



INSIGHTSIAS
SIMPLIFYING IAS EXAM PREPARATION



JANUARY 2026

STATIC QUIZ



DELHI



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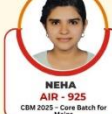
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1. Polity

1) Consider the following statements regarding the Provisions in Indian Constitution.

1. The principle of Equality prohibits the State from discrimination against any citizen on grounds only of religion, race, caste, sex and place of birth.
2. Constitution empowers the State to “make any provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and Scheduled Tribes.
3. Constitution provides for reservation of posts in favour of any backward class of citizens, which in the opinion of the State, is not adequately represented in the services under the State.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: C

Provisions of the Constitution:

- The relevant Constitutional provisions stand on two legs, which are mutually supportive. On the one hand, there is the **principle of Equality, which prohibits the State from discrimination against any citizen on grounds only of religion, race, caste, sex, place of birth** or any of them under Article 15(1), and guarantees “equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State” under Article 16(1), in addition to prohibition against discrimination against any citizen on the same grounds as in Article 15(1), specifically with respect to employment or appointment under the State.
- The other leg is the special provisions, which under **Article 15(4) empowers the State to “make any provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and Scheduled Tribes”**, and under Article 16(4) provides “for the **reservation of appointments or posts in favour of any backward class of citizens, which in the opinion of the State, is not adequately represented in the services under the State”**.”

2) A Partial Protection against Double Jeopardy is a

- a) Provision under CrPC
- b) Fundamental right
- c) Judicial convention
- d) None of the above

Solution: B

A partial protection against double jeopardy is a Fundamental Right guaranteed under Article 20 (2) of the Constitution of India, which states "No person shall be prosecuted and punished for the same offence more than once".

3) Consider the following statements.

1. The Fundamental Duties are held obligatory for all citizens subject to the State enforcing the same by means of a valid law.
2. Any law that even though it deviates from the Fundamental Rights, but has been made to give effect to the Directive Principles in Article 39(b) and Article 39(c) would not be deemed invalid.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: D

The Relationship Between the Fundamental Rights, Directive Principles and Fundamental Duties:

- Directive Principles have been used to uphold the Constitutional validity of legislation in case of conflict with Fundamental Rights.
- According to the **amendment of 1971, any law that even though it deviates from the Fundamental Rights, but has been made to give effect to the Directive Principles in Article 39(b) and Article 39 (c) would not be deemed invalid.**

The Fundamental Duties will be held obligatory for all citizens subject to the State enforcing the same by means of a valid law.

4) Consider the following statements regarding Parliamentary Committees in India.

1. All the members of Parliamentary Committees are elected by either house of the parliament.
2. They draw their authority from the Constitution of India.
3. Parliament has the authority to make rules to regulate the procedure and conduct of business of Parliamentary Committees.

Parliamentary Committees.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: C

- A Parliamentary Committee is a panel of MPs that is **appointed or elected by the House or nominated by the Speaker**, and which works under the direction of the Speaker. It presents its report to the House or to the Speaker.
- Parliamentary Committees have their origins in the British Parliament. **They draw their authority from Article 105**, which deals with the privileges of MPs, and Article 118, which gives **Parliament authority to make rules to regulate its procedure and conduct of business.**

5) Consider the following statements.

1. The Constitution has specified the process and the role of Governor in electing the speaker of State legislative assembly.
2. In State legislative assembly, Speaker decides the date for the election of the Deputy Speaker.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: B

The Constitution has not assigned any role to the Governor in the election of the Speaker under Article 178, which is exclusively the job of the House. It is only the House rule which says that the Governor shall fix the date.

It is the Speaker who decides the date for the election of the Deputy Speaker.

6) Which one of the following statements correctly distinguishes the Public Account of India from the Consolidated Fund of India?

- (a) The Public Account includes the proceeds of all loans raised by the Government, while the Consolidated Fund includes only tax revenues.
- (b) Disbursements from the Public Account require a legislative vote (Appropriation Act), whereas the Consolidated Fund is operated by executive action.

(c) The Government acts merely as a banker for funds in the Public Account, and hence, withdrawals from it do not require Parliamentary authorization.

(d) The National Small Savings Fund (NSSF) is a part of the Consolidated Fund of India, while the Provident Funds are kept in the Public Account.

Solution: C

- **Option (a) is Incorrect:** The Consolidated Fund of India (Article 266(1)) is the reservoir of *all* revenues (tax and non-tax), *all* loans raised, and *all* loan repayments received. The Public Account contains "other public moneys".
- **Option (b) is Incorrect:** It is the reverse. Article 266(3) explicitly mandates that no money can be withdrawn from the Consolidated Fund without an Appropriation Act passed by Parliament. The Public Account (Article 266(2)) is operated by executive action.
- **Option (c) is Correct:** The Public Account holds money where the government is liable to repay the depositors (Provident Funds, Small Savings, Judicial Deposits, Remittances). The government is a trustee or banker. Since this money does not belong to the government, it does not require a Parliamentary vote to repay it.
- **Option (d) is Incorrect:** Both the NSSF and Provident Funds are liabilities of the government held in the **Public Account**, not the Consolidated Fund.

7) Consider the following statements:

Statement I: A democratic government is considered more legitimate than a non-democratic government.

Statement II: In a democracy, citizens have the right to participate in decision-making, either directly or through elected representatives, and can hold the government accountable.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

Solution: A

- **Statement I** makes a widely accepted assertion in political theory. Legitimacy refers to the right and acceptance of an authority, usually a governing law or a regime. A democratic government, which is based on the consent of the governed, is generally considered to have a higher degree of legitimacy than a non-democratic government, which often rules through coercion or inheritance. So, Statement I is correct.
- **Statement II** explains the mechanism through which this legitimacy is derived. It correctly points out that democracy is people's own government. The key features of a democracy include **popular participation** (the right to vote and choose the government) and **accountability** (the ability to remove the government through elections if it fails to perform). This process of deriving power from the people and being answerable to them is the source of its legitimacy. So, Statement II is also correct.
- Statement II provides the fundamental reason why a democratic government is considered legitimate. Therefore, Statement II is the correct explanation for Statement I.

8) Consider the following statements related to the acquisition and termination of Indian citizenship:

1. The Constitution of India, in Article 5, exhaustively lays down five distinct modes for the acquisition of citizenship.
2. Article 9 of the Constitution provides that the Central Government may, by order, deprive a citizen of their citizenship on grounds of disloyalty or fraud.
3. The Citizenship Act, 1955, provides for termination of citizenship if a citizen voluntarily acquires the citizenship of another country, an event that is held in abeyance if declared during a war in which India is engaged.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: D

- **Statement 1 is incorrect.** The Constitution of India, in Articles 5-8, *only* deals with the acquisition of citizenship *at the commencement* of the Constitution (Jan 26, 1950). It does *not* lay down the five modes of acquisition. The five modes (Birth, Descent, Registration, Naturalisation, Incorporation of Territory) are laid down in the *Citizenship Act, 1955*, a law made by Parliament under Article 11.
- **Statement 2 is incorrect.** Article 9 of the Constitution is a simple, self-executing provision that *bars* dual citizenship. It states that no person shall be a citizen of India if he has *voluntarily acquired* the citizenship of any foreign state. It does *not* empower the government to *deprive* a citizen of citizenship. The power of "Deprivation" (on grounds of fraud, disloyalty, etc.) is a statutory power granted to the Central Government under Section 10 of the *Citizenship Act, 1955*.
- **Statement 3 is incorrect.** This statement correctly describes the provision for "Termination" of citizenship under Section 9 of the *Citizenship Act, 1955*. However, it misattributes the wartime exception. The exception (allowing the government to hold the registration in abeyance during a war) applies to the *Renunciation* of citizenship (Section 8 of the Act), not to automatic Termination under Section 9.

9) Consider the following statements with reference to Article 1 of the Constitution:

1. Dr. Ambedkar preferred the phrase "Union of States" over "Federation of States" to indicate that the Indian federation is not the result of an agreement among the states.
2. The territory of India comprises only the territories of the States and the Union territories specified in the First Schedule.
3. India has the power to acquire foreign territories, and such acquired territories become part of the 'Union of States' immediately upon acquisition.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

- **Statement 1 is Correct:** Dr. Ambedkar clarified in the Assembly that the phrase "Union of States" was chosen to emphasize two things: (a) The Federation was not the result of an agreement by the states (unlike the US), and (b) States have no right to secede.
- **Statement 2 is Incorrect:** Article 1(3) defines the "Territory of India" as comprising *three* categories: (a) Territories of States, (b) Union Territories, AND (c) **Such other territories as may be acquired**. The definition is broader than just States and UTs.
- **Statement 3 is Incorrect:** There is a distinction between "Union of India" (States only) and "Territory of India" (States + UTs + Acquired). Acquired territories become part of the *Territory of India*. They do not become part of the *Union of States* until Parliament passes a law admitting them as a State under Article 2.

10) With reference to the 'Anti-Defection Law' (Tenth Schedule), consider the following statements:

Statement I: A nominated member of the Rajya Sabha is disqualified if he joins any political party after the expiry of six months from the date of taking his seat.

Statement II: The Tenth Schedule protects a member from disqualification if he votes contrary to the direction of his political party with the prior permission of the party.

Statement III: The decision of the Speaker regarding disqualification is final and cannot be questioned in any court of law.

Which one of the following is correct in respect of the above statements?

- (a) Only Statement I and Statement II are correct.

- (b) Only Statement II and Statement III are correct.
- (c) All three statements are correct.
- (d) Only Statement I is correct.

Solution: A

- **Statement I is Correct:** A nominated member has a 6-month window to join a party. If they join *after* 6 months, they are disqualified.
- **Statement II is Correct:** Paragraph 2(1)(b) of the Tenth Schedule states disqualification applies if a member votes contrary to party directions (Whip) *without obtaining prior permission* of the party. If prior permission is obtained (or condoned within 15 days), there is no disqualification.
- **Statement III is Incorrect:** Paragraph 6 originally made the Speaker's decision final. However, the Supreme Court in **Kihoto Hollohan (1992)** declared this paragraph unconstitutional regarding the exclusion of judicial review. The Speaker functions as a Tribunal, and their decision **is subject to judicial review**.

11) Consider the following statements.

1. The High Court has the power to withdraw a case pending before a subordinate court and conduct the trial and award the sentence of death.
2. The Supreme Court may allow a curative petition to reconsider its judgment, if it is established that there was a violation of principles of natural justice.
3. In India, the deprivation of life is constitutionally permissible, if it is done according to the procedure established by law.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: C

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The High Court also has the power to withdraw a case pending before a subordinate court and conduct the trial and may award the sentence of death.

After the death sentence is confirmed by the High Court, an appeal by Special Leave Petition under Article 136 of the Constitution may be filed with the Supreme court.

Under Article 136, the Supreme Court decides whether the special leave petition deserves to be heard as an appeal or not.

Curative petition: The Supreme Court may allow a curative petition to reconsider its judgment or order if it is established that there was a violation of principles of natural justice or suspicion of bias in the role of a judge.

Jagmohan Singh v. State of UP 1973 case: **Supreme Court held that according to Article 21 deprivation of life is constitutionally permissible if that is done according to the procedure established by law.**

12) Consider the following statements.

1. Article 256 of the Constitution obligates the State government to ensure implementation of the laws made by Parliament.
2. The refusal to enforce the laws made by Parliament even after the Centre issues directions would empower the President to impose President's Rule in those States under Articles 356 and 365.
3. S.R. Bommai v. Union of India is a significant case on Indian federalism.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: C

Article 256 of the Constitution obligates the State government to ensure implementation of the laws made by Parliament. If the State government fails to do so, the Government of India is empowered to give “such directions to a State as may appear... to be necessary”. The refusal to enforce the law even after the Centre issues directions would empower the **President to impose President’s Rule in those States under Articles 356 and 365.** The Supreme Court of India has also confirmed this reading of the law in **S.R. Bommai v. Union of India — arguably the most significant case on Indian federalism.**

13) Which of the following is/are not the federal features of the Indian Constitution?

1. The Constitution is written and not easily amendable.
2. State governments derive authority from the Centre.
3. Equal number of seats for all states in Rajya Sabha.

Select the correct answer code:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Solution: B

- The division of powers established by the Constitution as well as the supremacy of the Constitution can be maintained only if the method of its amendment is rigid. Hence, the Constitution is rigid to the extent that those provisions which are concerned with the federal structure.
- **State governments derive their authority from the constitution**, not the Centre.
- The states are given representation in the Rajya Sabha on the basis of population. Hence, the membership varies from 1 to 31.

