hence the correct order is 2-1-3-4, and option (c) is correct.

126.(c)

Statement 1 is correct: AdFalciVax is an indigenous recombinant chimeric vaccine candidate against Plasmodium falciparum, the deadliest malaria parasite. It is designed to act at more than one stage of the parasite's life cycle: it targets the parasite before it enters the bloodstream to prevent infection, and it also aims to block transmission of the parasite to mosquitoes, which would reduce spread in the community. It has been validated in pre-clinical studies and is reported to remain effective for over nine months at room temperature.

Statement 2 is correct: it was developed by the ICMR-Regional Medical Research Centre, Bhubaneswar, with the ICMR-National Institute of Malaria Research and the National Institute of Immunology, New Delhi. In 2025, ICMR licensed the technology to five Indian companies for further development and manufacture. Both statements are correct, so the answer is option (c).

Related facts: malaria is caused by protozoan parasites of the genus Plasmodium and spread by the bite of infected female Anopheles mosquitoes. In India, P. vivax and P. falciparum are the main species; P. falciparum causes most severe cases and deaths, including cerebral malaria. The WHO has recommended two malaria vaccines for children, RTS,S/AS01 (2021) and R21/Matrix-M (2023); the second is manufactured by the Serum Institute of India. India aims to eliminate malaria by 2030. Quinine, from the bark of the cinchona tree, was the first effective treatment; artemisinin, from the sweet wormwood plant, is now central to treating falciparum malaria, and its discoverer Tu Youyou received the 2015 Nobel Prize in Physiology or Medicine.

127.(a)

Statement 1 is correct: human red blood cells lose their nucleus (and most organelles, including mitochondria) as they mature. This leaves more room for haemoglobin and gives them a flexible biconcave disc shape, with a large surface area for exchanging gases and the ability to squeeze through narrow capillaries.

Statement 2 is correct: red blood cells survive for about 120 days. Old and damaged cells are removed mainly in the spleen (often called the 'graveyard of RBCs') and the liver, and the iron from their haemoglobin is recycled.

Statement 3 is incorrect: in healthy adults, red blood cells are produced in the red bone marrow, found in flat bones such as the sternum, ribs, skull, vertebrae and pelvis and at the ends of long bones. The liver and spleen are the main sites of blood cell formation only in the foetus. Since statements 1 and 2 are correct, the answer is option (a).

A healthy adult has about 4.5 to 5.5 million red blood cells per cubic millimetre of blood, with slightly higher counts in men. Production is controlled by the hormone erythropoietin, released mainly by the kidneys when oxygen levels in the blood are low; this is why people living at high altitudes have more red blood cells, and why kidney disease often causes anaemia. The mature red blood cells of mammals lack a nucleus, unlike those of birds, reptiles, amphibians and fishes; camels and llamas have oval rather than round red cells, but these too lack a nucleus. Production of blood cells is called haematopoiesis. White blood cells, unlike red cells, have a nucleus, and platelets are cell fragments that help blood clot.

128.(b)

Pair 1 is correct: the pitcher plant traps insects in its pitcher-shaped leaves, which contain digestive fluids. Insectivorous plants are green and make their own food, but they grow in soils poor in nitrogen and obtain extra nitrogen from the insects they digest. Nepenthes khasiana is endemic to Meghalaya.

Pair 2 is correct: Cuscuta (amarbel, dodder) is a yellow, leafless, rootless climber without chlorophyll. It winds around the stem of a host plant and sends special roots called haustoria into it to absorb all its food and water, so it is a total stem parasite.

Pair 3 is incorrect: mistletoe (Loranthus in India, Viscum in Europe) has green leaves and makes its own food by photosynthesis. It attaches to the branches (stems) of trees such as mango and takes only water and minerals from them, so it is a partial (hemi) stem parasite, not a total root parasite.

