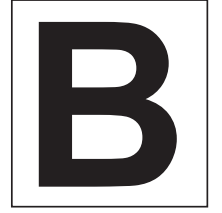


Test Code  
02010525



परीक्षण पुस्तिका अनुक्रम

जनवरी-2025

# ALL INDIA OPEN MOCK TEST

GENERAL STUDIES PAPER-I

(05<sup>th</sup> January, 2025)

*Answer Key*

1. (a)	21. (b)	41. (a)	61. (b)	81. (b)
2. (b)	22. (c)	42. (d)	62. (c)	82. (b)
3. (c)	23. (b)	43. (b)	63. (d)	83. (b)
4. (d)	24. (b)	44. (a)	64. (b)	84. (c)
5. (c)	25. (a)	45. (b)	65. (c)	85. (a)
6. (a)	26. (a)	46. (a)	66. (a)	86. (b)
7. (a)	27. (b)	47. (b)	67. (b)	87. (*)
8. (c)	28. (d)	48. (c)	68. (a)	88. (b)
9. (c)	29. (c)	49. (a)	69. (c)	89. (d)
10. (a)	30. (c)	50. (a)	70. (a)	90. (c)
11. (d)	31. (b)	51. (d)	71. (c)	91. (a)
12. (d)	32. (a)	52. (d)	72. (d)	92. (c)
13. (c)	33. (b)	53. (d)	73. (c)	93. (a)
14. (b)	34. (c)	54. (a)	74. (a)	94. (a)
15. (c)	35. (b)	55. (b)	75. (c)	95. (a)
16. (c)	36. (c)	56. (b)	76. (a)	96. (c)
17. (c)	37. (b)	57. (a)	77. (d)	97. (d)
18. (c)	38. (c)	58. (b)	78. (b)	98. (a)
19. (c)	39. (c)	59. (b)	79. (d)	99. (d)
20. (b)	40. (c)	60. (c)	80. (c)	100. (b)

\*Note: The question 87 has been dropped due to a typographical error in the question. The intended question was to identify the "not correct" statement(s) about Red Sanders; however, the word "not" was inadvertently omitted.

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## anubhav-2025

All India OPEN Mock Test | GENERAL STUDIES PAPER-I  
(05th January, 2025)

1. (a)

**Statement 1 is correct and Statement 2 is not correct:**

Section 62 of the RPA 1951 provides a series of restrictions on the right to vote including sub-clause (5) which states in broad terms “No person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police”. However, Section 8 of RPA 1951 provides an exception to persons under preventive detention. They can vote through postal ballots. **Therefore, undertrial prisoners cannot vote, but persons under preventive detention can vote.**

Section 8 of the RPA 1951 deals with the disqualification to contest election on conviction for certain offences. If a person is convicted of any of the offences in the exhaustive list provided in Section, they become disqualified from contesting elections to Parliament or state legislatures from the date of conviction onwards and face further a six-year disqualification from contesting in elections beginning from the date of their release. **But this disqualification only kicks in once a person has been convicted. Therefore, both undertrials and persons under preventive detention can contest elections.**

**Statement 3 is not correct:** A convicted person on bail can vote as the Section 62(5) only applies to the persons confined in prison or in police custody.

2. (b)

**Statement 1 is not correct:**

**Office of LoP** is not mentioned in the Constitution but in an Act of Parliament, namely **The Salary and Allowances of Leaders of Opposition in Parliament Act, 1977.**

**Statement 2 is correct:**

The Act describes the LoP as a “member of the Council of States or the House of the People, as the case may be, who is **the Leader in that House of the party in opposition to the Government having the greatest numerical strength** and recognised as such by the Chairman of the Council of States or the Speaker of the House of the People, as the case may be.”

The definition shows that in order to recognise a person as LoP, there are two conditions that need to be fulfilled. **First, the party should be numerically the biggest one in opposition to the government.** Second, that party should be recognised by the Speaker as a party. **So, the Statement 2 itself is correct. However, only a party which has 10% of the strength of the House can put forth its claim to the post of LoP.**

This is so because under a direction of the Speaker issued in the 1950s, in order to get recognition as a party in the House, it should have a minimum of 10% members in that House (Direction 121).

**Statement 3 is not correct:**

**LoP** is a part of the committee for appointment of Director of CBI but not ED. Director of Enforcement in the ED is appointed by a Selection Committee consisting of Central Vigilance

Commissioner as the Chairperson and members comprising Vigilance Commissioners, the Home Secretary, Secretary DoPT and the Revenue Secretary.

The CBI Director is selected on the basis of the recommendation of a committee consisting of the Prime Minister, the Chief of Justice of India and the Leader of Opposition.

**Statement 4 is correct:**

The Leaders of Opposition in Rajya Sabha and Lok Sabha are mentioned at the 7th position in the Table of Precedence. They have the same rank as former Prime Ministers, Cabinet Ministers of the Union, Chief Ministers of States within their respective States.

3. (c)

**Context:** Recently, constitutional validity of Article 31C was upheld by the Supreme Court.

**Option (c) is the correct answer:** As per Article 31C, the directive principles mentioned under Articles 39(b) and 39(c) cannot be challenged by invoking the right to equality (Article 14) or the rights under Article 19 (freedom of speech, right to assemble peacefully, etc).

Article 39(b) aims to ensure the “material resources of the community” are distributed to serve the common good, whereas Article 39(c) postulates that operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.

Thus, a law that is enacted to ensure that the ownership of material resources of the community are distributed to subserve the common good falls within the purview of Article 31C.

**Additional information:**

Article 31C was introduced by The Constitution (Twenty-fifth) Amendment Act, 1971.

4. (d)

**Context:** Recently, the Union Cabinet has approved to confer the status of Classical Language to Marathi, Pali, Prakrit, Assamese and Bengali languages.

**Option (d) is the correct answer:** None of the above mentioned languages satisfy all the criteria.

**1 is not correct:** Hindi is listed in Schedule VIII of the Indian Constitution. It is also recognized as an official language of the Union of India under Article 343. However, it is not declared as a Classical Language.

**2 is not correct:** English is not listed in Schedule VIII of the Indian Constitution. It is neither declared as a Classical Language.

**3 is not correct:** Sanskrit is listed in Schedule VIII of the Indian Constitution. It is also declared as a Classical Language. However, it is not recognized as an official language of the Union of India under Article 343.

**Additional information:**

The Eighth Schedule to the Constitution consists of the following 22 languages:- (1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri.

In addition to recently included languages Marathi, Pali, Prakrit, Assamese and Bengali; Tamil, Sanskrit, Telugu, Kannada, Malayalam and Odia are also included as Classical Language.

5. (c)

**About Joint Parliamentary Committee (JPC):** A JPC is set up by the Parliament for a special purpose, like the detailed scrutiny of a subject or Bill. It has members from both the Houses and from the ruling parties and the opposition. It

is dissolved after its term ends or its task has been completed.

**Statement 1 is correct:** A JPC is set up after one House of Parliament has passed a motion and the other has agreed to it. Members of the JPC are decided by the Parliament. The number of members can vary.

**Statement 2 is not correct:** A JPC is not the only parliamentary committee that has members from both the Houses of the Parliament. Various other Parliamentary Committees, such as the Public Accounts Committee, the Committee on Public Undertakings etc have members from both the Houses of the Parliament.

**Statement 3 is correct:** A JPC can investigate both financial and non-financial matters referred to it by the Parliament.

6. (a)

**Statement 1 is correct:** Speaker can be removed only by the Lok Sabha through a resolution passed by a majority of all the then members of the assembly i.e. a majority of the total membership of the House minus vacant seats). The total membership of the Lok Sabha is 543. With 23 seats vacant, the effective strength is  $543 - 23 = 520$  members. Therefore, the required majority for removal of the Speaker would be 261 members ( $520 \div 2 + 1$ ).

**Statement 2 is not correct:** A bill amending provisions of the Representation of People Act, 1951 is an ordinary bill, which requires a simple majority of the members present and voting. On the specific day mentioned, 360 members are present. A simple majority would require at least 181 votes ( $360 \div 2 + 1$ ).

7. (a)

**Both statements are correct and Statement II explains Statement I:** Members of All India Services are under the joint control of the Union and State

Governments, but the power to impose the penalties of compulsory retirement, removal and dismissal are with the Union Government and not with the State Governments. This is so because of the protection provided under the Article 311 of the Constitution which states that “No person who is a member of a civil service of the Union or an all-India service or a civil service of a State or holds a civil post under the Union or a State shall be dismissed or removed by an authority subordinate to that by which he was appointed.”

8. (c)

**Context:** The given graphs depict the fiscal state of the Indian economy as provided in the Economic Survey 2023-24.

**Statement 1 is correct:** Graph 1 clearly depicts that Primary Deficit, Fiscal Deficit as well as Revenue Deficit have been continuously declining in the past four years (FY 21-FY 24). As quoted in the Economic Survey 2023-24, “Against the global trend of widening fiscal deficit and increasing debt burden, India has remained on the course of fiscal consolidation.”

**Statement 2 is correct:** Graph 2 clearly shows that the share of Capital Outlay in total fiscal deficit has continuously increased over the past four years. As quoted in the Economic Survey 2023-24, revenue deficit is narrowing and a larger share of the fiscal deficit is being accounted for by capital outlay. This suggests that the productivity of borrowed resources has improved.”

**Additional Information:**

**Fiscal consolidation** describes government policy intended to reduce deficits and the accumulation of debt.

9. (c)

**Context:** The Reserve Bank of India (RBI) has been repeatedly raising alarm about the widening gap between

non-food credit growth and deposit growth in the banking sector, which raised the credit-deposit (CD) ratio to one of the highest since 2005.

**About Credit-Deposit Ratio (CDR):** The Credit-Deposit Ratio (CDR), popularly CD ratio, is the ratio of how much a bank lends out of the deposits it has mobilised. The CD ratio is an important health indicator of a bank as it shows the bank's ability to cover loan losses and withdrawals by its customers.

**Option (c) is the correct answer:** A high CD ratio indicates that a bank has made a large amount of loans compared to its deposits. This is taken as a sign of **increased risk and reduced liquidity**. Too high of a CD ratio indicates a bank may have difficulty meeting its obligations. Thus, it may result in an **increased liquidity risk and potential challenges in meeting withdrawal demands**.

**Option (a) is not correct:** While banks may try to mobilize more deposits to improve their liquidity position, it is not a direct consequence of a high CDR.

**Option (b) is not correct:** While credit availability is important for economic growth, a persistently high CDR can signal excessive risk-taking by banks, potentially leading to financial instability that harms the economy.

**Option (d) is not correct:** A high CDR could lead to higher interest income as more funds are lent, but this also comes with increased risks, such as rising NPAs and liquidity stress. So, a high CDR does not necessarily imply high profitability.

10. (a)

**Context:** The Union Budget 2024-25 did away with indexation for computing Long-Term Capital Gains (LTCG) Tax for all assets (barring property acquired prior to 2001). However, the decision was soon rolled back. The

Government has now decided to offer taxpayers a choice to pay 20% LTCG tax with indexation benefit or to pay the tax on LTCG at a reduced rate of 12.5 per cent without indexation.