14) Consider the following statements regarding Gram Sabha.

1. Gram Sabha is a *permanent body*.
2. Constitution mentions that *Gram Sabha exercises such powers and performs such functions at the village level as the Legislature of a State may, by law, provide.*
3. *The power to annul a decision of the Gram Sabha rests with the District Collector.*

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 3 is incorrect.

- The term Gram Sabha is defined in the Constitution of India under Article 243(b). Gram Sabha is the primary body of the Panchayati Raj system and by far the largest.
- **It is a permanent body.**
- The power to annul a decision of the Gram Sabha rests with the Gram Sabha only.

Composition:

- Persons, those who are above 18 years of age.
- Living in the village.
- Whose names are included in the electoral rolls for the Panchayat at the village level.

Constitution mentions that **Gram Sabha exercises such powers and performs such functions at the village level as the Legislature of a State may, by law, provide.**

15) Consider the following statements regarding Lok Sabha.

1. Lok Sabha has a normal term of 5 years, after which it automatically dissolves.
2. Once the Lok Sabha is dissolved before the completion of its normal tenure, the dissolution is irrevocable.
3. Revocation of National Emergency is the exclusive power of Lok Sabha.

How many of the above statements are incorrect?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

Statement 3 is incorrect.

The dissolution of the Lok Sabha may take place in either of two ways:

1. **Automatic dissolution**, that is, on the expiry of its tenure of five years or the terms as extended during a national emergency; or
2. **Whenever the President decides to dissolve the House, which he is authorised to do. Once the Lok Sabha is dissolved before the completion of its normal tenure, the dissolution is irrevocable.**

A **proclamation of emergency may be revoked by the President at any time** by a subsequent proclamation. Such a proclamation does not require the parliamentary approval.

Further, the President must revoke a proclamation if the Lok Sabha passes a resolution disapproving its continuation.

16) Consider the following statements regarding the financial procedures in the Parliament:

1. The 'Annual Financial Statement' is laid before both Houses of Parliament under Article 112, but the Constitution does not explicitly use the term 'Budget'.
2. No demand for a grant can be made except on the recommendation of the President of India.
3. The expenditure 'charged' upon the Consolidated Fund of India is not submitted to the vote of Parliament, but can be discussed in either House.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: C

- **Statement 1 is Correct:** Article 112 of the Constitution mandates the President to lay the "Annual Financial Statement" (AFS) before Parliament. The word "Budget" is a colloquial term derived from the French word 'bougette' (leather bag) and finds no mention in the constitutional text.
- **Statement 2 is Correct:** Article 113(3) enshrines the principle of executive initiative in financial matters. It states that "No demand for a grant shall be made except on the recommendation of the President." This ensures that financial proposals originate from the executive, preventing legislative populism where MPs might propose unlimited spending.
- **Statement 3 is Correct:** Article 113(1) separates expenditure 'charged' upon the Consolidated Fund of India (CFI) from expenditure 'made' from it. Charged expenditure (e.g., salaries of President, Judges, Debt charges) constitutes the sovereign obligations of the state. While it is non-votable to ensure the independence of these offices and the certainty of debt servicing, the Parliament retains the right to **discuss** these estimates.

17) With reference to Article 293 of the Constitution of India, consider the following statements:

1. A State Government can borrow directly from external (foreign) sources with the consent of the Parliament.
2. A State may not raise any loan without the consent of the Government of India if there is any outstanding loan which has been made to the State by the Government of India.
3. The Government of India may impose conditions while granting consent for state borrowings, such as the implementation of specific power sector reforms.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

- **Statement 1 is Incorrect:** States are **prohibited** from borrowing externally. They can only borrow within the territory of India (Article 293(1)). External loans for state projects are routed through the Centre (Back-to-Back loans).
- **Statement 2 is Correct:** Article 293(3) stipulates that if a State owes a debt to the Centre (or has a Centre-guaranteed loan outstanding), it needs Centre's consent for any fresh borrowing. This effectively places State fiscal sovereignty under Union check.
- **Statement 3 is Correct:** Article 293(4) allows the Centre to impose "conditions" while granting consent. The Centre has used this to enforce fiscal discipline (like FRBM targets) or specific reforms (like the additional borrowing space linked to Power Sector reforms or One Nation One Ration Card).

18) Consider the following statements about the Parliamentary form of government:

1. The head of the government is distinct from the head of the state.
2. There is a strict separation of powers between the executive and legislative branches.
3. The executive's tenure is fixed and not dependent on the confidence of the legislature.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

- **Statement 1 is correct.** A key characteristic of the parliamentary system is the presence of a **dual executive**. The **head of state** (e.g., the President in India, the Monarch in the UK) is the nominal or ceremonial executive, while the **head of government** (the Prime Minister) is the real executive, who wields effective power. This contrasts with the presidential system, where the President is both head of state and head of government.
- **Statement 2 is incorrect.** The parliamentary system is defined by a **fusion of powers** or close collaboration between the executive and the legislature, not a strict separation. The ministers (executive) are drawn from the members of the legislature, and the executive is collectively responsible to the legislature. This overlap is a fundamental feature.
- **Statement 3 is incorrect.** The tenure of the executive (the Council of Ministers) is **not fixed**. It is entirely dependent on maintaining the confidence of the majority in the lower house of the legislature. If the government loses a no-confidence motion, it must resign. This principle of collective responsibility makes the executive's tenure variable, unlike the fixed tenure in a presidential system.

19) With reference to the federal nature of the Indian Constitution, consider the following statements:

1. The power of Parliament to form a new State by altering the boundaries of existing States under Article 3 renders the States non-sovereign.
2. The provision for All-India Services (Article 312) is considered a feature that strengthens the federal principle of the Constitution.

3. An amendment to the Constitution under Article 368 that affects the executive power of the States requires ratification by the legislatures of all the States.
4. The phrase "Union of States" in Article 1 was chosen to signify that the Indian federation is not the result of an agreement among the States.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Solution: B

- **Statement 1 is correct.** Article 3 gives Parliament the power to alter the boundaries, area, or names of existing states. This provision makes the states "destructible" while the Union is "indestructible," which is a significant unitary feature and confirms that the constituent states in India are not sovereign entities in the way they are in a classic federation like the USA.
- **Statement 2 is incorrect.** The provision for All-India Services (IAS, IPS, etc.) is a prominent unitary (or centripetal) feature, not a federal one. These services are recruited and trained by the Centre but serve in state cadres, allowing the Union government significant involvement and, to an extent, control over state executive machinery. It strengthens the Centre, which is contrary to the pure federal principle.
- **Statement 3 is incorrect.** Article 368 requires that any amendment affecting the "federal provisions" (which includes the executive power of the States) must be ratified by the legislatures of not less than one-half of the States, not all the States.
- **Statement 4 is correct.** Dr. B.R. Ambedkar, in the Constituent Assembly, explicitly stated that the phrase "Union of States" was used over "Federation of States" to make two things clear: first, that the Indian federation is not the result of an agreement by the states to join (unlike the USA), and second, as a consequence, no state has the right to secede from it.

20) With reference to the Indian Independence Act, 1947, consider the following statements:

1. It provided that the British Paramountcy over the Princely States would lapse and revert to the respective States, leaving them legally independent.
2. It empowered the Constituent Assembly of each Dominion to repeal any Act of the British Parliament, including the Independence Act itself.
3. It designated the Governor-General of India as the constitutional head with full executive authority to act in his discretion on all matters until the new Constitution was framed.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

- **Statement 1 is Correct:** Section 7 of the Indian Independence Act, 1947, declared the **lapse of British Paramountcy**. This meant the treaties between the Crown and Princely States ended. Legally, the states regained their independence and were free to join India, Pakistan, or remain independent (though the latter was practically difficult).
- **Statement 2 is Correct:** This was a unique feature of the Act. It granted the Constituent Assemblies of the new Dominions **plenary sovereign power**. They could frame any Constitution and repeal any British Act, including the very Act that gave them independence. This ensured that the new Constitution would be autochthonous (home-grown) and not derived from British authority.
- **Statement 3 is Incorrect:** Under the Act, the Governor-General became a **Constitutional Head**. He lost the "discretionary powers" he held under the 1935 Act. He was required to act on the **advice of the Council of Ministers** in *all* matters. The era of the Viceroy acting on his own judgment ended on August 15, 1947.

21) Consider the following statements.

1. The Indian Federation is a dual polity and dual judiciary.
2. The Supreme Court of India has held that the federalist nature of our country is part and parcel of the basic structure of the Constitution.
3. Confederalism is when the States are supreme, and are coordinated by a weak centre.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 1 is incorrect.

The essential characteristic of federalism is the distribution of limited executive, legislative and judicial authority among bodies which are coordinate with and independent of each other.

India is a union of States. **The Supreme Court of India has held that the federalist nature of our country is part and parcel of the basic structure of the Constitution.**

Federalism is a midpoint between unitarism which has a supreme centre, to which the States are subordinate, **and confederalism wherein the States are supreme, and are merely coordinated by a weak centre.**

Dr. B.R. Ambedkar stated in the Constituent Assembly: **“The Indian Federation though a dual polity has no dual judiciary at all. The High Courts and the Supreme Court form one single integrated judiciary** having jurisdiction and providing remedies in all cases arising under the constitutional law, the civil law or the criminal law.

22) Consider the following statements.

1. Gram Sabha is a channel to include the less privileged section of society and ensure their participation in the village level governance.
2. Construction and maintenance of roads within the village is the responsibility of the Gram Panchayat (GP).
3. Gram Panchayats does not have the power to generate their own source of revenue and depends on the grants provided by the State Government as per the recommendations of the Finance Commission.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: A

Since all eligible voters of the village can participate in the Gram Sabha, it is a channel to include the less privileged section of society and ensure their participation in the village level governance wherein they can advocate their developmental aspirations.

While connectivity of one village with another is beyond the jurisdiction of a GP, **construction and maintenance of roads within the village is the responsibility of the GP.**

Most of the GPs are found reluctant to raise own source of revenue (OSR) in the selected sample. However, **some of the GPs are able to generate OSR in the form of tax or non-tax revenue by renting shops, house tax and clean water fee.**

23) Which of the following conditions precedent for the successful working of Democracy?

1. Public conscience
2. Avoidance of tyranny of majority over minority
3. Equality of law and administration
4. Functioning of moral order in society
5. Presence of an opposition

How many of the above options is/are correct?

- a) Only two
- b) Only three
- c) Only four
- d) All five

Solution: D

Conditions Precedent for the Successful Working of Democracy:

- Absence of glaring inequalities
- Presence of an opposition
- Equality of law and administration
- Observance of constitutional morality
- Avoidance of tyranny of majority over minority
- A functioning of moral order in society
- Public conscience

24) Consider the following statements.

1. The Fundamental Rights are legally enforceable in a court of law in India.
2. In the *Minerva Mills* judgment (1980), the Supreme Court held that, "Indian Constitution is founded on the bed-rock of the balance between Part IV and Part V of the Constitution."
3. According to the Constitution, if a law is made to implement any of the Directive Principles, it cannot be challenged on the ground of being violative of the Fundamental Rights under Articles 14 and 19.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 2 is incorrect.

- The **Fundamental Rights** lie at the heart of the Constitution, and are justiciable — that is, they are **legally enforceable in a court of law**.
- In its landmark **Minerva Mills judgment (1980)**, the Supreme Court held: "**Indian Constitution is founded on the bed-rock of the balance between Parts III (Fundamental Rights) and IV (Directive Principles)**. To give absolute primacy to one over the other is to disturb the harmony of the Constitution."
- Article 31C says that **if a law is made to implement any of the Directive Principles, it cannot be challenged on the ground of being violative of the Fundamental Rights under Articles 14 and 19.**

25) Which of the following schedules of the constitution gives a clear constitutional recognition to the existence of the system of "political parties" in India?

- a) Ninth Schedule
- b) Tenth Schedule
- c) Seventh Schedule
- d) Third Schedule

Solution: B















The Tenth Schedule of the Constitution (which embodies the anti-defection law) is designed to prevent the evil or mischief of political defections motivated by the lure of office or material benefits or other similar considerations. Since the **anti-defection provisions clearly mention the existence of political parties** (and members being disqualified on leaving its membership), the Tenth schedule recognizes the system of political parties.

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2. Geography

1) Consider the following statements.

1. Earth's crust has a density higher than the mantle part of Earth.
2. The inner core of the Earth is in solid state.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: B

The portion of the interior beyond the crust is called the **mantle**. It has a density higher than the crust's (3.4 g/cm³).