Pair 4 is correct: Rafflesia has no leaves, stem or roots of its own and lives entirely inside the roots and lower stems of its host vine (Tetrastigma), emerging only as a flower; it is a total root parasite. Since pairs 1, 2 and 4 are correct, the answer is option (b).

Related facts: Rafflesia arnoldii produces the largest single flower in the world, up to about one metre across, with a smell of rotting flesh that attracts flies for pollination. Other insectivorous plants include the sundew (Drosera), the bladderwort (Utricularia), which traps tiny animals in water, and the Venus flytrap (Dionaea). Sandalwood is a partial root parasite, drawing water and minerals from the roots of other plants. Saprophytes, such as many fungi, obtain food from dead and decaying matter, and symbiotic associations such as lichens and root nodules benefit both partners.

129.(c)

- **A-2:** BCG (Bacille Calmette-Guérin), given at birth against tuberculosis, contains a live but weakened strain of Mycobacterium bovis, a bacterium related to the one that causes human TB. It was developed by Albert Calmette and Camille Guérin in France.

- **B-4:** tetanus is caused not by the bacterium itself but by a powerful toxin it releases. The vaccine contains the toxin made harmless by chemical treatment (a toxoid), which teaches the body to produce antitoxin antibodies. Diphtheria vaccine is also a toxoid.
- **C-3:** the hepatitis B vaccine contains only the surface protein of the virus, produced in yeast cells into which the viral gene has been inserted. It was one of the first vaccines made by recombinant DNA technology and cannot cause infection.
- **D-1:** the injectable polio vaccine (IPV, Salk vaccine) contains polioviruses that have been killed. The oral polio vaccine (OPV, Sabin vaccine), by contrast, contains live weakened virus.

Option (a) swaps the types of the tetanus and hepatitis B vaccines, option (b) swaps those of BCG and IPV, and option (d) swaps those of BCG and the tetanus vaccine. Hence option (c).

Live attenuated vaccines (such as BCG, OPV, measles-rubella and yellow fever) usually give strong, long-lasting immunity but are generally not given to people with weakened immunity. mRNA vaccines, used against COVID-19, carry instructions that make the body's cells produce a viral protein; Katalin Karikó and Drew Weissman received the 2023 Nobel Prize in Physiology or Medicine for discoveries that made them possible. Viral vector vaccines use a harmless virus to carry a gene of the target pathogen. The word 'vaccine' comes from the Latin 'vacca' (cow), recalling Edward Jenner's use of cowpox to protect against smallpox in 1796.

130.(d)

A is false: mitochondrial DNA (mtDNA) is inherited almost entirely from the mother. All the mitochondria of a newly formed embryo come from the egg cell, so a mother passes her mtDNA to all her children, but only her daughters pass it on to the next generation.

R is true: the sperm does contain a few mitochondria in its middle piece, which supply energy for swimming, but these are marked and destroyed inside the egg soon after fertilisation. This is the reason for the maternal inheritance of mtDNA. Since A is false and R is true, the answer is option (d).

Unlike the linear chromosomes in the nucleus, human mtDNA is a small, double-stranded, circular molecule of about 16,500 base pairs carrying 37 genes; mitochondria also have their own ribosomes. These features, shared with bacteria, support the endosymbiotic theory that mitochondria (and chloroplasts) were once free-living bacteria taken up by early cells. Because mtDNA passes down the female line almost unchanged, it is used to trace human ancestry and migrations (the idea of a 'Mitochondrial Eve') and, in forensic science, to identify remains through comparison with maternal relatives. Defects in mtDNA cause certain inherited disorders that pass from mother to child. Mitochondrial replacement therapy, which uses a donor egg's healthy mitochondria, produces what are popularly called 'three-parent babies'.

131.(b)

Statement 1 is not correct: Timor-Leste became ASEAN's **11th member** on **26 October 2025**, when the Declaration on its admission was signed at the **47th ASEAN Summit in Kuala Lumpur**, under **Malaysia's** chairmanship. It was ASEAN's first expansion since **Cambodia joined in 1999**.