**About Capital Gain:** When you sell a capital asset for more than its original purchase price, the result is a capital gain.

**About Capital Gains Tax:** The tax levied on Capital Gains is called Capital Gains Tax. This capital gain is taxed differently depending on how long you hold the capital asset:

- **Short-Term Capital Gains Tax:** Selling a capital asset after owning it for one year or less results in a short-term capital gain. The tax levied on short-term capital gains is called Short-Term Capital Gains Tax.
- **Long-Term Capital Gains Tax:** Selling a capital asset after owning it for more than one year results in a long-term capital gain. The tax levied on long-term capital gains is called Long-Term Capital Gains Tax.

**Both statements are correct and statement II correctly explains Statement I:** Indexation involves adjusting the cost of acquisition of an asset based on inflation, which increases the cost of acquisition and thus reduces the capital gain. By reducing the taxable capital gain, indexation directly leads to a lower tax liability.

11. (d)

**Context:** Recently, US President-elect Donald Trump threatened "100 per cent tariffs" against BRICS countries if they sought to reduce reliance on the US dollar in international trade. In this context, Reserve Bank of India (RBI) Governor Shaktikanta Das said that India is not pursuing "de-dollarisation" and that recent measures promoting transactions in domestic currencies are intended to de-risk Indian trade.

**1 is correct:** Rupee-denominated international bonds refer to bonds that are issued in foreign countries but are denominated in Indian Rupee. The payment for coupons and principals for such bonds is made in rupees, not in the currency of foreign investors. This results in a reduction in dependence on US Dollars.

**2 is correct:** A Bilateral Swap Arrangement is a two-way arrangement between two countries, where both authorities can swap their local currencies in exchange for the US Dollar. This means that the two countries can transact among themselves without the need to use US Dollars. Thus, such arrangements reduce dependence on US Dollars.

**3 is correct:** Recently, the RBI has allowed the opening of rupee accounts outside India as part of its strategic action plan to internationalise the domestic currency. This will promote the use of the Rupee for more and more cross-border transactions or international payments. This will result in reduced dependence on international currency like US Dollars.

12. (d)

**About GST Council:** The GST Council is a federal body that aims to bring together states and the Centre on a common platform for the nationwide rollout of indirect tax reform. As per Article 279A (4), the Council makes recommendations to the Union and the States on important issues related to GST, like the goods and services that may be subjected or exempted from GST, GST rates including the floor rates with bands, etc.

**Statement I is not correct:** As per The Constitution (One Hundred and First Amendment) Act, 2016, in case of voting, every decision of the GST Council has to be taken by a majority of not less than three-fourths of the weighted votes of the members present. Even if all

the states agree to any proposal their total weight will be only 66.67%. Thus, without the consent of the Centre, no decision can be taken at the Council even if all States come together and agree on a proposal.

**Statement II is correct:** The vote of the central government has a weightage of one-third of the total votes cast, and the votes of all the state governments taken together have a weightage of two-thirds of the total votes cast in that meeting.

13. (c)

**About Inverted Duty Structure (IDS):** Inverted duty structure (IDS) refers to the situation of higher duty on input and lower duty on output. It is a phenomenon where the import tariff on inputs is higher than the tax levied on the final output.

**1 is correct:** It means that the import duty on the final output (solar panels) is lower than the import duty on input materials (raw materials required to manufacture solar panels). This is a case of an inverted duty structure.

**2 is correct:** It means a higher tax on input materials (raw cotton) compared to finished goods (cotton garments). This, again, is a case of an inverted duty structure.

**3 is not correct:** Here, the import duty on final output (mobile phones) is higher than the duty on input materials (mobile phone components). Thus, this is not a case of an inverted duty structure.

14. (b)

All the options given are instruments used by the companies to raise funds/ additional funds in the primary market.

**Option (b) is the correct answer:** A Rights Issue is an invitation from a company to its existing shareholders to purchase additional shares in the company. This type of issue offers these shareholders securities called rights.

In these rights offerings, companies grant shareholders the right, but not the obligation, to buy new shares at a discount to the market price up to a stated future date.

**Option (a) is not correct:** An **Initial Public Offering (IPO)** refers to a private company selling shares of its stock to the public on a stock exchange for the first time. Thus, in this case, shares are sold to new shareholders, not the existing shareholders.

**Option (c) is not correct:** **Preferential Allotment** is the process by which allotment of securities/shares is done on a preferential basis to a select group of investors (not necessarily the existing shareholders).

**Option (d) is not correct:** A **Private Placement** is a sale of stock shares or bonds to pre-selected investors and institutions rather than on a public exchange. In this case, the shares are not necessarily issued only to the existing shareholders. It is an alternative to an initial public offering (IPO) for a young company seeking to raise money to expand. Private sales are often used by startups to obtain money for development while delaying or forgoing an initial public offering (IPO).

15. (c)

**Statements I and II are correct and Statement II explains Statement I:** Low Earth Orbit (LEO) satellites are commonly preferred for satellite-based internet services. LEO satellites are typically located at altitudes of up to 2,000 kilometers above the Earth's surface, while geostationary satellites orbit at an altitude of approximately 35,786 kilometers. As LEO satellites are closer to the Earth compared to Geostationary Orbit (GEO) satellites, it leads to lower latency (the time it takes for signals to travel between the Earth and the satellite) and better

performance for services like internet access.

**Statement-III is not correct:** While LEO satellites provide lower latency and better speeds, they have a smaller coverage area because they are closer to the Earth. Therefore, LEO constellations generally need to be large (often hundreds or thousands of satellites) to ensure continuous global coverage as they move quickly across the sky.

16. (c)

**Context:** Government of India has decided to implement GNSS based Electronic Toll Collection (ETC) System at selected sections of National Highways on pilot basis as an added facility along with FASTag.

**1 is correct:** GNSS-based tolling systems can allow for **barrier-less tolling**. Since the vehicle's position is tracked by satellites, there is no need for physical toll booths or gates. This eliminates the stop-and-go situation that happens with traditional tolls, leading to reduced traffic congestion.

**2 is not correct:** While GNSS-based tolling systems can use existing GPS technology in vehicles (e.g., smartphones with GPS), **some form of a device or app** may still be required for accurate location tracking and toll calculation. For GNSS to work, owners will have to get a non-transferable **"on-board unit" (OBU)** fitted in their vehicles.

**3 is correct:** One of the key features of the GNSS-based toll system is **distance-based tolling**. Unlike the fixed charges in the FASTag system (which works on a toll booth-by-toll booth basis), GNSS can charge vehicles based on the exact distance traveled on highways, making it a more flexible system.

**Additional information:** The government has stated that the Vehicles equipped

with Global Navigation Satellite System (GNSS), the new satellite-based road toll collection system, will be able to travel for free up to 20 km in each direction every day on national highways and expressways

17. (c)

**Option (a) is not correct:** Narrow AI depends heavily on predefined algorithms for specific tasks, while AGI is designed to learn and adapt to a wide range of tasks without being constrained by predefined rules. AGI is more flexible and capable of generalizing from one task to another.

**Option (b) is not correct:** Narrow AI often outperforms AGI in specific tasks because it is highly specialized for those tasks. AGI, on the other hand, is designed to handle a variety of tasks, but it doesn't necessarily process information faster than Narrow AI in specialized areas.

**Option (c) is correct:** One of the key features that distinguishes AGI from Narrow AI is its ability to perform a wide variety of intellectual tasks without needing specific domain training. While Narrow AI is highly specialized and optimized for particular tasks, AGI is capable of learning and applying knowledge across different fields without requiring a separate training process for each domain.

**Option (d) is not correct:** AGI, like all forms of AI, requires computational hardware and physical systems to function. It is not independent of these resources.

18. (c)

**Option (c) is the correct answer:** Quantum Key Distribution (QKD) is a technology that enables two parties to securely share a cryptographic key over a potentially insecure communication channel. QKD leverages the principles of quantum mechanics to ensure that

any attempt to eavesdrop on the key exchange can be detected, making it resilient to quantum computer-based attacks. Thus, QKD ensures secure communication, even in a future where quantum computers are operational.

19. (c)

**Statement-I is correct:** A burning plasma is a state in a fusion reactor where the energy produced by fusion reactions is enough to sustain the plasma temperature, requiring only minimal or no external heating. In this phase, the fusion reactions themselves generate enough energy to maintain the conditions needed for continued fusion.

**Statement-II is not correct:** While intense magnetic fields are critical for confining the plasma and preventing it from touching the walls of the reactor (which helps maintain the high temperature), the magnetic fields themselves do not directly provide the high temperatures. The high temperatures in fusion reactors are primarily achieved through heating methods like neutral beam injection, ohmic heating, radio-frequency heating, and, in the case of burning plasma, the energy generated by the fusion reactions themselves. So, magnetic fields help to contain the plasma at high temperatures but do not generate the heat required for fusion.

20. (b)

**Statement 1 is not correct.** Small Modular Reactors (SMRs) are designed to be smaller and more scalable than conventional reactors, meaning they typically have lower energy output per reactor compared to large, conventional nuclear reactors.

**Statement 2 is correct.** One of the key advantages of SMRs is that they can be factory-built and then transported to the site for installation. This is



different from conventional reactors, which are large and complex and are built entirely on-site, taking much longer for construction and often involving more challenges in logistics and safety.

**Statement 3 is not correct:** While Thorium has been proposed as an alternative fuel for future nuclear reactors, SMRs typically do not directly utilize Thorium without breeding. Thorium fuel cycles usually require a breeding process, where Thorium-232 is converted into Uranium-233, which is fissile. Most SMRs currently being developed are designed to use Uranium or Plutonium fuels, with the possibility of utilizing Thorium in some designs in the future, but **direct utilization of Thorium without breeding** is not a standard feature.

21. (b)

**Option (b) is the correct answer:**

A patch applied on the inside of the tire adheres to a larger surface area around the puncture. This ensures that the stress from air pressure and the forces generated while driving are distributed more evenly across the tire's structure. In contrast, a plug from the outside concentrates stress at the puncture site, which can lead to premature failure of the repair.

Moreover, a patch from inside adheres securely to the inner liner of the tire, which is designed to hold air. This creates a more airtight seal compared to an external plug that might not fully seal the puncture or may loosen over time. The inner patch is also more durable as it is less exposed to external environmental factors such as heat, debris, and moisture, which can degrade a plug inserted from the outside.

**Option (a) is not correct:** The primary purpose of a patch is not to provide "grip" but to seal the puncture and restore the tire's structural integrity.

**Option (c) is not correct:** While a patch provides an effective seal, it is not

easier to apply than a plug. Applying a patch requires removing the tire from the rim, cleaning the inner surface, and adhering the patch properly, which is more labor-intensive than inserting a plug from the outside.

**Option (d) is not correct:** The patch's effectiveness comes from its ability to seal and distribute forces, not from any heat-related expansion.

22. (c)

**Statement 1 is correct:** The Mahabodhi Temple Complex was **first built by Emperor Ashoka in the 3rd century B.C.** The current structure, dating to the 5th-6th centuries, is among India's earliest brick-built Buddhist temples from the late Gupta period.