The **outer core of Earth is in liquid state while the inner core is in solid state**. The core is made up of very heavy material mostly constituted by nickel and iron. It is sometimes referred to as the nife layer.

2) Consider the following statements regarding Karst topography.

1. It is commonly associated with carbonate rocks.
2. Such topography occurs only in tropical and temperate environments.
3. Nearly a quarter of the world's population depends upon water supplied from karst areas.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 2 is incorrect.

The term karst describes a distinctive topography that indicates dissolution (also called chemical solution) of underlying soluble rocks by surface water or ground water. Although commonly **associated with carbonate rocks** (limestone and dolomite) other highly soluble rocks such as evaporates (gypsum and rock salt) can be sculpted into karst terrain.

Understanding caves and karst is important because ten percent of the Earth's surface is occupied by karst landscape and as much as a **quarter of the world's population depends upon water supplied from karst areas**. Though most abundant in humid regions where carbonate rock is present, karst terrain occurs in **temperate, tropical, alpine and polar environments**.

- 3) Consider the following statements regarding Badland Topography.
1. Presence of Hard archaic granite rock system.
 2. Characterized by steep slopes and minimal vegetation.
 3. The geologic forms of Canyons, ravines, gullies, buttes and mesas are common in badlands.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 1 is incorrect.

Badlands are a type of dry terrain where **softer sedimentary rocks** and clay-rich soils have been extensively eroded by wind and water. They are characterized by **steep slopes, minimal vegetation**, lack of a substantial regolith, and high drainage density. They can resemble malpaís, a terrain of volcanic rock. **Canyons, ravines, gullies, buttes, mesas, hoodoos and other such geologic forms are common in badlands.**



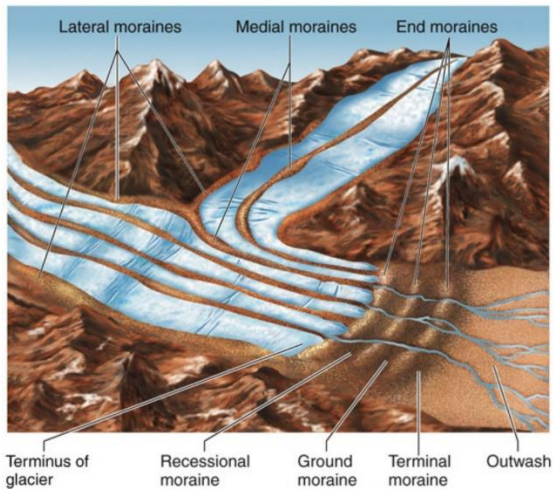
- 4) Consider the following statements.
1. Moraines are accumulations of dirt and rocks that have fallen onto the glacier surface or have been pushed along by the glacier as it moves.
 2. Loess is a type of silt which forms fertile topsoil in some parts of the world.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: C

Moraines are accumulations of dirt and rocks that have fallen onto the glacier surface or have been pushed along by the glacier as it moves. The dirt and rocks composing moraines can range in size from powdery silt to large rocks and boulders. A receding glacier can leave behind moraines that are visible long after the glacier retreats.



Loess consists of tiny mineral particles brought by wind to the places where they now lie. It is a product of past glacial activity in an area. It is a sedimentary deposit of mineral particles which are finer than sand but coarser than dust or clay, deposited by the wind. **Loess is a type of silt which forms fertile topsoil in some parts of the world.**



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- 5) Which of these geographical features is most likely to have the lowest mean elevation?
- Plains
 - Deltas
 - Plateaus
 - Islands

Solution: B



- 6) Consider the following statements regarding Saline soils.
- Saline soils have more salts, largely because of dry climate and poor drainage.
 - Saline soils are also known as Urvara Soils.
 - They occur in arid and semi-arid regions, and in waterlogged and swampy areas.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 2 is incorrect.

Saline soils are also known as **Usara soils**. Saline soils contain a larger proportion of sodium, potassium and magnesium, and thus, they are infertile, and do not support any vegetative growth. They have more salts, largely because of dry climate and poor drainage. They **occur in arid and semi-arid regions, and in waterlogged and swampy areas**.

7) Consider the following statements.

1. Bulk of the valuable minerals in India are products of pre-Palaeozoic age and are associated with metamorphic and igneous rocks of the peninsular India.
2. The vast alluvial plain tract of north India are rich in minerals of economic use.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: B

India is endowed with a rich variety of mineral resources due to its varied geological structure. **Bulk of the valuable minerals are products of pre-palaeozoic age and are mainly associated with metamorphic and igneous rocks of the peninsular India. The vast alluvial plain tract of north India is devoid of minerals of economic use.**

8) Dharwar rock system is considered special by geologists because

- a) It is the oldest system of rocks in India.
- b) It hosts the deepest diamond mines in India.
- c) It provides the first metamorphic sedimentary rocks in India.
- d) All of the above

Solution: C

Dharwar system is later than the Archean system but older than the other systems. The Dharwar period of rock formation has been largely fixed from 2500 million years ago to 1800 million years ago.

Dharwar Rock System is special because it is the first metamorphic sedimentary rocks in India. They are named Dharwar system because they were first studied in Dharwar region of Karnataka. But they are also found in Aravallis, Tamil Nadu, Chotanagpur plateau, Meghalaya, Delhi, and the Himalayas region.

The Dharwar rocks are rich in iron ore, manganese, lead, zinc, gold, silver etc.

9) Consider the following statements.

1. It is the ore which is used in manufacturing of aluminium.
2. It is mainly in tertiary deposits and is associated with laterite rocks.
3. It also occurs in the coastal tracts of India.

The above statements refer to

- a) Copper
- b) Nickel
- c) Bauxite
- d) None of the above

Solution: C

Bauxite is the ore which is used in manufacturing of aluminium. Bauxite is found mainly in tertiary deposits and is associated with laterite rocks occurring extensively either on the plateau or hill ranges of peninsular India and also in the **coastal tracts of the country**. Odisha happens to be the largest producer of Bauxite.

10) One can infer which of the following information from a population pyramid?

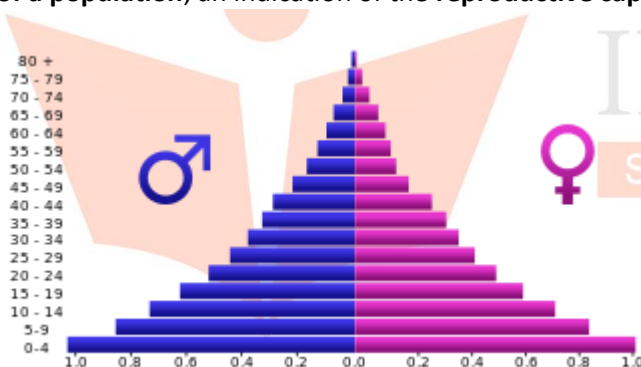
1. Distribution of various age groups in a population
2. Gender composition based on age groups
3. Density of population
4. Reproductive capabilities and likelihood of the continuation of a species

Select the correct answer code:

- a) 1 and 2 only
- b) 1, 2 and 3 only
- c) 1, 2 and 4 only
- d) 1, 2, 3 and 4

Solution: C

A population pyramid, also called an "**age-gender-pyramid**", is a graphical illustration that shows the **distribution of various age groups in a population** (typically that of a country or region of the world), which forms the shape of a pyramid when the population is growing. It is also used in ecology to determine the **overall age distribution of a population**; an indication of the **reproductive capabilities and likelihood of the continuation of a species**.



11) Which of the following are characteristic features of the Mediterranean biome?

1. The climate is characterized by hot, dry summers and mild, wet winters.
2. The natural vegetation is dominated by sclerophyllous shrubs.
3. The biome is prone to frequent natural fires, especially during late summer.
4. It is primarily located on the eastern coasts of continents in the mid-latitudes.

Select the correct answer code.

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

Solution: A

- **Statement 1 is correct.** This is the defining climatic feature of the Mediterranean biome. The seasonal shift of the global pressure belts brings the region under the influence of the dry, subtropical high in the summer and the moist, westerly winds in the winter.
- **Statement 2 is correct.** The vegetation has adapted to the summer drought. **Sclerophyllous** vegetation, with its hard, leathery, and often waxy leaves, is a classic adaptation to minimize water loss. This type of vegetation is known as maquis in Europe, chaparral in California, and fynbos in South Africa.

- **Statement 3 is correct.** The combination of a long summer drought, high temperatures, and vegetation rich in flammable oils makes the Mediterranean biome highly susceptible to **natural fires**. Fire is a natural and integral part of the ecosystem's dynamics, and many plant species have evolved fire-resistant or fire-dependent traits.
- **Statement 4 is incorrect.** The Mediterranean biome is found on the **western coasts** of continents, typically between 30° and 40° latitude. This includes the Mediterranean Sea basin, California, Central Chile, the Cape region of South Africa, and parts of southwestern and southern Australia. Eastern coasts in these latitudes typically have a humid subtropical climate with summer rainfall.

12) Consider the following statements:

Statement-I: The Equator experiences the highest average annual temperatures on the Earth's surface.

Statement-II: The sun's rays are nearly vertical at the Equator throughout the year, and the length of day and night is almost equal.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

Solution: D

- **Statement-I is incorrect.** While the Equator receives high and consistent solar insolation, it does not record the highest average annual temperatures. The presence of dense cloud cover and heavy rainfall (associated with the ITCZ) throughout the year reflects a significant amount of solar radiation and uses energy for evaporation, which has a cooling effect. The **highest average temperatures are typically found in the subtropical hot deserts** (around 20°-30° N/S), where the sun is high in the sky, skies are clear, and rainfall is minimal.
- **Statement-II is correct.** The reason for the high insolation at the Equator is accurately stated. The sun is always high in the sky, and its rays strike the surface at a high angle (close to vertical), concentrating the energy. Additionally, the **duration of daylight is consistently around 12 hours** every day of the year. This provides a constant and intense supply of solar energy.

13) Consider the following statements regarding circum-Pacific belt.

Statement-I: The circum-Pacific belt, also known as the 'Ring of Fire', is one of the important zones for the occurrence of hydrothermal polymetallic sulphide deposits on the seafloor.

Statement-II: The tectonic process of subduction and seafloor spreading along the plate boundaries in the circum-Pacific belt creates active hydrothermal vents that precipitate metal-rich minerals.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
- Both Statement-I and Statement-II are correct but Statement-II is not the correct explanation for Statement-I.
- Statement-I is correct but Statement-II is incorrect.
- Statement-I is incorrect but Statement-II is correct.

Solution: A

- The circum-Pacific belt, popularly called the Ring of Fire, is characterised by intense tectonic activity due to the interaction of multiple lithospheric plates. This region hosts extensive subduction zones, back-arc basins, and mid-ocean ridge-like spreading centres, all of which are favourable settings for hydrothermal circulation.
- Seawater penetrates deep into the oceanic crust through fractures, gets heated by underlying magma, and then rises back to the seafloor through hydrothermal vents. During this process, metals such as copper, zinc,

iron, gold, and silver are leached from the crust and subsequently precipitated as sulphide minerals when the hot fluids mix with cold seawater.

- Therefore, Statement-I is factually correct in identifying the circum-Pacific belt as a major zone for seafloor hydrothermal polymetallic sulphide deposits.
- Statement-II correctly explains the tectonic mechanism—subduction-related magmatism and seafloor spreading—that generates the hydrothermal systems responsible for these deposits.

14) With reference to the major physical features of North America, consider the following statements:

1. The Canadian Shield is a vast area of ancient igneous and metamorphic rocks rich in metallic mineral deposits.
2. The Mississippi-Missouri river system drains primarily into the Arctic Ocean.
3. The Rocky Mountains are geologically older and more eroded than the Appalachian Mountains.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

- **Statement 1 is correct.** The **Canadian Shield** forms the geological core of the North American continent. It is a large area of exposed Precambrian igneous and high-grade metamorphic rocks (a craton). Centuries of glacial action have scraped the surface bare, exposing vast deposits of metallic minerals, including nickel, uranium, gold, silver, and copper, making it one of the world's richest mining regions.
- **Statement 2 is incorrect.** The **Mississippi-Missouri river system**, the largest in North America, flows southward across the central United States and drains into the **Gulf of Mexico**, which is an arm of the Atlantic Ocean. It does not drain into the Arctic Ocean. The Mackenzie River is an example of a major North American river that drains into the Arctic.
- **Statement 3 is incorrect.** The **Rocky Mountains** are geologically much younger than the Appalachians. The Rockies are part of the Western Cordillera and were formed during the Laramide orogeny, which began around 80 million years ago. They are characterized by rugged, high peaks. In contrast, the **Appalachian Mountains** were formed during the Paleozoic Era (over 300 million years ago) and have been subject to erosion for a much longer period, resulting in lower, more rounded peaks.