Statement 2 is correct: The **Philippines** chairs ASEAN in **2026**, under President **Ferdinand Marcos Jr.**, with the theme **"Navigating Our Future, Together"**. The **48th ASEAN Summit** was held at **Cebu** on **8 May 2026**.

Hence option (b).

Timor-Leste (capital **Dili**) was a **Portuguese colony** for centuries, was **occupied by Indonesia from 1975 to 1999**, and became independent in **2002** after a UN-supervised referendum. ASEAN was founded on **8 August 1967** through the **Bangkok Declaration** by **Indonesia, Malaysia, the Philippines, Singapore and Thailand**; its Secretariat is in **Jakarta**. The other members joined as follows: **Brunei (1984), Vietnam (1995), Laos and Myanmar (1997), Cambodia (1999)**. India's ties with ASEAN rest on the **Act East Policy (2014)**, and the relationship was raised to a **Comprehensive Strategic Partnership in 2022**. The **ASEAN–India Trade in Goods Agreement (AITIGA)** of 2009 is under review.

132.(a)

Statement 1 is correct: Wild buffaloes were captured in **Kaziranga** in March–April 2026 and moved to **Kanha Tiger Reserve** in **Madhya Pradesh**, starting in **April 2026**. In **October 2026**, eight of them were shifted to a larger **17-hectare** enclosure. The species had been **locally extinct in Madhya Pradesh for about a century**. The **Assam and MP Forest Departments** carried out the project with support from the **Wildlife Institute of India** and the **Wildlife Trust of India**.

Statement 2 is not correct: The **wild water buffalo** (Bubalus arnee) is listed as **Endangered** on the IUCN Red List, and is protected under **Schedule I** of the **Wild Life (Protection) Act, 1972**.

Hence option (a).

Kaziranga holds the largest population of wild water buffalo in the world. Small populations also survive in **Chhattisgarh** (where it is the **State animal**, in the **Udanti-Sitanadi** area) and in parts of the North-East. **Kanha** is famous for saving the **hard-ground barasingha** (swamp deer), the **State animal of Madhya Pradesh**, from near extinction, and it was the first tiger reserve in India to have an official mascot, **"Bhoorsingh the Barasingha"**. Other recent reintroductions include **cheetahs** at **Kuno** and **Gandhi Sagar** (MP), and the planned move of **blackbucks** to **Gomarda Wildlife Sanctuary** in Chhattisgarh.

133.(c)

Assertion (A) is true: Under the **compliance mechanism** of the **Carbon Credit Trading Scheme (CCTS), 2023**, the government notifies **Greenhouse Gas Emission Intensity (GEI) targets** for obligated entities. Entities that **beat their targets** earn **carbon credit certificates**, which they can sell to entities that **fall short**, which must buy certificates to meet their obligations.

Reason (R) is false: India's scheme is **intensity-based**, not cap-based. Targets are set as **emissions per unit of output** (for example, tonnes of CO_2 equivalent per tonne of product), so a firm can grow its production as long as it becomes cleaner per unit. This differs from a **cap-and-trade** system like the **EU Emissions Trading System**, which fixes an absolute ceiling on emissions.

Hence option (c).

Targets were first notified in **October 2025** for **282 entities** in four sectors: **aluminium, cement, chlor-alkali, and pulp and paper**. In **January 2026**, **208 more entities** were added from **petroleum refineries, petrochemicals, textiles and secondary aluminium**, taking coverage to **490 obligated entities**. The CCTS was notified under the **Energy Conservation Act, 2001** (as amended in **2022**), with the **Bureau of Energy Efficiency (BEE)** as administrator and **Grid Controller of India (Grid-India)** as registry; trading is to take place on power exchanges. Besides the compliance mechanism, the CCTS has a voluntary **offset mechanism** for non-obligated entities. The Indian Carbon Market builds on the earlier **Perform, Achieve and Trade (PAT)** scheme for energy efficiency, and supports India's **NDC** goal of reducing the emissions intensity of GDP.