**Statement 2 is not correct:** Mahabodhi Temple Complex is situated in Bodh Gaya, Bihar. It is one of the four holy sites related to the life of the Lord Buddha, and particularly to the attainment of Enlightenment.

**Statement 3 is correct:** **Fahien first makes reference to the main temple and the Bodhi tree in 404-05 A.D.** Hieun Tsang, who visited the site in 637 A.D. mentions the presence of walls surrounding the Bodhi tree, within which stood the Mahabodhi temple nearly 160 feet tall and a large fine sanctuary.

23. (b)

**Option B is correct.**

**Sohrai-Khovar Paintings:** These paintings are created by the local tribal women in Jharkhand. It is an old-style and ritualized mural art. The painting is practiced only in the districts of Hazaribagh. Only during the marriage and harvest seasons is it created. The indigenous women use the naturally occurring, multicoloured soils.

**Manjusha Paintings:** These paintings originating from Bhagalpur in Bihar, are also known as Angika art. They

are characterized by intricate patterns and vibrant colors, often depicting mythological stories.

**Pichai Paintings:** These are traditional artworks from Rajasthan, featuring intricate depictions of Lord Krishna (Shrinathji) on fabric using rich hues. These paintings hold deep religious significance and are executed with utmost devotion by artists.

**Chittara Paintings:** It is a folk art form of Karnataka. Chittaras are intricate wall paintings traditionally created by the tribal women of Malnad, Karnataka.

24. (b)

**Only pair 1 and 3 are correctly matched**

**Pair 1 is correctly matched:** Nalanda Mahavihara, established by Kumaragupta I (415- 455 CE). Some eminent personalities associated with it were Aryabhata, Huien Tsang, I-tsing, Santarakhsita etc.

**Pair 2 is not correctly matched:** Vallabhi University was founded around 600 CE in modern Gujarat by the Maitraka dynasty. Nagarjuna (2nd century A.D.) is regarded as the founder of the Madhyamaka school, also known as Sunyavada, who came much earlier than the establishment of Vallabhi.

**Pair 3 is correctly matched:** Dharmapala (783-820 CE) established Vikramashila mahavihara. The most important subject taught here was Vajrayana Buddhism. Atisha Dipankar (980- 1054), a Buddhist in the Pala kingdom was an adhyaksha (head of the university) here.

**Additional information:** Dharmapala also founded Somapur Mahavihara in modern Bangladesh.

Odantapuri mahavihara was built by Gopala I (750-770 CE), the founder of the Pala dynasty of Bengal.

25. (a)

**Option (a) is the correct answer:** The 'battle of ten kings' (dasharajna), recounted

in Book 7 of the Rig Veda Samhita may be based on an actual historical incident. In this battle, the Bharata chief Sudas, grandson of Divodasa, fought against a confederacy of 10 tribes. **The great battle took place on the banks of the river Parushni (Ravi).** The Bharatas won by breaking a natural dam on the river.

**Additional information:** The Vedic Aryans lived in the area known as sapta-sindhu, meaning area of seven rivers. The seven rivers included **Sindhu, Vitasta (Jhelum), Asikni (Chenab), Parushni (Ravi), Vipash (Beas), Shutudri (Sutlej) and the Sarasvati.**

26. (a)

Rani Rudrama Devi, "destiny's queen", was a 13th century Kakatiya warrior ruler. Upon her victory over Yadava king Mahadeva, she adopted the title **raya-gaja-kesari**, meaning the 'lion who rules over the elephant kings', and built a commemorative pavilion in the Swayambhu temple of Warangal, choosing to depict herself as a woman warrior mounted on a lion, with her sword and shield in hand, evoking the image of the fierce goddess Durga

**Additional information:** The Kakatiyas were the feudatories of the Chalukyas of Kalyani. Kakati Rudradeva (Prataprudra I), the founder of the Kakatiya state, succeeded in overpowering the Chalukya ruler, Tailapa III, during the second half of the 12th century (c. 1162).

27. (b)

**Option (b) is not correct:** "Six Glorious Epochs of Indian History" is a significant work by Veer Savarkar, offering a historical analysis of India's resistance to invasions and foreign rule. The book divides Indian history into six periods, highlighting resilience, cultural unity, and the role of Hindu society in safeguarding its ethos.

Savarkar emphasizes India's enduring struggle against external aggressions while preserving its identity and values. This work provides a perspective on India's historical challenges and triumphs through a nationalist lens.

28. (d)

**Statement I is not correct: The highest goal in the older Buddhism or Hinayana was the attainment of nibbana and becoming an arhat.** Mahayana considered this a lesser goal; the higher one consisted in following the path of a bodhisattva and attaining Buddhahood.

**Statement II is correct: There is a crucial difference between the arhat and bodhisattva. The arhat is one who strives to attain nibbana, and having achieved this goal for himself, disappears from the cycle of samsara.** The bodhisattva, on the other hand, is one who has attained great wisdom, but decides to refrain from taking the final step into nibbana, choosing to actively engage with the world for aeons on end in order to help others achieve this goal.

29. (c)

**Context: The temperatures in the Arctic continue to rise at three times the global annual average, which impacts both local ecosystems as well as the global climate system.**

**Statement 1 is correct: The enhanced warming of the Arctic as compared to the average for the rest of the world results in a decrease in temperature difference between North and South.** This ultimately leads to reduction in the speed of polar jet stream, thereby weakening it.

**Statement 2 is not correct: The rapid warming of the Arctic region causes the sea ice to melt, resulting in addition of more freshwater to the seawater in the Arctic Ocean which flows into the North Atlantic.** The added freshwater makes the seawater less dense. This has caused

the North Atlantic to become fresher over the past several decades and has caused the thermohaline circulation in the Atlantic ocean to slow down.

**Statement 3 is correct: The soils in the Northern permafrost region contain about twice as much organic carbon as is currently contained in the atmosphere.** This pool of organic carbon is climate-sensitive. As long as this organic matter remains frozen, it will stay trapped in the permafrost. However, if it thaws, microbes will begin to eat the material, causing it to decay and releasing carbon dioxide, methane and other greenhouse gases into the atmosphere. Even if a small fraction of these greenhouse gases are released, it will have major consequences on not only the Arctic, but Earth's entire climate system, as they intensify global climate change.

30. (c)

**The correct answer is Option (c)**

According to All India Tiger Estimation-2022, the highest population of Tigers (260) is in Jim Corbett National Park which is in Uttarakhand.

The Gir National Park and Wildlife Sanctuary in Gujarat serves as the only known habitat of the Asiatic Lion making it a critical area for preservation efforts. The 2020 Lion census estimated the population at around 674 lions.

Kuno National Park in Madhya Pradesh is the only abode of Cheetahs in India. It has around 24 Cheetahs.

31. (b)

**About Camelids: Camelids are animals found in arid and semi-arid terrains.** They include camels, llamas and alpacas. They provide essential resources such as transportation, wool, milk and meat where other livestock may not thrive.

**Statement 1 is not correct: The 'Kharai' camels are a unique breed of single-**

**humped camels** that have the **ability to swim**. There are about 5,000 camels which are found in coastal districts of **Gujarat**. They are **bred by** two distinct communities — the **Fakirani Jats**, who are the handlers, and the **Rabaris**, who are owners of the animals.

**Statement 2 is correct: Bactrian camels usually have two humps** that are used for storing the fat that can be converted for water and energy, when necessary. It is primarily found in **Nubra valley of Ladakh**. It is also found in China, Mongolia.

32. (a)

**Statement I is correct:** Application of crushed silicate rocks to the soil is a technique of enhanced rock weathering that aims to enhance the sequestration of atmospheric CO<sub>2</sub> by accelerating the natural weathering.

**Statement II is correct and correctly explains Statement I:** Normally, the rate of weathering of rocks is extremely slow. However, by **crushing the silicate rocks into a fine powder** and spreading them over large areas, the **surface area of the rocks increases significantly**. This increases the rate of **chemical reactions with CO<sub>2</sub>** and enhances the **process of rock weathering**.

**Statement III is correct and correctly explains Statement I:** When crushed silicate rocks are exposed to the atmosphere, **carbon dioxide reacts with water to form carbonic acid**, and then reacts with the **minerals present in the rocks to form new and stable rocks** like calcium carbonates, also known as limestone. In this way, rocks help draw CO<sub>2</sub> out of the atmosphere.

33. (b)

**Context:** A recent study says that **vegetation cover across the Antarctic Peninsula**, a long, mountainous extension of Antarctica, has **increased more than 10 times over the past few**

**decades** due to **rising temperatures**. Presently, **mosses** are the dominant type of vegetation that is **spreading fast** in the Antarctic region.

**Statement 1 is not correct: Increase in vegetation cover could reduce Antarctica's albedo (ability to reflect sunlight back to Space).** Materials such as fresh snow, ice, light-colored sand etc. have a "good" albedo and reflect a large amount of sunlight whereas darker surfaces absorb more solar radiation. This could **further increase ground temperatures, with local and global repercussions**. The amount of carbon that will be sequestered by such vegetation will be too less as compared to the carbon that will be absorbed as a result of reduced albedo.

**Statement 2 is correct: Soil in Antarctica is mostly poor or nonexistent, but increase in vegetation cover will add organic matter**, and facilitate soil formation. This raises the risk of **non-native and invasive species** arriving, possibly carried by eco-tourists, scientists or other visitors to the continent.

34. (c)

**Option (c) is correct:** In order to manage and conserve biodiversity across the Protected Areas, Ministry of Environment, Forest and Climate Change notifies Eco-Sensitive Zones (ESZs) around the Protected Areas.

**Eco-Sensitive Zones (ESZ)** are areas notified under the Environmental (Protection) Act, 1986, to serve as "**shock absorbers**" for specialized ecosystems. The very purpose of declaring ESZ is to create some kind of "Shock Absorber" for the specialized Ecosystem, such as protected areas or other natural sites, to act as a transition zone from areas of high protection to areas involving lesser protection.

These zones are intended to reduce the impact of human activities on the

environment, thereby preserving the integrity of protected areas.

35. (b)

**1 is correct: Availability of moisture-laden clouds** is absolutely essential because **cloud seeding works only if there is enough moisture in the clouds for condensation to take place.** Without moisture-laden clouds, no precipitation can occur, even if the seeding is done.

**2 is correct: Adequate concentration of chemical nuclei** is also necessary for cloud seeding. The **chemical nuclei** (like silver iodide or sodium chloride) **provide a surface for water vapor to condense around, forming droplets large enough to fall as rain.**

**3 is not correct: High Wind Speed** is typically less favorable for cloud seeding because it can blow the seeding particles out of the cloud too rapidly, making it difficult for them to remain in place and stimulate precipitation effectively. Thus, high wind speeds are not an essential requirement for the seeding process itself.

36. (c)

**Context:** Recently, COP-29 was held at Baku in Azerbaijan.

**Option (c) is the correct answer:**

Caspian Sea is the **world's largest landlocked reservoir** located between two major parts of the Eurasian continent.

**Europe's longest river, the Volga River, falls into the Caspian Sea,** supplying 80% of the Caspian's freshwater inflow. It also forms one of the largest deltas of the world.

As per NASA, the Caspian Sea has been **shrinking since the mid-1990s,** but the rate it is disappearing has sped up since 2005.