15) With reference to Jute cultivation in India, consider the following statements:

1. It is a Rabi crop requiring a cool, dry climate during its growing period.
2. Its cultivation is concentrated in the western states of Gujarat and Rajasthan.
3. The process of retting, which is crucial for extracting the fibre, requires abundant and clear, slow-moving water.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

- **Statement 1 is incorrect.** Jute is a **Kharif crop**, not a Rabi crop. It is grown during the monsoon season and requires a **hot and humid climate**, with temperatures ranging from 24°C to 35°C and high relative humidity. It needs significant rainfall (120-150 cm) during its growing period. A cool, dry climate is completely unsuitable for jute cultivation.
- **Statement 2 is incorrect.** Jute cultivation is heavily concentrated in the **eastern states of India**, not the western states. The fertile alluvial soils of the Ganga-Brahmaputra delta and the hot, humid monsoon climate of this region provide ideal conditions. **West Bengal is the largest producer**, accounting for about three-

fourths of the country's total jute production. Other major producers are Bihar and Assam. Gujarat and Rajasthan are arid/semi-arid regions and are unsuitable for jute.

- **Statement 3 is correct.** The extraction of jute fibre from the plant stalk is a critical process known as **retting**. After harvesting, the jute stalks are bundled and submerged in **abundant, clear, and slow-moving water** (like in ponds, ditches, or slow rivers) for several days. This allows bacteria to decompose the gummy material that binds the fibre to the stalk, making it easy to separate the fibre. The availability of suitable water bodies for retting is a key factor determining the location of jute cultivation and processing, which is why it is concentrated in the deltaic regions of West Bengal.

16) Consider the following statements.

1. Geothermal gradient is *the rate of temperature change with respect to increasing depth in Earth's interior*.
2. Magma is lighter than solid rock and hence it rises.
3. Usually Magma that is thick and sticky leads to explosive volcanic eruptions, compared to *magma* that has low viscosity.

How many of the above statements is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: c)

The geothermal gradient, the amount that the Earth's temperature increases with depth, indicates heat flowing from the Earth's warm interior to its surface. At a certain depth, the heat is such that it melts rocks and creates what geologists call 'magma'.

Magma is lighter than solid rock and hence it rises, collecting in magma chambers. Chambers which have the potential to cause volcanic eruptions are found at a relatively shallow depth. The magma that surfaces on the Earth's crust is referred to as lava.

Why are some volcanic eruptions explosive and some not?

In simple terms, **runny magma makes for less explosive volcanic eruptions that typically are less dangerous**. Since the magma is runny, gasses are able to escape, leading to a steady but relatively gentle flow of lava out of the mouth of the volcano. The eruption at Mauna Loa is of this kind. Since the lava flows out at a slow pace, people typically have enough time to move out of the way.

If magma is thick and sticky, it makes it harder for gasses to escape on a consistent basis. This leads to a build-up of pressure until a breaking point is reached. At this time, the gasses escape violently, all at once, **causing an explosion**. Mount Vesuvius, which obliterated the city of Pompeii, is an example of an explosive volcano.

17) Consider the following statements regarding Bomb cyclone.

1. Bomb cyclones form when air near Earth's surface rises quickly in the atmosphere, triggering a sudden drop in barometric pressure.
2. Bomb cyclones arise in mid-latitudes, where fronts of warm and cold air might collide.
2. All bomb cyclones are hurricanes.

How many of the above statements is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: b)

Statement 3 is incorrect.

A bomb cyclone is simply a storm that intensifies very rapidly. **Bomb cyclones form when air near Earth's surface rises quickly in the atmosphere, triggering a sudden drop in barometric pressure.**

All bomb cyclones are not hurricanes. But sometimes, they can take on characteristics that make them look an awful lot like hurricanes, with very strong winds, heavy precipitation and well-defined eye-like features in the middle.

Hurricanes tend to form in tropical areas and are powered by warm seas. For this reason, they're most common in summer or early fall, when seawater is warmest.

In contrast, bomb cyclones don't need balmy ocean waters in order to form. While they sometimes arise over the ocean, they can also appear over land — as was the case with the cyclone that hit the northern Plains in March 2019.

Unlike hurricanes, **bomb cyclones arise in mid-latitudes, where fronts of warm and cold air might collide.** They rarely strike in summer, when the weather is generally warm across the Northern Hemisphere. Rather, they form between late fall and early spring, when warm tropical air bumps up against frigid Arctic air.

18) Consider the following pairs:

Ocean Current	Region
1. Oyashio	Indian Ocean
2. Benguela	North Atlantic Ocean
3. Peruvian	Pacific Ocean

Which of the above is/are correctly matched?

- a) 1, 2
- b) 2 only
- c) 3 only
- d) None

Solution: c)

- Oyashio current – Pacific Ocean
- Benguela current – South Atlantic Ocean

19) Consider the following statements.

1. Atmospheric pressure is caused due to the weight of the overlying atmosphere.
2. Isobars that are widely spaced apart indicate strong winds or a high-pressure gradient.
3. Coriolis force determines that moving air masses in the northern hemisphere and southern hemisphere deflect in exactly the same direction.

How many of the above statements is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: a)

Only Statement 1 is correct.

Atmospheric Pressure: force exerted by the weight of the air. Atmospheric pressure is defined as the force per unit area exerted against a surface by the weight of the air molecules above that surface.

Isobars are imaginary lines that connect points of equal atmospheric pressure on a given day. Pressure gradient force is what determines the strength of winds.

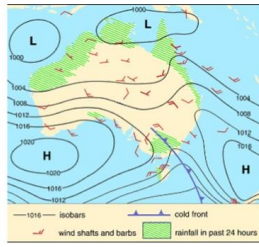
Isobars that are widely spaced apart indicate gently blowing winds (pressure gradient force is low).

Isobars that are closely spaced together indicate strong winds (high pressure gradient).

Pressure Gradients

Closely spaced isobars indicate a steep pressure gradient and **high winds**.

Widely spaced isobars indicate a weak pressure gradient and **light winds**.



The Coriolis force, caused by the spin of the Earth, determines that moving air masses in the northern hemisphere deflect to the right. It is the opposite in the southern hemisphere.

20) Consider the following statements regarding the role played by tropical cyclones on regional and global climate.

1. They can often bring intense rainfall to drought prone regions.
2. They carry heat energy away from the tropics and transport it toward temperate latitudes.
3. They also act as the earth's filter system by cleansing the air of toxins and pollutants out of the atmosphere.

How many of the above statements is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: c)

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Tropical cyclones can relieve drought conditions as they often carry moisture laden winds.

In addition to strong winds and rain, tropical cyclones are capable of generating high waves, damaging storm surge, and tornadoes.

They typically weaken rapidly over land where they are cut off from their primary energy source. For this reason, **coastal regions are particularly vulnerable to damage from a tropical cyclone as compared to inland regions.** Heavy rains however, can cause significant flooding inland, and storm surges can produce extensive coastal flooding up to 25 miles from the coastline.

They also carry heat energy away from the tropics and transport it toward temperate latitudes, because they are large wind systems that absorb the frontal conditions of the area they flow in.

Finally, due to the high speed they blow in, **they also act as the earth's filter system by cleansing the air of toxins and pollutants out of the atmosphere.**

3. Economy

- 1) Consider the following statements about Conditional cash transfers (CCTs):
1. Conditional cash transfers impose no requirements on how recipients spend the money.
 2. They are always provided as loans that must be repaid.
 3. Examples of CCTs include universal basic income programs.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: C

Statement 1: Conditional cash transfers require recipients to fulfill specific conditions, such as school attendance or vaccinations.

Statement 2: Conditional cash transfers are not loans; they are financial aids tied to specific actions, like school attendance or vaccinations.

Statement 3: Universal basic income programs are examples of universal transfers, not conditional cash transfers.

What Are Cash Transfers?

Cash transfers are direct payments made by governments to individuals or households to provide social protection or incentivize specific actions.

Types of Cash Transfers:

- **Unconditional Transfers:** No strings attached; recipients can use the money as needed (e.g., PM-KISAN).
- **Conditional Transfers:** Linked to specific actions like school attendance or vaccinations (e.g., Maternity Benefit Program).
- **Universal Transfers:** Provided to all citizens regardless of income or status.
- **Targeted Transfers:** Focused on specific vulnerable groups like elderly pensions under NSAP.

- 2) Consider the following statements about Green Banks:
1. Green Banks primarily rely on individual savings accounts as their main source of funding.
 2. They finance only large-scale renewable energy projects, excluding smaller community initiatives.
 3. Recovered capital from loans is reinvested into new green projects to sustain funding cycles.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

Statement 1 is Incorrect. Green Banks are funded through government grants, environmental cesses, and green bonds, not individual savings accounts.

Statement 2 is Incorrect. Green Banks finance projects of various scales, including small-scale and community-level initiatives, to maximize environmental impact.

Statement 3 is Correct. A key feature of Green Banks is the reinvestment of returned capital into new green projects, ensuring a self-sustaining financing mechanism.

What Are Green Banks?

Green Banks are mission-driven financial institutions designed to accelerate clean energy adoption and fight climate change. Unlike traditional banks, they focus on financing proven, environmentally friendly projects while ensuring capital recovery for reinvestment.

How Green Banks Work:

- **Capital Mobilization:** Funds are sourced via government grants, environmental cesses, and issuing green bonds.
 - **Targeted Lending:** Loans focus on viable clean energy projects with assured repayment potential.
 - **Market Development:** Green Banks identify and finance opportunities to maximize environmental and economic returns.
 - **Circular Investment:** Returned capital is reinvested into new green projects, creating a self-sustaining financing loop.
- 3) Which of the following sectors are permitted to raise funds through External Commercial Borrowings (ECBs) under the Automatic Route in India?
- a) Agriculture, trading, and real estate investment trusts (REITs)
 - b) Microfinance, start-ups, and non-banking financial companies (NBFCs)
 - c) Gambling, lottery, and real estate development
 - d) Defense manufacturing, power distribution, and healthcare infrastructure

Solution: D

ECBs under the Automatic Route are generally allowed for sectors that promote economic growth, such as defense manufacturing, power, and healthcare. Restricted sectors like gambling, lottery, and real estate (excluding affordable housing) are not eligible for ECBs.

- 4) Which of the following best describes the concept of “Systematic Deregulation” introduced in the Economic Survey 2024-25?
- a) A framework for standardizing regulations across all sectors
 - b) A phased approach for reviewing and reducing regulatory burdens on enterprises
 - c) A system for states to impose new regulations in a structured manner
 - d) A blanket removal of all regulations to promote economic growth

Solution: B

- **The Economic Survey 2024-25 emphasizes *Systematic Deregulation* as a structured and phased approach to regulatory reforms.** Unlike blanket deregulation, which removes all rules indiscriminately, this method ensures a balanced reduction of unnecessary regulatory burdens while retaining essential safeguards.
 - The process consists of three key steps:
 - first, identifying outdated or excessive regulations that hinder business operations;
 - second, benchmarking these regulations against best practices from other states and countries to determine their necessity; and
 - third, assessing the economic costs imposed by these regulations on enterprises.
 - By streamlining regulatory frameworks, the policy enhances ease of doing business, encourages entrepreneurship, and boosts economic efficiency.
- 5) Consider the following statements about the Debt-to-GDP ratio:
1. It measures the government’s total fiscal deficit in a given year.
 2. It includes only external debt and excludes domestic borrowing.
 3. It is always considered a negative indicator for a country’s economy.

How many of the above statements are incorrect?

- a) Only one
- b) Only two

- c) All three
- d) None

Solution: C

The **Debt-to-GDP ratio** is an important indicator of a country's financial health, representing the proportion of a nation's total debt compared to its gross domestic product (GDP). It helps assess a country's ability to repay its debt based on its economic output.

- **Statement 1 is incorrect** because the ratio measures **total accumulated government debt**, including past deficits, rather than just the **fiscal deficit of a single year**.
 - **Statement 2 is incorrect** because the **Debt-to-GDP ratio includes both external (foreign) and domestic (internal) debt**, giving a comprehensive picture of national liabilities.
 - **Statement 3 is incorrect** as a high **Debt-to-GDP ratio is not always negative**. Some countries, like Japan, maintain high debt levels due to strong investor confidence, low interest rates, and stable economic policies.
- 6) Consider the following statements regarding the governance and quota system of the International Monetary Fund (IMF):
1. A member country's quota in the IMF determines its financial contribution, its voting power, and its access to IMF financing.
 2. The Executive Board of the IMF, which handles the daily business, consists of representatives from all member countries.