134.(c)

Pair 1 is correctly matched: Milton Dick, Speaker of Australia's House of Representatives, was elected **President of the Inter-Parliamentary Union (IPU)** on **9 October 2026**, at the **153rd IPU Assembly** in **Arusha, Tanzania**. IPU Presidents serve a single **three-year** term.

Pair 2 is correctly matched: After the **INC-5.2** talks in **Geneva (August 2025)** ended without an agreed text, Chile's Ambassador **Julio Cordano** was elected **Chair** of the **Intergovernmental Negotiating Committee (INC)** for a global plastics treaty at a one-day session (INC-5.3) in **February 2026**.

Pair 3 is correctly matched: Mahesh Kakde of **IISc Bengaluru** won the **2026 Ramanujan Prize for Young Mathematicians from Developing Countries** for his work in **algebraic number theory** (including Iwasawa theory and the Brumer–Stark conjecture). He is the **fifth Indian** to win it, after Sujatha Ramdorai, Amalendu Krishna, Ritabrata Munshi and Neena Gupta.

Pair 4 is not correctly matched: Bengaluru-born astronomer **Ramya Anche** has been selected as Principal Investigator of NASA's **PUFFINS** SmallSat mission, an **ultraviolet** telescope to study **interstellar dust**, targeted for launch around **2030**. **Europa Clipper** is a separate NASA mission to Jupiter's moon Europa, launched in 2024. So three pairs are correct.

Hence option (c).

The **IPU**, founded in **1889** and headquartered in **Geneva**, is the global organisation of national parliaments; India's Parliament is a member. The Ramanujan Prize is administered by the **Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste**, with the **International Mathematical Union**, and has been **funded by India's Department of Science and Technology** since **2014**. It is open to mathematicians **under 45**. The plastics treaty process was set up by **UNEA Resolution 5/14 (2022)**.

135.(a)

Statement 1 is correct: In **June 2026**, Defence Minister **Rajnath Singh** approved a **250 MW solar project with a Battery Energy Storage System (BESS)** on about **850 acres** of vacant defence land at **Sitapur**, a former cantonment. According to the **Directorate General Defence Estates (DGDE)**, it is the Ministry's **first large-scale solar project with integrated battery storage** on defence land, and its power will supply defence establishments.

Statement 2 is not correct: The project is to be executed by **NTPC**, through competitive bidding, not by SECI.

Hence option (a).

Battery storage solves solar power's main weakness: generation stops after sunset, while demand peaks in the evening. The Centre supports storage through a **Viability Gap Funding scheme for BESS**. India's **non-fossil fuel installed capacity crossed 50%** of total capacity in **2025**, five years ahead of its 2030 NDC goal. Uttar Pradesh's **Solar Energy Policy, 2022** targets **22,000 MW** of solar capacity, with large solar parks planned in **Bundelkhand**. **DGDE** manages defence land and cantonments under the **Cantonments Act, 2006**. The **PM-Surya Ghar** and **PM-KUSUM** schemes promote rooftop and farm-level solar respectively.

136.(c)

Statement 1 is correct: According to the report, released in **November 2025** with data for **2024**, India's TB incidence fell by about **21%**, from **237 to 187 per lakh population** between 2015 and 2024. This is almost **twice the global rate of decline**. TB deaths in India fell by about **25%**, and **treatment coverage** rose from **53% to 92%**.

Statement 2 is correct: India still accounts for about **25%** of global TB cases, the largest share of any country, followed by **Indonesia (about 10%)**, the **Philippines**, **China** and **Pakistan**. India notified a record **26.18 lakh** cases in 2024.

Statement 3 is not correct: Globally, incidence fell only about **12%** between 2015 and 2024, far short of the WHO **End TB Strategy** milestone of a **50% reduction by 2025**. In 2024, about **10.7 million** people fell ill with TB and **1.23 million** died, making it again the world's leading infectious killer.