Its **coastline is shared by five countries: Kazakhstan, Iran, Azerbaijan, Russia and Turkmenistan.**

37. (b)

**Pair 1 is correctly matched:** Recently, Japan said that a Chinese Y-9 reconnaissance plane flew over the Danjo Islands to the west of the southern island of Kyushu. As per Japan, this is the first breach of its airspace by China's military.

**Pair 2 is correctly matched:** Kursk region is located in Russia. Ukraine captured this region in a surprise incursion earlier this year. However, of late, Ukraine has reportedly lost over 40% of the territory it seized as Russian forces intensify their counter-assaults, deploying its troops to the region.

**Pair 3 is not correctly matched:** Darfur, a region in western Sudan, has a tragic history marked by ethnic violence and humanitarian crises. In the early 2000s, the area experienced a brutal conflict that resulted in the deaths of hundreds of thousands of people and displaced millions. Of late, there are alarming signs that Darfur may be heading towards another genocide.

38. (c)

**Statement 1 is not correct:** In September 2024, India's ancient sport, **yogasana was included as a demonstration event(not a medal event) at the 2026 Asian Games to be held in Aichi-Nagoya, Japan.** Yogasana's inclusion was unanimously passed at the 44th General Assembly of Olympic Council of Asia.

**Statement 2 is not correct:** Cricket is one of five new sports set to feature at the Los Angeles 2028 Olympic Games. However, **Cricket was also included as a medal event in the 1900 Olympics, held in Paris.** Back then, Great Britain defeated France to win the gold medal.

**Statement 3 is correct:** **Hockey was first included in the Commonwealth Games (CWG) 1998.** Since then, it has featured as a medal event in each edition of the

CWG. However, for the **Commonwealth Games 2026** to be held in Glasgow in 2026, badminton, cricket, **hockey**, squash, table tennis and wrestling **will be omitted**.

39. (c)

**Statement I is correct:** The **Arab League recently voted to reinstate Syria's membership** after its suspension more than 10 years ago. Syria was ousted from the Arab League in 2011 following President Bashar al-Assad's brutal crackdown on pro-democracy protests, which led to the ongoing civil war in the country. Following this, Syria was put under sanctions by the Western nations, including the USA.

**Statement II is not correct:** **Western sanctions against Assad's government remain in place.** The United States has also criticised the latest move, saying Syria did not deserve to be reinstated. As per the Arab League, Syria's readmission doesn't mean that the Syria crisis has been resolved, but it allows the Arab states, for the first time in years, to communicate with the Syrian government to discuss all the problems.

40. (c)

**Row 1 is not correct :** The **Central Bureau of Investigation (CBI)**, functioning under Dept. of Personnel, **Ministry of Personnel, Pension & Public Grievances**, Government of India, is the premier investigating police agency in India. The Central Bureau of Investigation traces its origin to the Special Police Establishment (SPE) which was set up in 1941 by the Government of India. Special Police Establishment (S.P.E.) was created under a Deputy Inspector General of Police by the Government of India, in 1941, by an executive order. The DSPE acquired its popular current name, Central Bureau of Investigation (CBI), through a Home

Ministry resolution dated 1.4.1963. CBI derives power to investigate from the **Delhi Special Police Establishment Act, 1946**.

**Row 2 is not correct :** The **Directorate of Enforcement** or the ED is a multi-disciplinary organization mandated with investigation of economic crimes and violations of foreign exchange laws. The origin of this Directorate goes back to 1st May, 1956, when an '**Enforcement Unit**' was formed in the Department of Economic Affairs for handling Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947. In 1957, the unit was renamed as "Enforcement Directorate" and in 1960, its administrative control was given to the Department of Revenue, Ministry of Finance.

**Row 3 is correct :** The **National Investigation Agency (NIA)** was set up under the **National Investigation Agency Act, 2008** as a Central Counter Terrorism Law Enforcement Agency in the wake of the 26/11 Mumbai attacks. Hence, it is a statutory body. The Agency investigates and prosecutes offences affecting the sovereignty, security and integrity of India, security of State, friendly relations with foreign States, matters relating to international treaties etc. specified in the Schedule to the NIA Act, 2008. The **Ministry of Home Affairs (MHA)** reviews the manpower, financial and infrastructure requirements of NIA from time to time.

41. (a)

**Statement 1 is correct:** Vidya Lakshmi Portal is a first of its kind portal for students seeking Education Loan. It provides a single window electronic platform for students to access information and prepares applications for Educational Loans and Government

Scholarships. It provides information on the following:

- Educational Loan Schemes of various Banks
- Common Educational Loan Application Form for Students
- Application for Education Loan to multiple Banks
- Facility for Banks to download Students Loan Applications
- Facility for Banks to upload loan processing status
- Facility for Students to email grievances/queries relating to Educational Loans to Banks
- Linkage to National Scholarship Portal for information and application for Government Scholarships

**Statement 2 is not correct:** The primary objective of the 'Vigyan Dhara' scheme is to promote research, innovation and technology development along with capacity building in science and technology towards strengthening the ecosystem related to science, technology and innovation in the country. The implementation of this scheme will strengthen the science and technology infrastructure of the country by promoting fully equipped research and development laboratories in academic institutions.

42. (d)

**Statement I is not correct, but Statement-II is correct:** The winds blowing from the land towards the oceans(**Offshore winds**) drive warm surface water away from the coast **resulting in the upwelling of cold water** from below. Hence, the winds blowing from land to ocean **decrease** the temperature of coastal waters. Contrary to this, the onshore winds pile up warm water near the coast and this raises the temperature.

**Additional information:** The other factors which affect the distribution of temperature of ocean water are :

**Latitude :** The temperature of surface water decreases from the equator towards the poles because the amount of insolation decreases poleward.

**Unequal distribution of land and water :** The oceans in the northern hemisphere receive more heat due to their contact with larger extent of land than the oceans in the southern hemisphere.

**Ocean currents :** The warm ocean currents raise the temperature in cold areas while the cold currents decrease the temperature in warm ocean areas.

**For Example:** The Gulf stream (warm current) raises the temperature near the eastern coast of North America and the West Coast of Europe while the Labrador current (cold current) lowers the temperature near the north-east coast of North America.

43. (b)

**Option (b) is the correct answer:** The correct order of appearance of trees is: **Sal-Blue Pine-Rhododendrons.**

The **Himalayan** ranges show a succession of vegetation from the **tropical to the tundra**, which changes with **altitude**.

**Deciduous forests** are found in the **foothills** of the Himalayas. **Sal** is an important tree found in this region.

Deciduous forest is succeeded by the wet temperate type of forests between an altitude of 1,000-2,000 m.

In the higher hill ranges of northeastern India, hilly areas of West Bengal and Uttaranchal, evergreen broadleaf trees such as Oak and chestnut are predominant.

Between 1,500-1,750 m, pine forests are also well-developed in this zone, with Chir Pine as a very useful commercial tree. Deodar, a highly valued endemic species, grows mainly in the western part of the Himalayan range. Deodar is a durable wood mainly used in construction activity.

Similarly, the chinar and the walnut, which sustain the famous Kashmir handicrafts, belong to this zone.

**Blue pine** and spruce appear at altitudes of **2,225-3,048 m**. Temperate grasslands are also found in various locations within this zone.

In the higher reaches, there is a transition to Alpine forests and pastures.

Silver firs, junipers, pines, birch and **rhododendrons**, etc. occur between **3,000-4,000 m**.

44. (a)

**Statement 1 is correct: 'Anaimudi' (2,695 m)**, the highest peak of the Peninsular plateau, is located on the Anaimalai hills of the Western Ghats.

**The Anaimudi peak is located where the Cardamom, Anaimalai, and Palani hills meet.**

**Statement 2 is not correct: Dodabetta (2,637 m)**, located on the Nilgiri hills, is the **second-highest peak of the Peninsular Plateau**.

**Nilgiri** is spread across the borders of three Indian states – Karnataka, Kerala and Tamil Nadu.

**Nallamala Range** is a range of parallel hills and valleys of the Eastern Ghats in eastern Andhra Pradesh state, southern India.

**Thus, the Nilgiri Hills and Nallamala Hills can't meet each other.**

**Statement 3 is not correct: Agasthyamala** is one of the highest peaks of Tamil Nadu, located on Agasthyamalai Hills.

**Agasthyamalai Hill** is located in the states of **Kerala and Tamil Nadu**.

**Erramala Range** is a range of hills in western Andhra Pradesh state.

**Thus, Agasthyamalai Hills and Erramala Hills can't meet each other.**

45. (b)

**Option (b) is the correct answer:** Global lithium production surpassed 100,000

tonnes for the first time in 2021, quadrupling from 2010.

Roughly **90%** of it came from just three countries - **Australia, Chile and China**.

The top two producers of lithium in the world are: (1) Australia, and (2) Chile.

**Additional Information:** The region where Chile, Argentina and Bolivia meet is known as the **Lithium Triangle** because of the large lithium deposit present there.

The Lithium Triangle holds **more than 75 percent of the world's lithium supply**.

46. (a)

**Both Statement I and Statement II are correct and Statement II provides the correct explanation for Statement I:** Weathering of rocks and deposits helps in the enrichment and concentrations of certain valuable ores of iron, manganese, aluminium, copper etc., which are of great importance for the national economy. When rocks undergo weathering, some materials are removed through chemical or physical leaching by groundwater and thereby the concentration of remaining (valuable) materials increases. Without such weathering taking place, the concentration of the same valuable material may not be sufficient and economically viable to exploit, process and refine. This is what is called enrichment.

**Additional Information: Weathering** is defined as mechanical disintegration and chemical decomposition of rocks through the actions of various elements of weather and climate.

As very little or no motion of materials takes place in weathering, it is an **in-situ** or on-site process.

There are three major groups of weathering processes :

**Chemical** weathering processes

**Physical** or mechanical weathering processes

**Biological** weathering processes



47. (b)

Option (b) is the correct answer.



**Humboldt or Peru** is a cold current that flows from south to north along the west coast of South America.

**Falkland** is a cold current that flows from south to north along the east coast of South America.

**Additional Information:**

**Ocean currents** are like river flow in oceans. They represent a regular volume of water in a definite path and direction. **Ocean currents are influenced by two types of forces:**

**Primary forces** that initiate the movement of water.

**Secondary forces** that influence the currents to flow.

**Ocean currents** can also be classified based on temperature :

**Cold currents** bring cold water into warm water areas. These currents are usually found on the west coast of the continents in the low and middle latitudes (true in both hemispheres) and on the east coast in the higher latitudes in the Northern Hemisphere.

**Warm currents** bring warm water into cold water areas and are usually observed on the east coast of continents in the low and middle latitudes (true in both hemispheres). In the northern

hemisphere they are found on the west coasts of continents in high latitudes.

48. (c)

**Statement 1 is correct:** Bio-fertilizers are live microbial products which do not contain any nutrients. The microorganisms present in the bio-fertilizer ensure availability of nutrients from non-available form present within soil and air to available form which plants can uptake.