Which of the above statements are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Solution: A

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- **Statement 1 is correct.** The **quota** is the foundational element of a member's relationship with the IMF. It serves three main purposes: first, it determines the **maximum financial contribution** a member is obliged to provide to the Fund. Second, it is a key determinant of a member's **voting power** in IMF decisions. Third, it determines a member's **access to financing** from the IMF; the amount a country can borrow is typically expressed as a percentage of its quota.
- **Statement 2 is incorrect.** The **Executive Board** is responsible for conducting the day-to-day business of the IMF. However, it is composed of only **24 Executive Directors**, not representatives from all member countries. These 24 directors represent constituencies of member countries. The five largest quota holders (USA, Japan, Germany, France, UK) appoint their own director, while the remaining directors are elected by groups of countries. This structure is a key aspect of the IMF's governance and a source of debate regarding representation.

7) Consider the following statements:

Statement-I: A high rate of nominal GDP growth in a country does not necessarily translate to a corresponding improvement in the economic welfare of its citizens.

Statement-II: The metric of Gross Domestic Product (GDP) does not account for the distribution of income, environmental degradation, or the value of non-marketed household services.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

Solution: A

- **Statement-I is correct.** A high nominal GDP growth rate can be misleading. It may be driven purely by high inflation (price rise) rather than an actual increase in the output of goods and services (real growth). Furthermore, even high real GDP growth does not automatically mean that the average citizen is better off. Economic welfare is a broader concept that includes factors like health, education, environmental quality, and equity.
 - **Statement-II is correct.** This statement lists some of the most well-known limitations of GDP as a measure of welfare. GDP is a measure of production, not well-being. It is indifferent to income inequality; a rising GDP could be accompanied by widening disparities where the benefits accrue only to a small section of the population. It treats activities that degrade the environment (e.g., polluting industries) as positive contributions. It also ignores the substantial economic value of unpaid work, such as caregiving and household chores, which are crucial for social well-being.
 - Statement-II provides the fundamental reasons why Statement-I is true.
- 8) With reference to agricultural marketing reforms in India, consider the following statements:
1. The Agricultural Produce Market Committee (APMC) Acts of various states create a unified national market for agricultural commodities.
 2. The electronic National Agriculture Market (e-NAM) aims to integrate existing APMC mandis to create a common online trading platform.
 3. For a state to integrate its mandis with the e-NAM platform, it must provide for a single trading license valid across the entire state.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

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- **Statement 1 is incorrect.** The APMC Acts have historically led to the **fragmentation**, not unification, of agricultural markets. Under these state-level acts, each state is divided into multiple market areas, each governed by a separate APMC. This system restricts farmers from selling their produce outside their designated APMC mandi, imposes multiple levies, and creates barriers to inter-state trade. Instead of a unified national market, this has created thousands of fragmented and monopolistic markets, hindering free trade and efficient price discovery.
 - **Statement 2 is correct.** The **electronic National Agriculture Market (e-NAM)** was launched precisely to overcome the fragmentation caused by the APMC system. It is a pan-India electronic trading portal that networks the existing APMC mandis to create a unified national market for agricultural commodities. It does not seek to replace APMCs but to integrate them through a common digital platform, allowing for transparent price discovery through online auctions and enabling farmers and traders to buy and sell produce across a wider geographical area.
 - **Statement 3 is correct.** The integration of a state's mandis with the e-NAM platform is not automatic. The central government has laid down certain pre-requisites that states must fulfill by amending their respective APMC Acts. These reforms are essential for the effective functioning of a unified market. The three key pre-requisites are: (i) permitting e-auction/electronic trading, (ii) issuing a **single trading license that is valid across all mandis in the state**, and (iii) implementing a single-point levy of the market fee. The single license is crucial to allow traders to operate seamlessly across different mandis within the state.
- 9) Consider the following statements regarding the Public Distribution System (PDS) in India:
1. The National Food Security Act (NFSA), 2013, transformed the PDS from a welfare-based scheme into a rights-based entitlement.
 2. The 'One Nation One Ration Card' (ONORC) scheme primarily aims to address the issue of inclusion errors by using biometric authentication.

3. The Shanta Kumar Committee recommended shifting from in-kind food distribution to a Direct Benefit Transfer (DBT) system in large cities.

How many of the above statements are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

Solution: B

- **Statement 1 is correct.** The enactment of the **National Food Security Act (NFSA) in 2013** was a paradigm shift for the PDS. It moved away from the earlier discretionary, welfare-based approach to providing food subsidies and established a **legal entitlement** for eligible households to receive specified quantities of foodgrains at highly subsidized prices. This made access to food a justiciable right for a large section of the population.
- **Statement 2 is incorrect.** The primary objective of the '**One Nation One Ration Card**' (**ONORC**) scheme is to ensure **portability** of PDS benefits. It is designed to empower beneficiaries, especially **migrant workers**, to access their entitled foodgrains from any Fair Price Shop (FPS) in the country using their existing ration card with biometric authentication. While biometric authentication helps reduce leakages and duplication, the main goal of ONORC is to address the problem of migrants losing access to their food security entitlements when they move, not specifically to tackle inclusion errors (i.e., ineligible households being on the beneficiary list).
- **Statement 3 is correct.** The High-Level Committee on Restructuring of FCI, chaired by **Shanta Kumar**, submitted its report in 2015. One of its key recommendations was to reform the PDS. It suggested that the government should consider a gradual shift from the physical distribution of foodgrains to a **Direct Benefit Transfer (DBT)** or cash transfer system. It specifically recommended that this shift could begin in states with well-developed procurement systems and be rolled out in large cities with a population of over 1 million.

10) With reference to the valuation of goods and services in the Indian economy, consider the following statements:

1. GVA at Basic Prices includes production taxes but excludes product taxes.
2. GVA at Basic Prices is derived by subtracting production subsidies from GVA at Factor Cost.
3. The Reserve Bank of India uses GVA at Basic Prices as the primary headline metric for its monetary policy inflation targeting.
4. A change in the GST rate will affect the GDP at Market Price but will not directly alter the GVA at Basic Prices.

Which of the statements given above are correct?

- a) 1 and 4 only
b) 2 and 3 only
c) 1, 3 and 4 only
d) 1, 2, 3 and 4

Solution: A

- Gross Value Added at Basic Prices is a production-side measure that reflects the value created by producers before accounting for product-specific taxes and subsidies.
- **Statement 1 is correct** because GVA at Basic Prices includes taxes linked to production processes (such as land revenue or professional tax) but excludes product taxes like GST and excise duties, which are levied per unit of output.
- **Statement 2 is incorrect** because GVA at Basic Prices is obtained from GVA at Factor Cost by adding production taxes and subtracting production subsidies; subtracting subsidies alone gives an incomplete and conceptually wrong transformation.
- **Statement 3 is incorrect** since India's monetary policy framework is explicitly based on CPI inflation targeting, not GVA, regardless of the price base used in national accounts.
- **Statement 4 is correct** because GST is a product tax; changes in GST directly affect GDP at Market Prices but do not directly change GVA at Basic Prices, which excludes product taxes by definition.

- 11) Consider the following statements regarding the revision of the base year for calculating India's Gross Domestic Product (GDP):
1. A base year revision is undertaken primarily to account for structural changes in the economy.
 2. Shifting to a newer base year typically results in a lower estimation of the nominal GDP for that year.
 3. The revision process involves updating the basket of goods and services and their corresponding weights in the calculation.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

- **Statement 1 is correct.** The primary objective of revising the base year for GDP calculation is to capture and reflect the structural changes that have occurred in the economy. Over time, new sectors gain prominence (e.g., the digital economy), some sectors decline, and the relative importance of various goods and services changes. A new base year ensures that the GDP figures provide a more accurate and contemporary picture of the economy's structure.
- **Statement 2 is incorrect.** Shifting to a newer base year usually results in a *higher*, not lower, estimation of the nominal GDP. This is because the new series incorporates more comprehensive data and better captures new economic activities and sectors that were previously under-represented or non-existent. For instance, the revision from base year 2004-05 to 2011-12 led to an upward revision of GDP figures.
- **Statement 3 is correct.** The revision is a comprehensive exercise that involves updating the item basket in the indices used for deflation (like WPI and CPI) and re-evaluating the weights assigned to different sectors and sub-sectors based on their current contribution to the economy. This is done using data from the latest large-scale surveys and censuses, such as those conducted by the National Sample Survey Office (NSSO).

- 12) In the context of the Reserve Bank of India's monetary policy framework, what is the most immediate and direct consequence of an increase in the fixed Reverse Repo Rate?

- (a) It leads to a decrease in the lending rates offered by commercial banks to corporations.
- (b) It incentivizes commercial banks to park more of their surplus funds with the RBI.
- (c) It directly reduces the Statutory Liquidity Ratio for scheduled commercial banks.
- (d) It increases the amount of money available for the public to borrow.

Solution: B

- The **Reverse Repo Rate** is the interest rate at which the RBI absorbs liquidity from commercial banks, against the collateral of eligible government securities. It is the rate at which commercial banks can park their short-term excess funds with the central bank.
- When the RBI **increases the Reverse Repo Rate**, it makes it more attractive for commercial banks to lend their surplus funds to the RBI, as they earn a higher, risk-free return. This is the most immediate and direct effect.
- This action **absorbs liquidity** from the banking system. With less surplus cash, the capacity of banks to lend to the public and corporations is reduced, not increased. This would likely put upward pressure on their lending rates, not decrease them. Therefore, options (a) and (d) are incorrect.
- The Reverse Repo Rate is a monetary policy tool related to liquidity management and has no direct bearing on the **Statutory Liquidity Ratio (SLR)**, which is a prudential norm requiring banks to hold a certain percentage of their deposits in the form of liquid assets like government securities. Therefore, option (c) is incorrect.

- 13) Which one of the following scenarios best illustrates the macroeconomic condition of 'Stagflation'?
- (a) A rapid increase in the general price level accompanied by high economic growth and falling unemployment.

- (b) A persistent fall in the general price level accompanied by contracting economic output.
- (c) A high rate of inflation coexisting with a high rate of unemployment and stagnant economic growth.
- (d) A situation where a sharp rise in the prices of a few essential commodities skews the overall inflation rate.

Solution: C

- **Stagflation** is a portmanteau of "stagnation" and "inflation." It describes a situation in an economy where economic growth is slow or stagnant, unemployment is persistently high, and inflation is also high. This combination is particularly problematic because the policy tools used to combat inflation (e.g., raising interest rates) tend to worsen unemployment and stagnation, while policies to boost growth and employment (e.g., cutting interest rates) can exacerbate inflation.
- Option (a) describes an economic boom, the opposite of stagflation.
- Option (b) describes deflationary depression or a severe recession.
- Option (d) describes 'skewflation,' where inflation is driven by a price rise in a specific group of commodities, not an across-the-board phenomenon coexisting with unemployment.
- Option (c) accurately captures the three defining characteristics of stagflation: high inflation, high unemployment, and stagnant growth. This was famously observed in many Western economies during the 1970s oil crisis.

14) With reference to foreign investment in India, consider the following statements:

1. Foreign Direct Investment (FDI) is generally considered more stable than Foreign Portfolio Investment (FPI) as it involves a long-term interest in the host economy.
2. An investment is classified as FDI if the foreign investor acquires a stake of 10 percent or more in a listed company; otherwise, it is treated as FPI.
3. Unlike FPI, FDI is permitted only in the primary market and not in the secondary market.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Solution: A

- **Statement 1 is correct.** FDI represents a long-term investment where a foreign entity establishes a lasting interest in a domestic enterprise, often involving the transfer of technology, management skills, and organizational expertise. This type of investment in physical assets and operations is difficult to withdraw quickly, making it a stable source of capital. FPI, on the other hand, consists of investments in financial assets like stocks and bonds. These are typically driven by short-term considerations of interest rates and exchange rate movements and can be sold off quickly, leading to volatility. For this reason, FPI is often referred to as 'hot money', and FDI is considered a more stable and desirable form of foreign capital inflow.
- **Statement 2 is correct.** This statement reflects the standard international definition, as recommended by committees like the Arvind Mayaram panel in India, used to differentiate between FDI and FPI. If a foreign investor acquires **10 percent or more of the equity shares** in a listed company, it is deemed to represent a long-term, strategic interest, and the investment is categorized as FDI. If the stake is **less than 10 percent**, it is treated as FPI, assuming the investor is primarily interested in financial returns rather than exercising significant influence or control over the company's management.
- **Statement 3 is incorrect.** FDI is not restricted to the primary market (issuance of new shares). It can also be made through the **secondary market** via mergers and acquisitions, where a foreign company buys a controlling stake in an existing Indian company by purchasing its shares from existing shareholders. FPI, by its nature, operates in both the **primary market** (e.g., subscribing to Initial Public Offerings - IPOs) and the **secondary market** (buying and selling already listed securities on stock exchanges). The key distinction is not the market of operation but the level of stake and the intent of the investor (control vs. financial return).