Hence option (c).

The **SDG target** (Goal 3.3) is to end the TB epidemic by **2030**, while India set itself the more ambitious target of **2025** under the **National Strategic Plan (2017–25)**. Key Indian initiatives include the **Ni-kshay Poshan Yojana** (nutrition support, raised to **₹1,000 per month** in 2024), **Pradhan Mantri TB Mukt Bharat Abhiyaan** with **Ni-kshay Mitra** community support, the **100-day TB Mukt Bharat campaign** (from December 2024), the shorter **BPaLM** regimen for drug-resistant TB, and **JOSH teams** of youth volunteers launched in 2026. TB is caused by the bacterium **Mycobacterium tuberculosis**, and the **BCG vaccine** gives partial protection mainly to children. **World TB Day** is observed on **24 March**, marking Robert Koch's discovery of the bacterium in **1882**.

137.(d)

Statement 1 is correct: The Union Cabinet approved India's **third NDC (NDC 3.0)** for **2031–2035** in **March 2026**, and it was submitted to the **UNFCCC** on **24 April 2026**. It commits India to reduce the **emissions intensity of GDP by 47% by 2035** compared with **2005**.

Statement 2 is correct: India aims for about **60%** of its **cumulative installed electric power capacity** to come from **non-fossil fuel sources** by **2035**.

Statement 3 is correct: India also aims to create an **additional carbon sink of 3.5–4.0 billion tonnes of CO_2 equivalent** through additional **forest and tree cover** by 2035.

Hence option (d).

Compare these with India's **updated NDC of 2022** for 2030: a **45%** reduction in emissions intensity from 2005 levels, **50%** non-fossil installed capacity (already achieved in **2025**, five years early), and an additional sink of **2.5–3 billion tonnes**. India's long-term goal of **net zero by 2070** was announced at **COP26 (Glasgow, 2021)** as part of the **Panchamrit**. Under **Article 4 of the Paris Agreement (2015)**, each country must submit a new NDC **every five years**, each more ambitious than the last (the "**ratchet mechanism**"). India's NDC also includes the **LiFE (Lifestyle for Environment)** movement and adaptation goals. Note that India's targets are **intensity-based**, not absolute caps, reflecting the principle of **Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC)**.

138.(b)

Statement 1 is correct: On **17 January 2026**, the **Ministry of Environment, Forest and Climate Change** launched the second range-wide survey under **Project Dolphin** from **Bijnor**. The first phase covers the main **Ganga from Bijnor to Ganga Sagar**, along with the **Indus**; the second phase covers the **Brahmaputra**, Ganga tributaries, the **Sundarbans** and **Odisha**, including **Irrawaddy dolphins**.

Statement 2 is correct: The first-ever estimate, released at the **National Board for Wildlife** meeting at **Gir (Gujarat)** on **3 March 2025**, counted **6,327 river dolphins** in **28 rivers across eight States**, with **Uttar Pradesh** recording the highest number (about **2,397**), followed by **Bihar**.

Statement 3 is not correct: The **Ganges river dolphin** (Platanista gangetica) is listed as **Endangered** on the IUCN Red List and is in **Schedule I** of the Wild Life (Protection) Act, 1972.

Hence option (b).

The Ganges river dolphin was declared India's **National Aquatic Animal in 2009**, and **Project Dolphin** was announced on **15 August 2020**. These dolphins are **functionally blind** and find prey by **echolocation**, and they must surface every few minutes to breathe, which is why locals call them "**susu**". They are an **indicator species** of river health. India's only dedicated dolphin sanctuary is the **Vikramshila Gangetic Dolphin Sanctuary** in **Bhagalpur, Bihar**. The **Indus river dolphin** survives in a small population in the **Beas** river in **Punjab**. **National Dolphin Day** is observed on **5 October**. Main threats are dams and barrages, pollution, sand mining and accidental entanglement in fishing nets.