There are **11 bio-fertilizers** that have been notified and included into **the Fertilizer (Control) Order, 1985** which are as follows :

- Rhizobium
- Azotobacter
- Azospirillum
- Phosphate Solubilising Bacteria
- Mycorrhizal Biofertilizers
- Potassium Mobilizing Bio-fertilizers (KMB)
- Zinc Solubilizing Biofertilizers (ZSB)
- Acetobacter
- Carrier Based Consortia
- Liquid Consortia
- Phosphate Solubilising Fungi

**Statement 2 is correct:** **Vermicompost** refers to **organic manure produced by earthworms**. It is a mixture of worm castings (faecal excretions), organic material including humus, live earthworms, their cocoons and other organisms. Vermicomposting is an appropriate cost effective and efficient recycling technique for the disposal of non-toxic solid and liquid organic wastes.

**Statement 3 is not correct:** **Green undecomposed material** used as manure is called **green manure**. It is obtained in two ways: by growing green manure crops or by collecting green leaf (along with twigs) from plants grown in wastelands, field bunds and forest. Green manuring is growing in the

field plants usually belonging to the leguminous family and incorporated into the soil after sufficient growth. The plants that are grown for green manure known as green manure crops.

49. (a)

**Statement 1 is correct:** Article 201 of the Constitution states that when a **Bill is reserved by a Governor for the consideration of the President**, the President shall declare either that he assents to the Bill or that he withholds his assent. However, where the Bill is not a Money Bill, the **President may direct the Governor to return the Bill to the State Legislature** and, when a Bill is so returned, the **State Legislature shall reconsider it accordingly within a period of six months** from the date of receipt.

**Statement 2 is not correct:** If the Bill is again passed by the State Legislature with or without amendments, it is **presented again to the President for his consideration**.

50. (a)

**Option (a) is the correct answer:** Article 80 deals with the **Composition and associated provisions of the Council of States, i.e. Rajya Sabha**. Article 80(4) states that the **representatives of each State** in the Council of States shall be **elected by the elected members of the Legislative Assembly of the State** in accordance with the system of proportional representation by means of the single transferable vote.

51. (d)

**Statement 1 is correct:** Article 361 of the Constitution states that the **President, or the Governor or Rajpramukh** of a State, shall **not be answerable to any court for the exercise and performance of the powers and duties of his office** or for any act done or purporting to be done by him in the exercise and performance of those powers and duties.

**Statement 2 is not correct:** No criminal proceedings shall be instituted or continued against the President, or the Governor of a State, in any court during his term of office. Additionally, no process for the arrest or imprisonment of the President, or the Governor of a State, shall be issued from any court during his term of office.

**Statement 3 is correct:** No civil proceedings in which relief is claimed against the President, or the Governor of a State, shall be instituted during his term of office in any court **in respect of any act done or purporting to be done by him in his personal capacity**, whether before or after he entered upon his office as President, or as Governor of such State, **until the expiration of two months** next after notice in writing has been delivered to the President or the Governor.

**Statement 4 is correct:** Article 361 of the Constitution provides the **same immunities to the President of India as well as the Governors of states**.

52. (d)

**Option (d) is the correct answer:** The word 'Socialist' as enshrined in the Preamble signifies a **republic dedicated to eliminating all forms of inequalities and exploitation** — whether social, political, or economic. It denotes the state's **commitment to be a welfare state** and its commitment to **ensuring equality of opportunity**.

53. (d)

**Option (d) is the correct answer:** Plea bargaining is an **negotiation between the defence and prosecution** where the accused agrees to plead guilty in return for a **reduced sentence of punishment**. Provisions for Plea bargaining were included in the CrPC by way of an amendment in 2005. The Bharatiya Nagarik Suraksha Sanhita (BNSS) retains this provision. An **application**

for plea bargaining must be filed by the accused within 30 days from the date of framing of charge.

It is not allowed for offences punishable with a death penalty, life imprisonment, or imprisonment of a term exceeding seven years.

Plea bargaining could be an effective step towards decongestion of the prisons.

54. (a)

**About Monetary Policy Transmission:** The Monetary Policy Transmission describes how changes made by the Reserve Bank to its monetary policy settings flow through to economic activity and inflation. There are several factors that can impact the effectiveness of Monetary Policy Transmission.

**1 is correct:** The high incidence of non-performing assets (NPAs) in banks acts as a major roadblock in the transmission of monetary policy actions of the Reserve Bank. This leads to a low level of CRAR, which hampers bank health and restricts the smooth transmission of monetary policy.

**2 is correct:** Small savings schemes, such as Public Provident Fund (PPF) and National Savings Certificates (NSC), offer relatively higher interest rates. This makes bank deposits less attractive to savers, forcing banks to keep their deposit rates high to compete. High deposit rates limit banks' ability to lower lending rates, reducing the effectiveness of monetary policy transmission.

**3 is not correct:** External Benchmark-based Lending Rates mean that banks can decide their lending rates based on one of the four external benchmarks - repo rate, three-month treasury bill yield, six-month treasury bill yield or any other benchmark interest rate published by Financial Benchmarks

India Private Ltd. This ensures that changes in monetary policy rates are directly passed on to the borrowers, thus improving the transmission of monetary policy.

55. (b)

**Statement 1 is correct:** In Regional Rural Banks (RRBs), 50 per cent is held by the Central government, 35 per cent by the sponsor banks and 15 per cent by the state government. Thus, the Central government holds the largest share in the capital structure of the RRBs.

**Statement 2 is not correct:** The RRBs are required to maintain a Statutory Liquidity Ratio (SLR) by investing in government and other approved securities.

**Statement 3 is correct:** As per the latest RBI guidelines, RRBs have a target of 75 per cent of their outstanding advances for priority sector lending.

56. (b)

**About Gross Capital Formation (GCF):** Gross capital formation (GCF) refers to the total investment in physical assets over a specific period.

**1 is correct:** Farm machinery and equipment come under the category of physical assets, and thus form a part of GCF.

**2 is correct:** Post-harvest storage infrastructure comes under the category of construction and, hence, physical assets. Thus, this will form a part of GCF.

**3 is not correct:** While crucial for long-term agricultural growth, R&D is generally considered an intangible investment. It doesn't directly create a physical asset in the same way as a machinery or a warehouse.

**4 is correct:** Land improvements are considered a part of GCF as they create tangible, long-term physical assets.

57. (a)

**About Currency Depreciation:** Currency depreciation is a fall in the value of a

currency in terms of its exchange rate versus other currencies.

**Statement 1 is correct:** When the domestic currency depreciates, more units of the domestic currency are required to repay the same amount of external debt denominated in foreign currency. This increases the debt repayment burden in terms of the domestic currency.

**Statement 2 is correct:** Depreciation reduces the purchasing power of the domestic currency in international markets. Depreciation makes imports more expensive as the same amount of foreign currency requires more domestic currency.

**Statement 3 is not correct:** A fall in the value of domestic currency vis-a-vis foreign currency means that the **value of foreign remittances** sent by overseas workers to the domestic country **will increase**.

58. (b)

**Statement 1 is not correct:** Increasing income tax rates would mean that people will be left with less disposable money to spend on their consumption.

**Statement 2 is not correct:** Subsidizing capital-intensive industries may have a positive impact on the production of goods and services, but do not directly stimulate household consumption.

**Statement 3 is correct:** Government welfare programs, such as direct cash transfers, food subsidies, or healthcare benefits, increase disposable income and purchasing power among households, particularly low-income groups. This leads to higher consumption levels and contributes to consumption-led growth.

**Statement 4 is not correct:** Encouraging savings would mean that people will save more and spend less on consumption. While saving is beneficial for long-term investment

and economic stability, it does not directly boost consumption.

59. (b)

**About Government Bond yield:** Government bond yield is the rate of return an investor will get from investing in a government bond. The current bond yield is the bond's coupon rate divided by the market price of the bond. So, Bond yield and Bond price are inversely related. When the market price of a bond goes up, the bond yield falls and vice-versa. Therefore, any factor that impacts bond price will impact bond yield.

**1 is correct:** Higher inflation expectations reduce the real returns on bonds, making them less attractive to investors. This leads to a fall in bond prices and an increase in yields.

**2 is correct:** A higher fiscal deficit means the government needs to borrow more money, so it issues more bonds. If the supply of bonds increases, bond prices will fall, and the bond yield will increase.

**3 is not correct:** When the RBI buys government bonds, it increases demand for bonds, driving up bond prices and reducing yields.

**4 is not correct:** A rate cut by the US Fed reduces yields on US bonds, making Indian bonds relatively more attractive to foreign investors. This increases demand for Indian bonds, raising their prices and lowering yields.

60. (c)

**Option (c) is the correct answer:** The **Proba-3 Mission** is an **European Space Agency (ESA) mission** that involves **precision formation flying** of two satellites. These two satellites will work together to mimic a **solar eclipse** to study the Sun's **corona**. This mission will create a shadow using the two satellites, enabling them to observe the solar corona with high precision,

which is the goal described in the question.

**Additional information:**

The **Parker Solar Probe** is designed to study the Sun by getting closer to it than any previous mission. While it aims to understand the Sun's corona, it does not involve two satellites flying in formation.

The **Aditya-L1 Mission** is India's mission to study the Sun, particularly its outer atmosphere and the impact of solar activities on Earth's climate. However, it does not involve precision formation flying with two satellites.

The **Helios 2 Mission** was a solar observation mission, but it did not involve precision formation flying between two satellites for eclipse mimicking. It focused on observing the Sun from a highly elliptical orbit.

61. (b)

**Statement 1 is correct:** Offshore wind turbines typically generate **more energy per turbine** than onshore turbines. This is primarily because **offshore winds** are generally stronger and more consistent than onshore winds, which allows offshore turbines to generate more electricity over the same period.

**Statement 2 is correct:** Offshore wind can indeed be **more reliable** than onshore wind in certain contexts. This is because **offshore winds** tend to be **stronger** and **more consistent** throughout the year, especially in coastal regions. Additionally, the **seasonal variability** in wind speeds is often **reduced** offshore compared to onshore, where wind speeds can fluctuate more significantly depending on geographical and seasonal factors (such as land-sea temperature differences).

**Consistency** of wind speeds is one of the advantages of offshore wind energy. Over open oceans, wind flows

are not obstructed by landforms, and therefore, the winds tend to be more predictable and steady, leading to **greater energy generation reliability** compared to some onshore sites.

**Statement 3 is not correct:** Offshore wind farms are generally more expensive than onshore wind farms due to the complex logistics of installation (such as installing turbines in the ocean) and ongoing maintenance. Offshore turbines require specialized equipment for installation, and the environment presents additional challenges (e.g., corrosion due to saltwater, rough seas). Though the cost of offshore wind energy has decreased over time, it still tends to be **higher per unit of energy** than onshore wind energy.

62. (c)

**Statement 1 is correct:** In-space docking is a **critical technology** for assembling and maintaining a space station. The ability to dock spacecraft and modules in orbit is essential for constructing a space station. India has plans for its own space station, and demonstrating in-space docking through SpaDeX would directly contribute to this goal.

**Statement 2 is correct:** In-space docking could indeed play a role in **future lunar missions**. For example, docking technology could be used to connect lunar landers, orbiters, or resupply missions to a lunar base. Docking enables various spacecraft to operate in orbit around the Moon, making it a key technology for future lunar exploration efforts.