15) Consider the following transactions in the context of India's Balance of Payments:

1. An Indian firm takes a loan from a commercial bank in the United States. This is recorded as a credit item on the current account.
2. An Indian IT company provides software services to a client in Germany. This is recorded as a credit item on the capital account.

Which of the above statements are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Solution: D

- **Statement 1 is incorrect.** A loan taken by an Indian firm from a foreign bank is a form of borrowing. This represents an inflow of capital into the country. All capital inflows are recorded as **credit items**. However, since this transaction creates a liability for the Indian firm, it is recorded on the **capital account**, not the current account. The current account deals with trade in goods, services, and unilateral transfers.
- **Statement 2 is incorrect.** The provision of software services by an Indian company to a foreign client constitutes an **export of services**. Exports of services result in an inflow of foreign currency. Such inflows are recorded as **credit items**. However, trade in services (both exports and imports) is a component of the **current account** under the 'invisibles' category, not the capital account. The capital account is for transactions involving assets and liabilities.

16) Consider the following statements regarding inflation measurement in India:

Statement I: The Consumer Price Index (CPI) inflation rate can fall sharply even if the prices of goods do not fall and increase slightly compared to the previous month.

Statement II: The 'base effect' means that if prices were very high in the same month last year, the current year's inflation rate may appear lower.

Which one of the following is correct?

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for

Statement-I

- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Solution: A

CPI inflation in India is calculated on a year-on-year basis, which means prices in a given month are compared with prices in the same month of the previous year, not with the immediately preceding month. Because of this, inflation can decline even when prices have not fallen in absolute terms. If prices were unusually high last year, the comparison base becomes large. This statistical impact is called the base effect. A high base mechanically lowers the current inflation rate, even if present-day prices are stable or rising slightly. Hence, the base effect clearly explains why inflation can fall without any real reduction in prices.

17) Match the following Deficit measures with their implications:

List I (Deficit Type)	List II (Implication/Formula)	List III (Significance)
(A) Effective Revenue Deficit	(i) Fiscal Deficit - Interest Payments	(x) Measures borrowing for current year's needs
(B) Primary Deficit	(ii) Revenue Deficit - Grants for Capital Assets	(y) Isolates consumption spending from asset creation
(C) Fiscal Deficit	(iii) Total Expenditure - (Revenue Receipts + Non-debt Capital Receipts)	(z) Indicates total borrowing requirement

Which one of the following combinations is correctly matched?

- (a) A-(ii)-(x) and B-(iii)-(z)
- (b) A-(i)-(x) and C-(ii)-(z)
- (c) B-(iii)-(z) and C-(i)-(y)
- (d) A-(ii)-(y) and B-(i)-(x)

Solution: D

- **Effective Revenue Deficit (A):** Formula is RD minus Grants for Capital Assets (ii). Its purpose is to filter out grants that create assets, thus focusing on pure consumption (y). **Combination A-(ii)-(y) is correct.**
- **Primary Deficit (B):** Formula is FD minus Interest Payments (i). It removes the burden of past debts (interest) to show the borrowing needed for the *current* year's discretionary spending (x). **Combination B-(i)-(x) is correct.**
- **Fiscal Deficit (C):** Formula is Total Exp - Non-debt Receipts (iii). It represents the total borrowing requirement (z).

18) Consider the following statements regarding the 'Outcome Budget' in India:

1. It is a statutory document mandated under the Fiscal Responsibility and Budget Management (FRBM) Act, 2003.
2. It was introduced to shift the focus from 'outlays' (expenditure allocated) to 'outcomes' (quality of service delivery).
3. It has been integrated into a consolidated 'Output-Outcome Monitoring Framework' (OOMF) presented along with the Budget.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

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- **Statement 1 is Incorrect:** The Outcome Budget was introduced administratively in 2005-06. The FRBM Act mandates documents like the "Macro-economic Framework Statement" and "Medium-term Fiscal Policy Strategy Statement," but the Outcome Budget is **not** a statutory requirement under the Act.
- **Statement 2 is Correct:** The primary objective was to move beyond financial tracking (how much money was spent) to physical tracking (what was achieved), linking outlays to quantifiable outcomes.
- **Statement 3 is Correct:** Following the merger of Plan and Non-Plan expenditure, the Outcome Budget was revamped. It is now presented as the OOMF, covering Central Sector and Centrally Sponsored Schemes with measurable indicators.

19) Which of the following best describes 'Strategic Disinvestment' by the Government of India?

- (a) The sale of minority shares in Central Public Sector Enterprises (CPSEs) through an Initial Public Offer (IPO) to meet the Minimum Public Shareholding norms.
- (b) The sale of a substantial portion of the Government shareholding of a CPSE, of up to 50% or more, along with the transfer of management control.
- (c) The repurchase of shares by a CPSE from the Government to utilize its surplus cash reserves.
- (d) The listing of CPSEs on foreign stock exchanges to attract Foreign Portfolio Investment (FPI).

Solution: B

- **Option (a):** This describes a "Minority Stake Sale" or "Offer for Sale (OFS)." Management remains with Govt.⁵²
- **Option (b) is Correct:** Strategic Disinvestment involves two key elements: (1) Sale of substantial stake (usually >50%), and (2) **Transfer of Management Control** to a private entity. This effectively means privatization.
- **Option (c):** This describes a "Buyback".
- **Option (d):** This is overseas listing, a capital market operation.

20) Consider the following statements regarding Public Debt in India:

1. Internal debt comprises the majority (over 90%) of the total public debt of the Central Government.
2. Most of India's external debt is denominated in Indian Rupees, protecting the economy from exchange rate volatility.
3. 'Market Stabilization Scheme' (MSS) bonds are issued by the RBI to absorb excess liquidity, and the interest on these bonds is paid by the Government of India.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

- **Statement 1 is Correct:** India's public debt profile is characterized by low external reliance. Over 95% is Internal Debt (G-Secs, T-Bills, Small Savings).
- **Statement 2 is Incorrect:** While the *overall* Public Debt is Rupee-dominated (because it's mostly internal), the specific component of **External Debt** is dominated by the **US Dollar** (approx 54%), followed by the Rupee and SDR.
- **Statement 3 is Correct:** MSS Bonds are used for sterilization (sucking out excess liquidity). While issued by RBI, they are government bonds, and the interest burden falls on the Government, not the RBI.

4. Art and Culture

- 1) Which of the following iconographic elements is typically found at the entrance of the Garbhagriha in Nagara-style temples?
- (a) River goddesses (Ganga and Yamuna)
 - (b) Navagrahas
 - (c) Mithunas
 - (d) Yakshas

Solution: A

In **Nagara-style temples**, the entrance of the **Garbhagriha** (sanctum sanctorum) often features the depictions of the **river goddesses Ganga and Yamuna**. These goddesses symbolize **purity and sanctity**, essential qualities for entering the sacred space of the temple. According to Hindu mythology, Ganga and Yamuna are not just rivers but divine entities believed to purify those who come into contact with them, thus preparing devotees for their spiritual experience.

Their placement at the entrance also reflects the importance of water in ritualistic and spiritual practices, emphasizing the idea of inner and outer cleansing before worship. These figures are often represented alongside their respective mounts — the **Makara** (a crocodile-like creature) for Ganga and the **Tortoise** for Yamuna — further adding to their iconographic significance.

Other elements like **Mithunas** (erotic imagery), **Navagrahas** (celestial bodies), and **Yakshas** (nature spirits) are important in temple ornamentation but are usually placed on walls or gateways, not specifically at the Garbhagriha entrance.

2) Consider the following statements regarding Indo-Islamic architecture:

1. It extensively used human and animal figures in its decorations.
2. Gardens were a significant element of Islamic architecture.
3. The structural style relied on the beam-and-lintel system.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 3 only
- (d) None of the above

Solution: B

Statement 1: Incorrect. Religious restrictions in Islamic art **avoided the depiction of human and animal figures**, favoring geometric patterns and calligraphy.

Statement 2: Correct. Gardens, symbolizing paradise, were integral to Islamic architecture and often surrounded key structures like mosques and tombs.

Statement 3: Incorrect. The structural style relied on the arcuate system (arches, domes, and vaults) instead of the beam-and-lintel system, which was prevalent in ancient Indian architecture.

3) Consider the following statements regarding the Malwa School of architecture:

1. The use of minars is a defining characteristic of this school.
2. Large windows in the buildings suggest possible European influence.
3. Construction frequently utilized different-colored stones and marbles.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

The Malwa School of architecture is renowned for its innovative approach, **incorporating large windows and arches, which allowed better ventilation and natural light**. These design elements suggest a potential **influence of European architecture**, possibly introduced through trade or cultural exchanges. Furthermore, the frequent use of locally available, **different-colored stones and marbles** enhanced the aesthetic appeal of the structures, showcasing the artisans' ingenuity.

However, the Malwa School is notably distinct in its exclusion of minars, which are prominent in other architectural styles like Mughal architecture. This makes **statement 1 incorrect**.

4) Which of the following is/are not the example of fresco painting of Ellora Cave?

1. Dying Princess
2. Flying Apsara
3. Preaching Buddha

Select the correct answer code:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None of these

Solution: D

Ellora Caves are renowned for their exquisite art and sculpture, including fresco paintings that depict various scenes and figures.

- **Dying Princess:** This fresco is one of the well-known depictions in Ellora, portraying emotional depth and narrative art.

- Flying Apsara: This is another prominent fresco in Ellora, showcasing celestial beings, a common theme in Indian cave art.
- Preaching Buddha: The depiction of Buddha in preaching poses and scenes from his life is a hallmark of Ellora's Buddhist caves.

Since all the given examples represent fresco paintings from Ellora, none of them is incorrect.

- 5) Consider the following statements about the flute in Indian music:
1. It was originally referred to as Nadi or Tunava in the Vedic period.
 2. Pandit Hariprasad Chaurasia is a renowned Indian flutist.
 3. The flute belongs to the category of percussion instruments.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 1 is correct, as the flute was referred to as **Nadi** or **Tunava** during the Vedic period, showcasing its ancient origins. It has been a significant instrument in Indian culture, symbolized in mythology as Lord Krishna's divine instrument, enhancing its spiritual and cultural importance.

Statement 2 is also correct. Pandit **Hariprasad Chaurasia** is an internationally acclaimed Indian flutist known for his contributions to Hindustani classical music. He has elevated the status of the flute, inspiring generations of musicians.

Statement 3 is incorrect. The flute belongs to the category of **Sushira Vadya**, or wind instruments, which produce sound through the vibration of air columns. Percussion instruments, in contrast, generate sound by striking surfaces or membranes. The flute is an aerophone, emphasizing melody rather than rhythm.

- 6) Which one of the following animals was not depicted on the seals and terracotta art of the Harappan culture?
- a) Elephant
 - b) Rhinoceros
 - c) Tiger
 - d) Camel

Solution: D

- The animal motifs found on Harappan seals and terracotta figurines provide valuable insights into the natural environment, economic life, and symbolic world of the Indus Valley people.
- Archaeological evidence shows frequent depictions of animals such as the elephant, rhinoceros, tiger, bull, buffalo, and various deer species.
- These animals were native to the northwestern Indian subcontinent during the Mature Harappan phase and are repeatedly seen on seals from sites like Mohenjo-daro and Harappa.
- The rhinoceros and tiger, in particular, suggest dense forests and wetlands, while the elephant points to familiarity with large fauna of the region.
- In contrast, **the camel is conspicuously absent from standard Harappan iconography.** This absence is significant because archaeological and zoological evidence suggests that the domestication and widespread use of camels in the Indian subcontinent became prominent only in the later periods, especially during the early historic and medieval times, linked with arid-zone pastoralism and long-distance desert trade.