139.(a)

Statement 1 is correct: After Union Cabinet approval on **14 October 2026**, the President promulgated the Regulation on **16 October 2026**. For Union Territories without a legislature, such as Ladakh, the President can make **regulations** under **Article 240**, which have the same force as an Act of Parliament. The same route was used in **June 2025** for regulations on reservation, domicile and official languages in Ladakh.

Statement 2 is correct: The Regulation extends Hill Councils from **Leh and Kargil** to all **eight districts**, including the newly created ones: **Zanskar, Drass, Sham, Nubra, Changthang** and **Sankoo**.

Statement 3 is not correct: The fixed structure has been replaced. Each council now has between **7 and 24 seats**, and Lieutenant Governor **Vinai Kumar Saxena** notified **100 constituencies** across the eight councils (for example, Leh 22, Kargil 21, Sankoo 13 and Drass 7).

Hence option (a).

The **Ladakh Autonomous Hill Development Council, Leh** was first constituted in **1995**, and the **Kargil** council in **2003**, under a law of the erstwhile State of Jammu and Kashmir. Ladakh became a separate **Union Territory without a legislature** on **31 October 2019** under the **Jammu and Kashmir Reorganisation Act, 2019**. Civil society groups in Ladakh have demanded **Sixth Schedule** status, which applies to tribal areas of **Assam, Meghalaya, Tripura and Mizoram** through **Autonomous District Councils**; the LAHDCs, by contrast, are statutory bodies, not Sixth Schedule councils. Regulation-making under **Article 240** is also used for the **Andaman and Nicobar Islands**, **Lakshadweep** and **Dadra and Nagar Haveli and Daman and Diu**.

140.(a)

Statement 1 is correct: The Union Cabinet approved **BHAVYA** on **18 March 2026** with an outlay of **₹33,660 crore** to develop **100 plug-and-play industrial parks**. "**Plug-and-play**" means investors get

ready infrastructure (roads, power, water, drainage, common effluent treatment, ICT systems and even factory sheds), so they can start production quickly.

Statement 2 is not correct: Each park is to cover **100 to 1,000 acres**, and the parks are for **manufacturers, MSMEs, start-ups and global investors** alike, not only for micro and small enterprises.

Hence option (a).

Central support is up to **₹1 crore per acre** for core, value-added and social infrastructure (such as **worker housing**), plus up to **25% of project cost** for external connectivity. States and UTs are selected through a **challenge mode** that rewards reform-ready proposals. The parks are designed on **PM GatiShakti** principles, with **green energy** and **underground utility corridors**, and build on the **National Industrial Corridor Development Programme (NICDP)**, implemented by **NICDC** under **DPIIT**. In **August 2024**, the Cabinet had approved **12 new industrial smart cities** under NICDP, including **Agra** and **Prayagraj** in Uttar Pradesh. The scheme is linked to the goal of raising **manufacturing's share in GDP** (about 17%) and creating jobs for India's young workforce.

141.(b)

Meghalaya has two Lok Sabha seats: Shillong and Tura.

Sikkim and Mizoram have one Lok Sabha seat each, with the entire State constituting a single parliamentary constituency.

Manipur has two Lok Sabha seats: Inner Manipur and Outer Manipur.

States and Union Territories Having Only One Lok Sabha Seat

1. **States (3)**
   Sikkim
   Mizoram
   Nagaland
2. **Union Territories (5)**
   Andaman and Nicobar Islands
   Chandigarh
   Ladakh
   Lakshadweep
   Puducherry

Total: 8 States/UTs have one Lok Sabha seat each.

Note :

Meghalaya – 2 seats
Manipur – 2 seats
Arunachal Pradesh – 2 seats
Tripura – 2 seats
Goa – 2 seats

Dadra and Nagar Haveli and Daman and Diu – 2 seats (combined UT)

142.(c)

The Third Schedule of the Indian Constitution prescribes the forms of oath or affirmation for various constitutional authorities. However, the oaths of certain high constitutional functionaries are provided directly in separate Articles.