**Statement 3 is correct:** One of the potential uses of in-space docking is for **satellite servicing**, such as refueling, repairs, or upgrades of satellites in orbit. By demonstrating docking technology, India could enhance its ability to extend the operational life of satellites through in-orbit servicing.

**Statement 4 is not correct:** While in-space docking can improve satellite servicing and other operations in orbit, it **does not** reduce the need for **ground-based satellite control**. Ground control is still essential for satellite management, monitoring, and communication. In-space docking does not eliminate the need for ground control but rather complements it by enabling more operations in space.

63. (d)

**Statement-I is not correct:** 5G primarily uses shorter wavelengths (or higher frequency waves) compared to 4G. The shorter wavelengths in 5G enable higher data transmission rates but come with reduced ability to penetrate obstacles like walls and buildings.

**Statement-II is correct:** Longer wavelengths have lower frequencies and lower energy, making them less susceptible to being absorbed or scattered by obstacles. This is why radio waves (**long wavelengths**) can travel long distances and penetrate buildings better than visible light (**shorter wavelengths**).

64. (b)

**Option (b) is correct:** Sickle cell anemia is caused by a **mutation in the hemoglobin gene**, specifically the **HBB gene**, which codes for hemoglobin. This mutation causes the hemoglobin to form an abnormal shape, leading to **sickle-shaped red blood cells** that can block blood flow and cause pain and damage to organs. The condition is inherited in an autosomal recessive pattern, meaning a person must inherit two copies of the defective gene (one from each parent) to develop the disease.

65. (c)

Helium plays a crucial role in **rocket operations**, particularly due to its physical properties.

**Option (c) is correct:** Helium is primarily used to **pressurize fuel tanks**. In rocket

systems, helium is used to maintain the pressure inside propellant tanks, ensuring a steady flow of liquid propellants to the rocket engines. This is essential for the proper functioning of the propulsion system during launch.

66. (a)

**MicroRNAs (miRNAs)** are small RNA molecules that play a critical role in **gene regulation** by binding to messenger RNA (mRNA) molecules, typically leading to **gene silencing** or **translational repression**. If miRNA regulation malfunctions, it can have various consequences on cellular functions.

**Option (a) is correct:** miRNAs are involved in regulating genes that control **cell growth, differentiation, and apoptosis (programmed cell death)**. If miRNA regulation malfunctions, it can result in **improper gene expression**, including the overexpression of genes that promote cell division or the failure to suppress genes that encourage uncontrolled growth. This is a common mechanism in diseases like cancer.

67. (b)

**Option (b) is correct:** A vehicle remains stable as long as its center of mass is within its base of support (the area between the wheels). When the criminals shift their weight to one side, the center of mass moves closer to the edge of the vehicle's base of support. During sharp turns, the centrifugal force further pushes the center of mass outward, significantly increasing the risk of tipping over if the center of mass extends beyond the base.

68. (a)

**Option A is correct:**

**Parama-bhattaraka:** Gupta kings assumed imperial titles such as maharajadhiraja, parama-bhattaraka, and parameshvara. As

Paramabhattacharaka is the title of King, he governed the largest administrative division.

**Uparika:** Gupta empire was divided into provinces known as deshas or bhuktis, administered by governors who were usually designated as uparikas.

**Vishyapati:** The provinces of the Gupta empire were divided into districts known as vishayas, under officers known as vishayapatis.

69. (c)

Hsuan Tsang, a Chinese Buddhist pilgrim and scholar, visited India during the 7th century CE during the reign of Emperor Harsha. His travelogue, Su-Yi-Ki (Records of the Western World), provides valuable insights into Indian society, economy, culture, and polity of that era.

**Statement 1 is correct:** In the seventh century Hsuan Tsang called shudras as agriculturists and the vaishyas as traders. A distinction was also made between shudras and untouchables, the latter being treated lower in status than the shudras.

**Statement 2 is correct:** Hsuan Tsang also describes in detail the glory of Nalanda University (Bihar) during his times.

**Statement 3 is correct:** According to Hiuen Tang, King Harshvardhana had an efficient government. He further states that families were not registered and there was no forced labour.

70. (a)

**Option A is correct:** The correct chronological sequence of events is: Wavell Plan (1945) → The Royal Indian Navy Mutiny (February 1946) → Arrival of Cabinet Mission in India (March 1946).

**Wavell Plan (1945):** The Wavell Plan, introduced by Viceroy Lord Wavell in 1945. This proposal was discussed at the Shimla Conference in June 1945 but

failed due to disagreements between the Indian National Congress and the All-India Muslim League over the selection of Muslim representatives.

**The Royal Indian Navy Mutiny:** The Naval mutiny has often been referred to as the last war of independence. **The sailors employed by the British in the Royal Indian Navy (RIN) revolted against them for various reasons in February 1946.** It was spread mostly in present-day Mumbai City, Maharashtra, and proved to be one of the last straws for the British Empire in India.

**Arrival of Cabinet Mission in India:** In March 1946 the British Cabinet sent a three member mission to Delhi to examine the League's demand and to suggest a suitable political framework for a free India. The Cabinet Mission toured the country for three months and recommended a loose three-tier confederation. India was to remain united. It was to have a weak central government controlling only foreign affairs, defence and communications with the existing provincial assemblies being grouped into three sections while electing the constituent assembly.

71. (c)

**Pair 1 is correctly matched:** Shyamji Krishna Varma, founded the influential Indian Home Rule Society in London in 1905 in order to promote Home Rule. The other members involved were Dr. C. Muthu, J.M. Parikh, Dr. D.E. Pereira, Parmeshwar Wardy, J.C. Mukherjee, and M.R. Jayakar. J.C. Mukherjee was the society's secretary, and Shyamji Varma served as the president.

**Pair 2 is correctly matched:** Virendranath Chattopadhyaya was a prominent Indian revolutionary. In 1914, during World War I, he co-founded the Indian Independence Committee (IIC) in Germany, also known as the Berlin Committee, alongside Rash Behari Bose.

The Indian Independence Committee (IIC) was laying the groundwork for a global movement against British imperialism and colonialism.

**Pair 3 is correctly matched:** The Ferozpur District in Punjab was one of the primary areas of activity of the Ghadar conspiracy that unfolded in 1913-15. The conspiracy was devised by the Ghadar Party (USA), an international organization of Sikh expatriates, along with the Berlin Committee (Germany). In 1911, Lala Har Dayal, an Indian political exile, arrived in the U.S. and lectured at Stanford University and to American intellectuals and workers on anarchism and syndicalism. **In May 1913, he led the establishment of the Hindi Association in Portland, later renamed the Hindustan Ghadar Party. Baba Sohan Singh Bhakna became its President, Har Dayal the General Secretary, and Pandit Kanshi Ram Maroli the Treasurer.**

72. (d)

**Statement 1 is not correct:** Cabinet Mission Plan of 1946 had proposed a single Constituent Assembly for undivided India, not separate assemblies for India and Pakistan. It was Mountbatten's plan that led to separate constituent assemblies for India and Pakistan.

**Statement 2 is correct: Members of the Constituent Assembly were elected by each Provincial Legislative Assembly,** with representatives chosen from each community group (General, Muslim, or Sikh). Each group elected its representatives through the method of proportional representation using a single transferable vote.

**Statement 3 is correct: The first meeting of the Constituent Assembly was chaired by Dr. Sachchidananda Sinha,** who was then the oldest Member and also the oldest parliamentarian in India, having served as a Member of

the Imperial Legislative Council from the year 1910 and also in the Central Legislative Assembly from 1921.

73. (c)

**Statement 1 is not correct: Lal Ded (also known as Lalleshwari) was a 14th-century poet and saint associated with Shaivism.** However, she was prominent in Kashmir, not Kerala.

**Statement 2 is correct: Akka Mahadevi, a prominent 12th-century Veerashaiva saint and poet, is considered a contemporary of Basavanna,** the founder of the Lingayat sect. The other notable saints of those times are Chenna Basavanna, Prabhudeva and Madivalayya,

**Statement 3 is correct:** Mirabai was a Rajput princess married into the royal family of Mewar in the sixteenth century. **Mirabai became a disciple of Ravidas.** She devoted to Krishna and composed innumerable bhajans expressing her intense devotion.

74. (a)

The national calendar is based on the **Saka Era**, with **Chaitra** as its first month and a normal year of 365 days was adopted from 22 March 1957.

**Option (a) is the correct answer:** The Indian National Calendar (Saka era) starts from 78 CE. To convert a Gregorian year to the Saka Era, subtract 78 from the given year. The Allahabad Pillar inscription of Samudragupta is dated to 360 CE. So, the corresponding year in the Saka era would be  $360 - 78 = 282$ .

75. (c)

**Statement 1 is correct:** Modi was a script used to write Marathi for an estimated 700 years. The script was used for war correspondence and secret socio political conversations between Marathas.

**Statement 2 is correct: The Saranjam system was a feudal land tenure system**



where land grants were given to military officers or commanders (Saranjamdars) as remuneration for their services to the Maratha state.

**Statement 3 is not correct:** The king was at the helm of the Central Administration of the Marathas. The administration was divided into eight departments headed by ministers who are sometimes called Ashta pradhan.

The eight ministers were: (i) the Peshwa or Prime Minister, who had to look after the general welfare and interests of the kingdom, (ii) the **Amatya or Finance Minister**, (iii) the Mantri or court recorder, (iv) the Sachiva or Superintendent in charge of correspondence and provincial accounts, (v) the **Sumant or Foreign Minister**, (vi) the Senapati or Commander-in-Chief, (vii) the Pandit Rao and Danadhyaksha or Royal Chaplain and Almone, and (viii) the Nayayadhyaksha or Chief Justice.

76. (a)

**Statement 1 is correct:** “*Ceropegia shivrayiana*” is a flowering plant, and it was named after Chhatrapati Shivaji Maharaj, the legendary Maratha ruler. The plant was discovered in Maharashtra, India.

**Statement 2 is not correct:** “*Batillipes Chandrayaani*” is actually a species of **tardigrade**, not a butterfly. It was named in honor of the **Chandrayaan-3** mission, India’s lunar exploration mission, and it was discovered in the Indian Ocean.

77. (d)

**The Government of India holds a contract for the exploration of polymetallic nodules in the Central Indian Ocean Basin (CIOB).**

**Statement 1 is correct:** The Government of India, through the **National Institute of Oceanography (NIO)**, holds a contract with the **International Seabed Authority (ISA)** for the exploration of polymetallic

nodules in the Central Indian Ocean Basin (CIOB).

**Statement 2 is correct:** While there have been several exploration activities and pilot projects, deep-sea mining has not yet been commercially undertaken on a large scale anywhere in the world.

**Statement 3 is correct:** The **ISA** is an autonomous international body established under the **United Nations Convention on the Law of the Sea (UNCLOS)**, which regulates mineral-related activities on the seabed beyond the limits of national jurisdiction (i.e., beyond the Exclusive Economic Zones or EEZs of countries).