- 7) Ashokan edicts have been written in which of the following languages?
1. Prakrit
 2. Greek

3. Kharoshti
4. Aramaic

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 1, 3, and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 4

Solution: C

Ashokan inscriptions comprise of major rock edicts, minor rock edicts and pillar edicts. Different languages like **Prakrit, Greek, Aramaic** and different **scripts like Brahmi, Kharoshti** were used. The most widely used script was Brahmi. Kharoshti was widely used in the inscriptions found in modern-day Pakistan. Greek and Aramaic was used in inscriptions found in Afghanistan - for example, the bilingual Greek-Aramaic inscription found in Kandahar.

8) Consider the following statements.

1. The temple is the largest of the rock-cut Hindu temples at the Ellora Caves.
2. Most of the excavation of the temple is generally attributed to the eighth century Rashtrakuta king Krishna I.

The above statements refer to

- a) Brihadishvara Temple
- b) Kailasha Temple
- c) Lingaraja Temple
- d) Vitthala temple

Solution: B

The Kailasha or Kailashanatha temple is the largest of the rock-cut Hindu temples at the Ellora Caves, Maharashtra. A megalith carved from a rock cliff face, it is considered one of the most remarkable cave temples in the world because of its size, architecture and sculptural treatment, and "the climax of the rock-cut phase of Indian architecture".

The Kailasa temple (Cave 16) is the largest of the 34 Buddhist, Jain and Hindu cave temples and monasteries known collectively as the Ellora Caves.

Most of the excavation of the temple is generally attributed to the eighth century Rashtrakuta king Krishna I, with some elements completed later. The temple architecture shows traces of Pallava and Chalukya styles built by Kannadiga kings.

9) What is common to these personalities - Tyagaraja, Muthuswami Dikshitar and Syama Sastri?

- a) Theatre Presentation
- b) Carnatic music
- c) Temple Architecture
- d) Tamil Poetry and Prose

Solution: B

The birth of the Musical Trinity - Tyagaraja, Muthuswami Dikshitar and Syama Sastri - at Tiruvarur between the years 1750 to 1850 A.D. ushered in an era of dynamic development in Carnatic music.

The Trinity were not only contemporaries among themselves but, also contemporaries of great composers of Western Music, as Beethoven, Mozart, Wagner and Haydn.

It was the 'Golden Age' of music throughout the world. Carnatic music reached its pinnacle of artistic excellence during this period.

10) With reference to the history of philosophical thought in India, consider the following statements regarding Vaisheshika School

1. It believes in the physicality of the Universe and is considered to be the realistic and objective philosophy that governs the universe.
2. It developed the atomic theory, i.e. all material objects are made of atoms.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: C

The Vaisheshika school believes in the physicality of the Universe and is considered to be the realistic and objective philosophy that governs the universe. The Kanada who also wrote the basic text governing the Vaisheshika philosophy is often considered the founder of this school.

They argue that everything in the universe was created by the five main elements: fire, air, water, earth and ether (sky). These material elements are also called Dravya.

As this school has a very scientific approach, **they also developed the atomic theory**, i.e. all material objects are made of atoms.

This school was also responsible for the beginning of physics in Indian subcontinent. They are considered to be the propounder of the mechanical process of formation of this Universe.

11) Consider the following statements regarding the Gupta rule in India:

1. The Prayaga Prashasti (also known as the Allahabad Pillar Inscription) was composed by Harisena.
2. Banabhatta, was the court poet of Samudragupta.
3. The Prayaga Prashasti was composed in praise of SamudraGupta.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: A

Only Statement 2 is correct.

The Prayaga Prashasti (also known as the Allahabad Pillar Inscription) was composed by Harisena. Harisena was the court poet of Samudragupta while Banabhatta was the court poet of Harshavardhana. The **Prayaga Prashasti was composed in praise of SamudraGupta** in Sanskrit.

12) Consider the following statements regarding Pattachitra.

1. Pattachitra style of painting is one of the oldest art forms of West Bengal.
2. It is a painting done on canvas, and is manifested by rich colourful application, creative motifs and designs.
3. Some of the popular themes represented through this art form are Thia Badhia, Krishna Lila and Dasabatara Patti.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 1 is incorrect.

Pattachitra style of painting is one of the oldest and most popular art forms of Odisha. The name Pattachitra has evolved from the Sanskrit words patta, meaning canvas, and chitra, meaning picture. **Pattachitra is thus a painting done on canvas, and is manifested by rich colourful application, creative motifs and designs, and portrayal of simple themes, mostly mythological in depiction.**

Some of the popular themes represented through this art form are **Thia Badhia** - depiction of the temple of Jagannath; **Krishna Lila** - enactment of Jagannath as Lord Krishna displaying his powers as a child; **Dasabatara Patti** - the ten incarnations of Lord Vishnu; Panchamukhi - depiction of Lord Ganesh as a five-headed deity.

With the passage of time, the art of Pattachitra has gone through a commendable transition, and the chitrakars have painted on tussar silk and palm leaves, and even created wall hangings and showpieces.

13) Consider the following statements regarding Bhaona.

1. Bhaona is a traditional form of entertainment with religious messages, prevalent in Assam.
2. It is a creation of Mahapurusha Sankardeva.
3. These plays are popularly known as Ankiya Nats.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: C

Bhaona is a traditional form of entertainment with religious messages, prevalent in Assam. The history of Assamese drama begins with the plays of Mahapurusha Srimanta Sankardeva (1449-1568) written in the early sixteenth century. **These plays are popularly known as Ankiya Nats** and their staging is known as bhaona.

Bhaona was created by Sankardeva. The bhaonas are written in the Assamese and Brajvali languages.

14) Consider the following statements regarding Hathigumpha Inscription.

1. It was inscribed by King Kharavela during 2nd century BCE.
2. It was written in Prakrit language.
3. It is also known as Maski Inscription.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 3 is incorrect.

The Hathigumpha Inscription also known as Elephant Cave Inscription from Udayagiri- Khandagiri Caves in Odisha, were **inscribed by King Kharavela during 2nd century BCE.** The Hathigumpha Inscription consists of seventeen lines in **Prakrit language** and in Brahmi script. Hathigumpha Inscription is the main source of information about Kalinga ruler Kharavela.

Maski is a village and an archaeological site in Raichur district of Karnataka. It lies on the bank of the Maski river which is a tributary of the Tungabhadra. The site has a minor rock edict of Emperor Ashoka. It was the first edict of Emperor Ashoka that contained the name Ashoka in it instead of 'Devanampriya' or 'Piyadassi'.

15) Which of the following pairs are correctly matched?

1. Gatka: Ancient martial art from Punjab
2. Kalaripayattu: Martial art form that originated in Kerala
3. Yakshagana: Traditional theatre form of Madhya Pradesh
4. Mallakhamba: Traditional state sport of Karnataka

Select the correct answer code:

- (a) 2, 3 and 4 only
- (b) 1 and 2 only
- (c) 1, 2 and 4 only
- (d) 1, 2 and 3 only

Solution: B

Gatka is the name of an Indian martial art associated with the Sikhs of the Punjab and the Tanoli and Gujjar communities of the mountainous regions of northern Pakistan who practice an early variant of the martial art. The Punjabi name gatka properly refers to the wooden stick used.

Kalaripayattu also known simply as Kalari, is an Indian martial art and fighting style that originated in modern-day Kerala.

Yakshagana is a traditional Indian theatre form, developed in Dakshina Kannada, Udupi, Uttara Kannada, Shimoga and western parts of Chikmagalur districts, in the state of **Karnataka** and in Kasaragod district in Kerala that combines dance, music, dialogue, costume, make-up, and stage techniques with a unique style and form.

Mallakhamba is a traditional sport, originating from the Indian subcontinent, in which a gymnast performs aerial yoga postures and wrestling grips in concert with a vertical stationary or hanging wooden pole, cane, or rope. On April 9, 2013, **Madhya Pradesh** declared Mallakhamba the state sport.

16) Consider the following statements regarding Bardo Chham.

1. Bardo Chham is a folk dance performed in Arunachal Pradesh.
2. It is based on the stories of good and evil.
3. The performers wear masks representing different animals.

Which of the above statements are correct?

- (a) 3 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: D

Bardo Chham

- **Region/Area:** Arunachal Pradesh
- **Occasion:** Performed during festivals
- **Highlight:** The performers wear masks representing different animals
- **Purpose:** Depiction of good over evil
- Bardo Chham is performed by the Sherdukpen tribe of the West Kameng district. The dancers perform to the beats of many percussion instruments.



17) Consider the following statements regarding Metal works during Harappan civilization.

1. Copper, tin, gold and silver were easily available locally, thus obviating the need to import them from distant places.
2. The earliest evidence of metallurgy in the Indian subcontinent comes from the site of Mehrgarh.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: B

While some of the raw materials that the Harappans used were available locally, many items such as **copper, tin, gold, silver and precious stones had to be brought from distant places.**

The **earliest evidence of metallurgy in the Indian subcontinent comes from the site of Mehrgarh in Baluchistan** dated to circa 6500 BCE, a part of early Harappan civilization. It is recovered in the form of a tiny copper bead from grave of a child.

18) Which of the following are the Folk dances of North East India?

1. Dhol Cholom
2. Bihu
3. Bagurumba
4. Kummi

Select the correct answer code:

- a) 1 and 2 only
- b) 1, 2 and 4 only
- c) 1, 2 and 3 only
- d) 1, 2, 3 and 4

Solution: C

Dhol Cholom

Region/Area: Manipur

Occasion: Performed during Holi festival

Highlight: The dancers display acrobatic moves while playing dhol – a large drum

Bagurumba

Region/Area: Assam

Occasion: Performed during various festivals

Highlight: The dance is inspired from nature

Bihu**Region/Area:** Assam**Occasion:** Performed during the Bihu festival**Highlight:** Lyrics used in the songs propagates love**Kummi is a folk dance, popular in Tamil Nadu and Kerala.**

- 19) Consider the following statements regarding Kalighat paintings which originated in Bengal.
1. The school produced paintings that were irreproducible by lithography.
 2. The school restricted itself to the depiction of natural, nationalistic and secular themes.

Which of the above is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: C

The paintings over a period of time developed as a distinct school of Indian painting. An important achievement of the Kalighat artistes was that they made **simple paintings and drawings, which could easily be reproduced by lithography.**

From the depiction of Hindu gods, goddesses, and other mythological characters, the Kalighat paintings developed to reflect a variety of themes.

The artists also chose to portray **secular themes and personalities** and, in the process, played a **role in the Independence movement.**

- 20) Consider the following statements regarding Dhrupad, a genre in Hindustani classical music.

1. It finds mention in Ain-e-Akbari.
2. The phrases of Dhrupad alapa are slow and contemplative in the beginning, but the tempo increases in stages.
3. It is a sub-set of Khyal form of classical singing.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: A

Abul Fazl, courtier and chronicler at the court of the Emperor Akbar, defines the dhrupad verse form in his **Ain-e-Akbari** as "four rhyming lines, each of indefinite prosodic length.

The elaboration of Dhrupad alap is done using the syllables of a mantric phrase, it is **slow in the beginning and raises tempo after some time.**

Dhrupad and khyāl are the two forms of classical singing that exist today in North India.

- 21) Bharatanatyam dance is known as ekaharya, which implies

- a) Bharatanatyam performance always ends with a tillana
- b) Bharatanatyam is accompanied by musical syllables with a few lines of sahitya.
- c) Bharatanatyam leans heavily on the abhinaya or mime aspect of dance
- d) Bharatanatyam dancer takes on many roles in a single performance

Solution: D

The term *ekaharya* in the context of Bharatanatyam refers to a classical convention where a **single dancer portrays multiple characters and roles within the same performance.** This concept is rooted in

the broader framework of Indian dramaturgy as described in the *Natyashastra*, where different modes of presentation (*aharya*) are classified. *Eka-aharya* literally means “single costume/performer,” implying that one dancer, without changing costumes or performers, embodies various characters through changes in **abhinaya (expression), hastas (hand gestures), body language, eye movements, and spatial orientation**.

22) Consider the following statements regarding semi-classical music form Thumri.

1. The thumri is based on the romantic-devotional literature inspired by the bhakti movement.
2. The lyrics are usually a dialect of Hindi called Brij bhasha.
2. Thumri is one of the divisions of Carnatic music.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 3 is incorrect.

Indian Hindustani Classical Music has various divisions like Khyaal, **Thumari/Thumri**, Tappa, Tarana, etc. The **thumri is based on the romantic-devotional literature inspired by the bhakti movement**.

The text is usually derived from the Radha-Krishna theme and is of primary importance. The semi-classical music form ‘thumr’ is known to have derived its name from thumakna. Loosely translated the word means, “dance-like movements”.