President of India – Incorrect: Article 60 itself prescribes the form of oath, which is administered by the Chief Justice of India or, in their absence, the senior-most available Judge of the Supreme Court.

Vice-President of India – Incorrect: Article 69 directly specifies the form of oath, administered by the President or a person appointed by the President.

Comptroller and Auditor General of India – Correct: Under Article 148(2), the CAG takes an oath before the President or a person appointed by the President, in the form prescribed in the Third Schedule.

Judge of the Supreme Court – Correct: Article 124(6) requires every Supreme Court Judge to take an oath before the President or a person appointed by the President, according to the form prescribed in the Third Schedule.

Governor of a State – Incorrect: Article 159 directly prescribes the Governor's oath, administered by the Chief Justice of the concerned High Court or, in their absence, the senior-most available Judge of that Court.

Key distinction : The forms of oath for the President, Vice-President and Governor are prescribed directly in Articles 60, 69 and 159, respectively, whereas those for the CAG and Supreme Court Judges are contained in the Third Schedule.

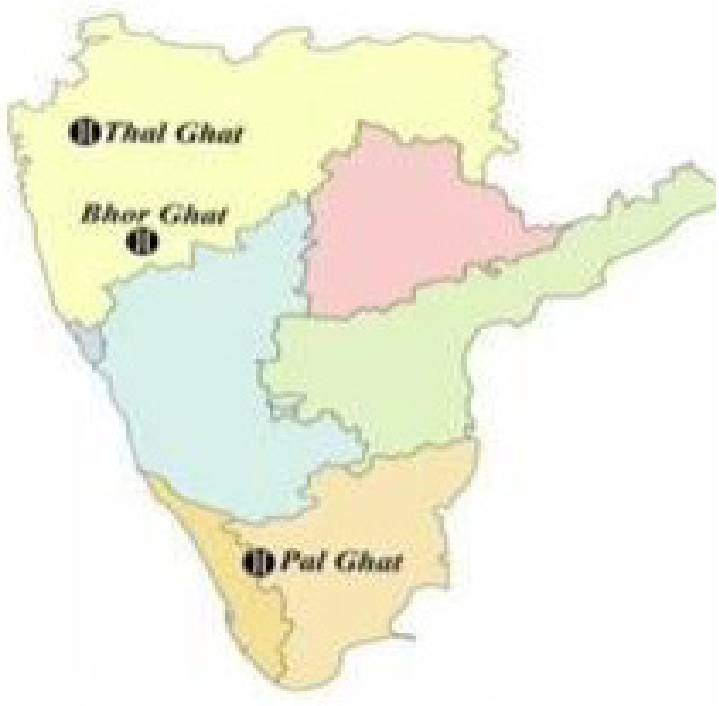
143.(b)

Under Article 201, when the President directs the Governor to return a reserved non-Money Bill, the State Legislature must reconsider it within six months from the date of receiving the President's message. The Bill may be passed again with or without amendments and presented again to the President for consideration. However, the President is not bound to grant assent, and Article 201 prescribes no fixed time limit for the President's decision.

144.(d)

The correct north-to-south sequence is:

Thal Ghat → Bhor Ghat → Pal Ghat → Shencottah Gap.



Thal Ghat is situated in Maharashtra and provides a passage between Mumbai and Nashik.

Bhor Ghat lies south of Thal Ghat and connects the Mumbai region with Pune.

Pal Ghat (Palakkad Gap) is a major gap in the Western Ghats between the Nilgiri and Anaimalai Hills, connecting Kerala and Tamil Nadu.

Shencottah Gap lies further south, providing a passage between Tamil Nadu and Kerala.

145.(b)

The McArthur River Project is located in Saskatchewan, Canada. It is renowned for its exceptionally high-grade uranium deposits and is among the world's major uranium mining operations.