78. (b)

**Statement 1 is not correct:** The Green Credit Programme (GCP) does not directly aim to enhance credit availability for low carbon-intensive industries. Rather, it encourages industries and sectors to adopt environment-friendly practices by awarding Green Credits. The program is focused on incentivizing sustainable practices and reducing carbon emissions rather than simply enhancing credit access.

**Statement 2 is correct:** The Green Credit Programme is indeed a voluntary mechanism intended to encourage individuals, industries, and organizations to undertake eco-friendly activities. It rewards the adoption of sustainable and green practices.

**Statement 3 is correct:** Under the Green Credit Programme, both individuals and companies can participate and earn Green Credits for adopting environmentally sustainable practices.

79. (d)

**Statement-I is incorrect:** The focus on private sector actors for scaling up resource flows as investments – is **contrary to the mandate for the goal.**

**NCQG is not an investment goal.** India must accept that climate actions by Developing countries will have to

be country driven, in line with their circumstances and in the manner best suited to country priorities.

**Statement-II is correct:** Developing nations including India have criticized the \$300 billion annual climate finance commitment from wealthy countries as insufficient at the Cop29 summit in Baku.

India had mentioned that **USD 300 billion does not address the needs and priorities of developing countries**. It is incompatible with the principle of CBDR (Common but Differentiated Responsibilities) and equity, regardless of the battle with the impact of climate change.

**About (New Collective Quantified Goal) NCQG:**

The New Collective Quantified Goal (NCQG) is a **key element of the Paris Agreement**, designed to set a new financial target to **support developing countries in their climate actions post-2025**.

The NCQG seeks to fill persistent gaps in climate finance, building on the \$100 billion target set in 2009 and aiming to provide a more realistic and ambitious financial framework.

The NCQG aims to **foster global partnerships** and enhance trust and cooperation among nations, which is crucial for successfully implementing the Paris Agreement.

80. (c)

**Statement 1 is correct:** Tiger Reserves are notified by State Governments as per provisions of Section 38V of the Wildlife (Protection) Act, 1972 **on advice of the National Tiger Conservation Authority**.

**Statement 2 is correct:**The National Board for Wild Life must give its prior approval before the State Government can change the boundaries of a Tiger Reserve.

**Statement 3 is correct:** No State Government shall de-notify a tiger

reserve, except in public interest with the approval of the Tiger Conservation Authority and the National Board for Wild Life.

81. (b)

**Statement 1 is not correct:** The Stockholm Convention seeks the elimination or restriction of production and use of all intentionally produced POPs (industrial chemicals and pesticides). The Convention also seeks the continuing minimization and wherever feasible, ultimate elimination of the releases of unintentionally produced POPs such as dioxins and furans. At present, twenty one chemicals are covered under the Stockholm Convention, of which use of DDT is restricted in India. **Use of DDT is banned for agricultural purposes**.

**Statement 2 is correct:** It is produced in a restricted manner for use in vector control only, as **India has obtained exemption for use of DDT for vector control**.

82. (b)

**Statement 1 is correct:**The Central Pollution Control Board (CPCB), **statutory organisation**, was constituted in September, 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**. Further, CPCB was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

**Statement 2 is incorrect:**The Graded Response Action Plan (GRAP) is a framework designed to combat air pollution in the Delhi-NCR region. It was introduced as an emergency response mechanism, and its implementation is triggered when the AQI reaches "poor" levels. The **Commission for Air Quality Management (CAQM) in NCR** and adjoining areas oversees the implementation of GRAP. It collaborates with the Ministry of

Environment, Forest and Climate Change (MoEFCC).

**Statement 3 is correct:** The main functions of the Central Pollution Control Board(CPCB) are as follows:

To advise the Central Government on any matter concerning the prevention, control and abatement of noise pollution.

To plan and cause to be executed a nationwide programme for the prevention, control, and abatement of noise pollution.

To provide technical assistance and guidance to the State Pollution Control Board.

To carry out and sponsor investigations and research related to prevention, control and abatement of noise pollution.

To collect, compile, and publish technical and statistical data related to noise pollution.

To lay down and annul standards for the quality of noise.

83. (b)

**Option (b) is not correct** because microplastics can be specifically manufactured for various purposes. While microplastics can indeed result from the breakdown of larger plastic debris (such as bottles or bags), some microplastics are intentionally produced as small particles for use in products like cosmetics, cleaning agents, and industrial applications.

These manufactured microplastics are called **primary microplastics**, whereas the ones from the breakdown of larger plastics are called **secondary microplastics**.

**Option (a) is correct:** Microplastics can become airborne and be transported over long distances. They can then be deposited on land or water surfaces through processes like rainfall.

**Option (c) is correct:** Microplastics are small enough to be inhaled, and there is growing concern about the potential

health risks associated with inhalation of airborne microplastics.

**Option (d) is correct:** Microplastics have been commonly used in cosmetics, especially as exfoliants in products like facial scrubs. However, the use of microplastics in cosmetics has been increasingly banned in many countries due to environmental concerns.

Hence, the incorrect option is (b).

84. (c)

**Statement 1 is correct:** The **Indian Antarctic Programme** is being implemented by the National Centre for Polar & Ocean Research, an autonomous institution under the **Ministry of Earth Sciences**.

**Statement 2 is not correct :** During this journey of 41 years, **three** permanent Indian research bases, “Dakshin Gangotri-1983”, “Maitri-1988” and “**Bharati-2012**” have been built.

Therefore, the **most recent Indian research facility** constructed in Antarctica is **Bharati**.

**Statement 3 is correct:** The **Indian Antarctic Act 2022** aims to provide for national measures for protecting the Antarctic environment and dependent and associated ecosystems and to give effect to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources, the Protocol on Environmental Protection to the Antarctic Treaty and for matters connected therewith or incidental thereto **grants Indian courts jurisdiction over crimes committed in Antarctica by Indian citizens or foreigners participating in Indian expeditions**.

85. (a)

**Statement 1 is correct:** The Quad Cancer Moonshot will serve to strengthen the overall cancer care ecosystem in the Indo-Pacific by improving health infrastructure, expanding research collaborations, building data systems,

and providing greater support for cancer prevention, detection, treatment, and care.

Cervical cancer, while preventable through vaccination and usually treatable if detected early, remains the third leading cause of cancer deaths among women in the Indo-Pacific region.

Fewer than one in 10 women in the Indo-Pacific have completed their human papillomavirus (HPV) vaccination series, and fewer than 10% have undergone recent screening.

Many countries in the region face challenges related to healthcare access, limited resources, and disparities in vaccination rates. Through this initiative, Quad countries will work to address these gaps by promoting HPV vaccination, increasing access to screenings, and expanding treatment options and care in underserved areas.

**Statement 2 is not correct:** HPV vaccine is recommended for routine vaccination at age 11 or 12 years. (Vaccination can be started at age 9.)

The primary target group in most of the countries recommending HPV vaccination is young adolescent girls, aged 9-14.

86. (b)

**Context:** Recently, the Center has approved a new Unified Pension Scheme (UPS).

**Statement 1 is correct:** Under the Old Pension Scheme, the pension was 'unfunded', i.e. there was no corpus (like the Contingency Fund of India) from which the pension was drawn. Hence, employees had no deductions from their salaries for contributing to a pension fund. The government made budgetary allocations to pay pensions under a 'pay-as-you-go' system i.e. funds were drawn from the government's income, such as tax collected from citizens.

In fact, this was the prime reason the government scrapped the Old Pension

Scheme (OPS) and replaced it with New Pension Scheme (NPS).

**Statement 2 is not correct:** Under the New Pension Scheme (NPS), both the government and employees make the contribution to the pension account. Under the first tier, the government employee has to make a mandatory contribution of 10% of his basic pay and DA and the government would make an equal matching contribution to a pension account. Under the second optional tier, employees could make their own contribution under a separate account whose withdrawal was at the employees' discretion.

**Statement 3 is correct:** The newly proposed Unified Pension Scheme (UPS) is similar to the OPS in most material particulars. However, the UPS is not unfunded. Similar to NPS, employees will chip in 10% of their salary and the government will contribute 18.5% of the salary. The threshold level of employees will remain frozen at 10% but the government's contribution will be adjusted higher or lower based on periodic actuarial assessments.

87. (\*)

**Note:** The question has been dropped due to a typographical error in the question. The intended question was to identify the "not correct" statement(s) about Red Sanders; however, the word "not" was inadvertently omitted.

**Statement-wise explanation of the question is as follows:**

**Statement 1 is not correct:** Red Sanders, botanical name *Pterocarpus santalinus*, is grown in the thorny scrub/dry deciduous forests of Eastern Ghats. It is a high market value tree, endemic to few districts in Andhra Pradesh.

**Statement 2 is not correct:** It is a non-fragrant variety of sandalwood.

**Statement 3 is correct:** Red Sanders is a protected species under the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora. The species has been subjected to threats of illegal harvesting and smuggling leading to their depletion from natural forest.

88. (b)

**1 is correct:** The Gandak comprises two streams, namely Kaligandak and Trishulganga. It rises in the Nepal Himalayas between the Dhaulagiri and Mount Everest and drains the central part of Nepal. It enters the Ganga plain in Champaran district of Bihar and joins the Ganga at Sonpur near Patna.

**2 is correct:** The Ghaghara originates in the glaciers of Mapchachungo in Tibet. It finally meets the Ganga at Chhapra.

**3 is correct:** The Kosi is an antecedent river with its source to the north of Mount Everest in Tibet, where its main stream Arun rises.

**4 is not correct:** The Ramganga is comparatively a small river rising in the Garhwal hills near Gairsain. It changes its course to the southwest direction after crossing the Shiwalik and enters into the plains of Uttar Pradesh near Najibabad. Finally, it joins the Ganga near Kannauj. Thus, it does not originate outside India.

**5 is not correct:** Tista River is a tributary of the Jamuna River (Brahmaputra River), flowing through India and Bangladesh. It rises in the Himalayas near Chunthang in Sikkim (India). Thus, it does not originate outside India.

89. (d)

**Statement 1 is correct:** The Deccan Plateau forms a part of the Peninsular Plateau. It is bordered by the Western Ghats in the west, the Eastern Ghats in the east and the Satpura, Maikal range and Mahadeo hills in the north.

The Satpura range forms the northernmost boundary of the Deccan plateau.

**Statement 2 is correct:** The Central Highlands are also a part of the Peninsular Plateau.

They are bounded to the west by the Aravali range.

**Statement 3 is correct:** The Peninsular Plateau is an irregular triangle-shaped feature lying to the south of the northern plain. Delhi Ridge in the northwest (extension of Aravalis), the Rajmahal Hills in the east, the Gir range in the west and the Cardamom Hills in the south constitute the outer extent of the Peninsular plateau.

90. (c)

**Statement 1 is not correct:** Soybean is a rainfed crop grown during kharif season. It is sown only after the arrival of monsoon.

**Statement 2 is correct:** India is the world's biggest vegetable oils importer.

Palm oil accounts for 60 per cent of India's vegetable oil imports.

**Statement 3 is correct:** Among the nine oilseed crops in India, the highest average contribution to total production of oilseeds is of soybean (34%) followed by Rapeseed-Mustard (30%) and groundnut (27%) (Average of 2019-20 to 2023-24).

Similarly, the highest average area contribution to total oilseed area is of soybean (44%) followed by Rapeseed-Mustard (27%) and Groundnut (18%). On an average, total Kharif oilseed crops contribution to total production is about 64% (34% is of Rabi and remaining 2% is of summer oilseed crops).

91. (a)

**Context:** Minister for Europe reaffirms UK's 'steadfast and unshakeable' commitment to Gibraltar on sovereignty and treaty negotiations.

**Option (a) is the correct answer:** The **Strait of Gibraltar** is a channel connecting the **Mediterranean Sea with the Atlantic Ocean**, lying between southernmost Spain and northwesternmost Africa.

**Additional Information:** Of great **strategic and economic importance**, the strait was used by many early Atlantic voyagers and has continued to be vital to **southern Europe, northern Africa**, and **western Asia** as a shipping route. Much of the area's history involved rivalry over control of the Rock of Gibraltar.

92. (c)

**Option (c) is the correct answer:** The meteors make it through the **exosphere** and **thermosphere** without much trouble because those layers **don't have much air**.

But when they hit the **mesosphere**, there are enough gases to cause **friction** and create **heat**. As a result, **meteorites** falling from space get **burnt up** in the mesosphere.

**About Mesosphere:** Mesosphere is the **third layer of the atmosphere**. It lies above the stratosphere. The **mesosphere** lies between the **thermosphere** and the **stratosphere**. "Meso" means middle, and this is the **highest layer of the atmosphere in which the gases are all mixed up** rather than being layered by their mass.

It extends up to the **height of 80 km**.

**Meteorites burn up in this layer on entering from space.**

Key Difference between a meteoroid, a meteor, and a meteorite:

**Meteoroids:** These rocks still are in space. Meteoroids range in size from dust grains to small asteroids.

**Meteors:** When meteoroids enter Earth's atmosphere (or that of another planet, like Mars) at high speed and burn up, the fireballs or "shooting stars" are called meteors.

**Meteorites:** When a meteoroid survives a trip through the atmosphere and hits the ground, it's called a meteorite.

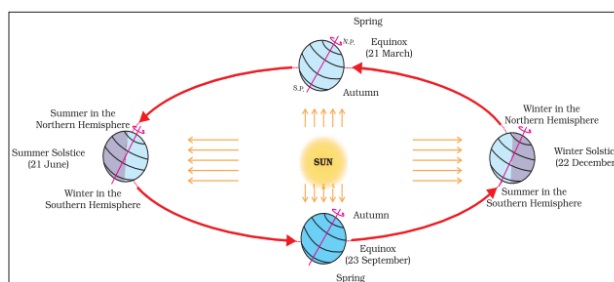
93. (a)

**Option (a) is the correct answer:** On 22nd December, the Tropic of Capricorn receives direct rays of the sun.

**Statement 1 is correct:** On this date, the sun is overhead the Tropic of Capricorn. This means that the sun is at its southernmost position, and hence, it will appear at its **lowest point in the sky** for every place **north of the Tropic of Cancer**.

**Statement 2 is correct:** On this date, the **South Pole is tilted towards the Sun**.

**Statement 3 is not correct:** As the sun's rays fall vertically at the Tropic of Capricorn ( $23\frac{1}{2}^{\circ}$  S), a larger portion of the Southern Hemisphere gets light. Therefore, it is summer in the Southern Hemisphere with longer days and shorter nights. The reverse happens in the Northern Hemisphere. Both **Tahiti** and **Darwin** are located in the **southern hemisphere**, and hence, they will experience the **longest day of the year**.



94. (a)

**Both Statement I and Statement II are correct and Statement II provides the correct explanation for Statement I**

**Trenches are formed by subduction**, a geophysical process in which **two or more of Earth's tectonic plates converge** and the older, denser plate is pushed beneath the lighter plate and deep into the mantle, causing the seafloor and outermost crust (the lithosphere)

to bend and form a steep, V-shaped depression.

This process makes trenches dynamic geological features—they account for a significant part of Earth’s seismic activity—and are frequently the site of large earthquakes, including some of the largest earthquakes on record.

**Subduction also generates an upwelling of molten crust that forms mountain ridges and volcanic islands parallel to the trench.**

95. (a)

**Option (a) is the correct answer: Odisha** is the only state among the given ones that satisfies all the given criteria.

**Statement 1:** The **tropical moist deciduous forests** are more pronounced in the regions which record rainfall between 100-200 cm. These forests are found in the northeastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and **Odisha**. Tropical moist deciduous forests are also present in some parts of **Telangana**.

**Statement 2:** Laterite soil is formed in areas receiving high rainfall with alternating wet and dry spells. This soil is **red to reddish-yellow in colour**. The soil is found in eastern Andhra Pradesh, **Telangana, Karnataka, Kerala, Madhya Pradesh, Odisha, Assam** and Ratnagiri district of Maharashtra.

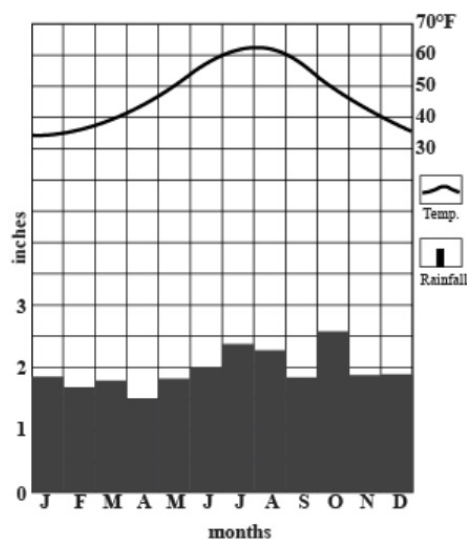
**Statement 3:** Rainfall between 100-200 cm is received in the southern parts of Gujarat, east Tamil Nadu, northeastern Peninsula covering **Odisha, Jharkhand, Bihar, eastern Madhya Pradesh, northern Ganga plain** along the sub-Himalayas and the Cachar Valley and Manipur. **Telangana** will have rainfall ranging from 100-200 cm in some parts, 50-100 cm in some other parts, and less than 50 cm in yet some other parts.

**Statement 4:** Among the given states, the coastal states are **Odisha, Kerala and Karnataka**.

The **only state which meets all the criteria is Odisha**.

96. (c)

**Option (c) is the correct answer:** The given graph is indicative of the climate of a place in the northern hemisphere lying in the Cool Temperate Western Margin (British Type) Climate.



**Temperature:** In such climatic zone, the mean annual temperatures are usually **between 40°F and 60°F**. Summers are never very warm. Monthly temperatures of over 65°F, even in mid-summer are rare. Winters are abnormally mild, and no place actually records mean January temperatures below freezing-point. This is attributed to the warming effect of the warm North Atlantic Drift and the prevalence of the South-Westerlies.

**Precipitation:** The British type of climate has **adequate rainfall throughout the year** with a tendency towards a **slight winter or autumn maximum from cyclonic sources**. Since the rain-bearing winds come from the west, the western margins have the heaviest rainfall. The amount decreases eastwards with increasing distance from the sea.

**Seasons:** There are four distinct seasons in the British climate type. Light snowfall can be expected in the winter months. Winter is the season of cloudy skies, foggy and misty mornings, and many rainy days from the passing depressions. Spring is the driest season. This is followed by the long, sunny summer. Summer is followed by the autumn.

97. (d)

**About Purchasing Power Parity (PPP):** Purchasing power parities (PPPs) are the rates of currency conversion that try to equalise the purchasing power of different currencies by eliminating the differences in price levels between countries.

**About Nominal GDP and GDP at PPP:** Nominal GDP of a country is calculated using current market exchange rates. GDP at PPP is gross domestic product converted to international dollars using purchasing power parity rates. GDP at PPP adjusts for differences in the cost of goods and services between countries to reflect their real value.

**Statement 1 is not correct:** In fact, the opposite is true, i.e. Goods and services in Country A are relatively cheaper than in Country B. When we compare two countries' economies using GDP at Purchasing Power Parity (PPP), we also look at how much people can actually buy with their money in each country. In the given case, Country A has a lower nominal GDP but a higher GDP at PPP. It indicates that while the monetary value of Country A's output might be lower than Country B's, its citizens can still acquire more goods and services with their income due to the lower prices in Country A.

**Statement 2 is not correct:** Overvalued currency means that the exchange rate makes Country A's currency appear stronger than its actual purchasing power. If Country A's currency were

significantly overvalued, its Nominal GDP would be higher than GDP at PPP, not the other way around.

98. (a)

**Context:** As per the Union Budget 2024-25, Transit Oriented Development plans will be implemented for **14 large cities** with populations above **30 Lakh**.

**About Transit-Oriented Development (TOD):** TOD integrates land use and transport planning and aims to develop planned sustainable urban growth centres, having walkable and livable communes with high-density mixed land use.

**Statement 1 is correct:** TOD emphasises high-density development around transit hubs to maximise access to public transit and reduce reliance on private vehicles. This principle supports sustainable urban growth and efficient land use.

**Statement 2 is not correct:** TOD promotes mixed-use development where residential, commercial, and recreational facilities are integrated within a compact area. Separation of zones contradicts this principle as it leads to increased travel distances and reliance on private vehicles.

**Statement 3 is not correct:** TOD seeks to promote high-density, centralized urban development near transit hubs. Encouraging low-density suburban growth is contrary to TOD's goal of minimizing commuting distances.

99. (c)

**Context:** Recently, a five-judge Constitution Bench of the **Supreme Court**, by a 4:1 majority **upheld the constitutional validity of Section 6A of the Citizenship Act, 1955**. The provision grants citizenship to two categories of migrants who entered Assam from Bangladesh.



**Statement 1 is correct:** Section 6A of the Citizenship Act, 1955 is **applicable only to immigrants from Bangladesh.**

**Statement 2 is correct:** All the immigrants who entered India before 1 January 1966 are eligible for Indian citizenship, irrespective of their religion.

**Statement 3 is correct:** Individuals who entered Assam after March 25, 1971, are deemed illegal immigrants and are not eligible for citizenship under this section.

100. (b)

**Statement 1 is not correct:** When an emergency is proclaimed under Article 352, the **Parliament becomes empowered to make laws with respect to any subject mentioned in the State List. But this does not mean that the Power of Legislature of the State is exercisable under the authority of Parliament.** The legislative power of a state legislature is not suspended and it continues to make laws (Though in case of conflict with a Union law, the Union law shall prevail). **The given statement is actually a consequence of emergency**

**under Article 356. Under the Article 356 of the Constitution, President may by Proclamation can declare that the powers of the Legislature of the State shall be exercisable by or under the authority of Parliament**

**Statement 2 is correct:** According to Article 358, when a proclamation of national emergency is made on the ground of war or external aggression, the six fundamental rights under Article 19 are automatically suspended, and no separate order for their suspension is required. As the Fundamental right to move freely throughout the territory of India is given under Article 19 (d), its suspension is a necessary consequence of the proclamation of Emergency under Article 352 on the ground of external aggression

**Statement 3 is not correct:** When the proclamation of National Emergency is in operation, the **life of the Lok Sabha may be extended** beyond the normal tenure for one year at a time, **but it is not a necessary consequence.**