The Rössing Uranium Mine is situated in the Namib Desert of Namibia, near the town of Arandis. It is one of the world's longest-operating open-pit uranium mines.

The Olympic Dam Mine is located in South Australia. It is a major polymetallic deposit containing substantial reserves of copper, uranium, gold and silver.

The Akdala Mine is situated in Kazakhstan. It is known for uranium extraction using the in-situ recovery (ISR) technique.

146.(c)

The Kharkai River flows through Jharkhand and Odisha and joins the Subarnarekha River near Jamshedpur.

The Indravati River originates in the Eastern Ghats of Odisha and flows through Chhattisgarh before joining the Godavari.

The Musi River originates in the Ananthagiri Hills of Telangana, flows through Hyderabad and joins the Krishna River.

The Hemavati River originates in the Western Ghats of Karnataka and is an important left-bank tributary of the Kaveri River.

147.(d)

Statement 1 is correct. The Deccan Trap represents one of the world's largest continental flood basalt provinces. Its major volcanic activity occurred approximately 66 million years ago, around the Cretaceous–Palaeogene boundary, predominantly through extensive fissure eruptions.

Statement 2 is correct. Successive outpourings of basaltic lava solidified into nearly horizontal layers. Subsequent erosion produced the characteristic staircase-like relief, from which the term Trap is derived.

Statement 3 is incorrect. Although Maharashtra contains the largest exposed portion of the Deccan Trap, its formations also extend into parts of Madhya Pradesh, Gujarat, Karnataka and adjoining regions.

Statement 4 is correct. The prolonged chemical weathering of basaltic rocks contributed to the formation of black cotton soil, commonly known as Regur. This soil is characterised by high moisture-retention capacity and shrink-swell behaviour due to its clay content.

148.(c)

Assertion (A) is correct. La Niña is the cold phase of the El Niño–Southern Oscillation (ENSO). It is often associated with stronger Southwest Monsoon circulation and favourable rainfall conditions over India, although above-normal rainfall is not guaranteed.

Reason (R) is incorrect because La Niña is associated with the strengthening, not weakening, of easterly Pacific trade winds. These stronger winds push warm surface water towards the western Pacific, enhancing the upwelling of cold, nutrient-rich water along the eastern equatorial Pacific.

Consequently, sea surface temperatures become abnormally low in the central and eastern equatorial Pacific. The strengthened Walker Circulation favours convection over the western Pacific and adjoining regions, often supporting Indian monsoon activity.

Thus, the Assertion is correct, whereas the Reason incorrectly identifies the behaviour of trade winds during La Niña.

149.(d)

Sattriya emerged in Assam through the Vaishnavite movement associated with Srimanta Sankardeva and the monastic institutions called Sattras. It combines dance, music, drama and devotional expression. The Abhinaya Darpana, traditionally attributed to Nandikeshvara, is an important treatise on dance, describing elements such as gestures, bodily movement and expressive communication.

Kuchipudi derives its name from Kuchipudi village in Andhra Pradesh and developed as a dance-drama tradition associated with Vaishnavite themes.

In Manipur, the Ras Lila tradition expresses the devotional relationship between Krishna and Radha and the gopis. All four statements are correct.



150.(b)

Bharhut, in present-day Madhya Pradesh, is renowned for its early Buddhist railings and narrative reliefs. Its sculptures generally employ low relief and linear treatment, while inscriptions help identify donors, figures and episodes.

The Amaravati school, associated with the lower Krishna valley, developed a more dynamic style featuring slender figures, pronounced movement and elaborate narrative compositions.

Statement 2 reverses the principal materials associated with the Gandhara and Mathura schools. Gandhara sculpture commonly employed grey schist and, in later phases, stucco. Mathura was particularly associated with spotted red sandstone.

Statement 4 is correct because early Buddhist art frequently conveyed the Buddha's presence through symbols rather than depicting him in human form. This symbolic approach is commonly described as aniconic representation, although the transition to anthropomorphic images was gradual and varied by region.

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