Thumri was about mild eroticism and dramatic gestures and was the invention of courtesans. The text is romantic and devotional in nature, and usually revolves around a girl’s love for Krishna. **The language is a dialect of Hindi called Brij bhasha.**

SIMPLIFYING IAS EXAM PREPARATION

23) Consider the following statements regarding Kathputli.

1. It is the string puppets of Rajasthan.
2. Carved from a single piece of wood, these puppets are like large dolls that are colourfully dressed.
3. These puppets wear long trailing skirts and do not have legs.
4. Oval faces, large eyes, arched eyebrows and large lips are some of the facial features of these puppets.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1, 3, and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

Solution: D

The traditional marionettes of Rajasthan are known as Kathputli. Carved from a single piece of wood, these puppets are like large dolls that are colourfully dressed. Their costumes and headgears are designed in the medieval Rajasthani style of dress, which is prevalent even today. The Kathputli **is accompanied by a highly dramatised version of the regional music. Oval faces, large eyes, arched eyebrows and large lips are some of the distinct facial features of these string puppets. These puppets wear long trailing skirts and do not have legs.** Puppeteers manipulate them with two to five strings which are normally tied to their fingers and not to a prop or a support.

24) The earliest reference to the art of puppetry is found in

- a) Shakuntalam
- b) Sama veda
- c) Natyashastra

d) Silappadikaaram

Solution: D

Silappadikaaram provides **clear, concrete, and contextual references** to puppetry (*pavaikoothu / bommalattam*) as part of organized performance culture in ancient Tamil society. It situates puppetry alongside music, dance, and drama within urban cultural life, indicating that it was already a **recognized and practiced theatrical form**. This makes *Silappadikaaram* the **earliest known textual source that treats puppetry as an art**, rather than a symbolic analogy.

25) Consider the following statements regarding Indian Puppetry.

1. Puppets were present at excavation sites at Harappa and Mohenjodaro.
2. Bommalattam and Yampuri are examples of string puppet.
3. Gombeyatta has influence of Yakshagana theatre of Karnataka.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 2 is incorrect.

The excavation sites at Harappa and Mohenjo-daro have yielded puppets with sockets attached to them, which suggest the presence of puppetry as an art form.

Bommalattam is a String puppet and Yampuri is a rod puppet.

Gombeyatta -- Karnataka: It has influence of Yakshagana theatre of Karnataka.

5. History

- 1) In the context of modern history, 'The Lightning conductor and conspiracy' theory was related to
 - a) Komagatu Maru incident
 - b) Establishment of INC
 - c) Partition of Bengal
 - d) INA revolt

Solution: B

The Lightning conductor and conspiracy theory :- both the theories were related to establishment of Indian National Congress (INC).

The conspiracy theory :-

R.P. Dutt opined that the Indian National Congress was born out of a conspiracy to abort a popular uprising in India and the bourgeois leaders were a party to it.

The Lightning conductor :-

Bipan Chandra observes, the early Congress leaders used Hume as a 'lightning conductor', i.e., as a catalyst to bring together the nationalistic forces even if under the guise of a 'safety valve'.

2) Consider the following statements.

1. Complete independence was the main aim of the Indian National Congress in the initial stage.
2. First session of the Indian National Congress was presided by *Dadabhai Naoroji*.
3. Dadabhai Naoroji played the main role in establishing a British committee of the Indian National Congress in London.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: B

Only Statement 3 is correct.

The first session of the Indian National Congress was attended by 72 delegates and **presided over by Womesh Chandra Bonnerjee**.

Aims and Objectives of the Congress:- **Initially complete independence was not the main aim of INC**. It became the main aim only after Lahore session 1929.

A British committee of the Indian National Congress was established in London in 1889. Its purpose was to raise awareness of Indian issues to the public in Britain, to whom the Government of India was responsible. It followed the work of W.C. Bonnerjee and Dadabhai Naoroji, who raised India related issues in the British parliament

3) Consider the following statements regarding the early nationalists of India.

1. The Moderates campaigned for Indianization of government services.
2. Mass participation of people was a unique feature of the early nationalists' movement.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: A

The moderate phase of the national movement had a narrow social base and the masses played a passive role. This was because the **early nationalists lacked political faith in the masses**.

Because of the **lack of mass participation**, the Moderates could not take militant political positions against the authorities.

The Moderates campaigned for Indianisation of government services on the economic, political and moral grounds.

4) During the Swadeshi Movement, which of the following leader declared that "Political Freedom is the life breath of a nation"?

- a) Bal Gangadhar Tilak
- b) Bipin Chandra Pal
- c) Aurobindo Ghose
- d) Rabindranath Tagore

Solution: C

The militant nationalists tried to transform the anti-partition and Swadeshi Movement into a mass struggle and gave the slogan of India's independence from foreign rule. **"Political freedom is the life breath of a nation,"**

declared Aurobindo. Thus, the Extremists gave the idea of India's independence the central place in India's politics. The goal of independence was to be achieved through self-sacrifice.

- 5) Powerful newspapers emerged during the years before the Swadeshi movement. Match the following newspapers and their editors.
1. Swadesamitran: G. Subramaniya Iyer
 2. Amrita Bazar Patrika: Motilal Ghosh
 3. Voice of India: N. N. Sen

How many of the above pairs are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: B

Option 3 is incorrect.

Swadesamitran under the editorship of G. Subramaniya Iyer; Kesari and Mahratta under B.G. Tilak; Bengalee under Surendranath Banerjea; **Amrita Bazar Patrika under Sisir Kumar Ghosh and Motilal Ghosh;** Sudharak under G.K. Gokhale; **Indian Mirror under N.N. Sen;** **Voice of India under Dadabhai Naoroji.**

In fact, there hardly existed a major political leader in India who did not possess a newspaper or was not writing for one in some capacity or the other.

- 6) Consider the following statements regarding Rig Vedic Aryans.
1. There are no evidences of the use of Iron by Rig Vedic Aryans.
 2. Trade was conducted on barter system.
 3. Copper coins called nishka were used as media of exchange in large transactions.

How many of the above statements are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: B

Only statement 2 is correct.

The Rig Vedic Aryans were pastoral people and their main occupation was cattle rearing. Their wealth was estimated in terms of their cattle. When they permanently settled in North India, they began to practice agriculture. With the **knowledge and use of iron** they were able to clean forests and bring more lands under cultivation.

Trade was another important economic activity and rivers served as important means of transport. **Trade was conducted on barter system.** In the later times, **gold coins called nishka** were used as media of exchange in large transactions.

- 7) Consider the following statements regarding Bakasht lands in British India.
1. Bakasht lands were those which the tenants lost to zamindars, mostly during the Depression years, by virtue of non- payment of rent.
 2. A legislative exercise was undertaken by the Congress Ministries for the reduction of rent and the restoration of Bakasht lands.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: C

- The Bakasht lands issue became a major ground of contention between the Bihar Provincial Kisan Sabha and the Congress Ministry.
- The Congress Ministry had initiated **legislation for the reduction of rent and the restoration of Bakasht lands.**
- **Bakasht lands were those which the occupancy tenants had lost to zamindars, mostly during the Depression years (1930s), by virtue of nonpayment of rent, and which they often continued to cultivate as share-croppers.**
- But the formula that was finally incorporated in the legislation on the basis of an agreement with the zamindars did not satisfy the radical leaders of the kisan Sabha.
- The legislation gave a certain proportion of the lands back to the tenants on condition that they pay half the auction price of the land. Besides, certain categories of land had been exempted from the operation of the law.

8) Powerful newspapers emerged during the years before the Swadeshi movement. Match the following newspapers and their editors.

1. Swadesamitran: G. Subramaniya Iyer
2. Amrita Bazar Patrika: Motilal Ghosh
3. Voice of India: N. N. Sen

How many of the above statements are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: B

Option 3 is incorrect.

Swadesamitran under the editorship of G. Subramaniya Iyer; Kesari and Mahratta under B.G. Tilak; Bengalee under Surendranath Banerjea; **Amrita Bazar Patrika under Sisir Kumar Ghosh and Motilal Ghosh**; Sudharak under G.K. Gokhale; **Indian Mirror under N.N. Sen**; **Voice of India under Dadabhai Naoroji**.

In fact, there hardly existed a major political leader in India who did not possess a newspaper or was not writing for one in some capacity or the other.

9) Consider the following events:

1. First Anglo-Mysore war
2. First Anglo Burmese war
3. First Anglo Sikh war
4. First Anglo Maratha war

Which of the following is the correct chronological sequence of the above events?

- a) 1-4-2-3
- b) 4-1-2-3
- c) 1-4-3-2
- d) 4-1-3-2

Solution: A

- **First Anglo-Mysore War** occurred earliest, in the late 1760s, when the English East India Company first clashed with Hyder Ali of Mysore. It marked the initial phase of Anglo-Mysore rivalry in southern India.

- **First Anglo-Maratha War** followed in the mid-1770s, arising from internal succession disputes within the Maratha Confederacy and British intervention in western India.
- **First Anglo-Burmese War** took place much later, in the 1820s, reflecting British expansion beyond the Indian subcontinent into Southeast Asia after consolidating control over much of India.
- **First Anglo-Sikh War** was the latest among the four, occurring in the mid-1840s, after the decline of Maharaja Ranjit Singh's authority and marking British entry into Punjab.

10) Consider the following statements about Charter Act of 1833.

1. It vested all civil and military powers on the Governor-General of India.
2. It introduced an open competition system of selection and recruitment of civil servants.
3. It ended the activities of the East India Company as a commercial body, which became a purely administrative body.

administrative body.

How many of the above statements are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 2 is incorrect.

Features of the Charter Act of 1833:

1. It made the Governor-General of Bengal as the **Governor-General of India and vested in him all civil and military powers**. Thus, the act created, for the first time, a Government of India having authority over the entire territorial area possessed by the British in India. Lord William Bentick was the first governor-general of India.
2. It deprived the governor of Bombay and Madras of their legislative powers. The Governor-General of India was given exclusive legislative powers for the entire British India. The laws made under the previous acts were called as Regulations while laws made under this act were called as Acts.
3. It ended the activities of the East India Company as a commercial body, which became a purely administrative body. It provided that the company's territories in India were held by it 'in trust for His Majesty, His heirs and successors'.

Charter Act of 1853 introduced an open competition system of selection and recruitment of civil servants.

11) Consider the following statements regarding Subhash Chandra Bose.

1. He became the president of INC for two consecutive years.
2. The idea of the Indian National Army (INA) was first conceived by Subhash Chandra Bose.
3. He opposed the Dominion status as proposed in the Nehru Report.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: B

- The idea of creating an army out of the Indian prisoners of war (POWs) was originally that of Mohan Singh, an Indian army officer who had decided not to join the retreating British army in Malaya.
- The Japanese handed over the Indian prisoners of war to Mohan Singh who tried to recruit them into an Indian National Army.
- In 1938, Subhash Chandra Bose became the president of INC at Haripur session.
- In 1939, Subhash Chandra Bose again became the president of INC by defeating Gandhi's candidate Pattabhi Sitaramayya.

- In 1928, Subhash Chandra Bose opposed the Dominion status as proposed in the Nehru Report.

12) With reference to the Carnatic Wars, consider the following statements:

1. The First Carnatic War (1744-48) was triggered by the War of the Austrian Succession.
2. The battle of Wandiwash ended the French threat to British in India.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: D

The First Carnatic War (1744-48) was triggered by the War of the Austrian Succession.

The battle of Wandiwash ended the colonial interests of French in India and their presence was limited to Puducherry.

13) Consider the following statements regarding Raja Rammohan Roy and Brahma Samaj.

1. Raja Rammohan Roy, the founder of Brahma Samaj was called the father of Indian Renaissance.
2. Rammohan Roy translated into Bengali the Vedas and the five Upanishads.
3. Brahma Samaj aimed to purify Hinduism, preach monotheism and establish a new religion.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: A

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- **Raja Rammohan Roy (1772-1833), often called the father of Indian Renaissance** and the maker of Modern India. Rammohan Roy believed in the modern scientific approach and principles of human dignity and social equality.
- He put his faith in monotheism. He wrote Gift to Monotheists (1809) and **translated into Bengali the Vedas and the five Upanishads** to prove his conviction that ancient Hindu texts support monotheism.
- Raja Rammohan Roy founded the Brahma Sabha in August 1828; it was later renamed Brahma Samaj. **Rammohan Roy did not want to establish a new religion. He only wanted to purify Hinduism of the evil practices which had crept into it.**

14) Which of the following were annexed by the British citing the Doctrine of Lapse?

1. Nagpur
2. Satara
3. Sambalpur
4. Udaipur

Select the correct answer code:

- a) 1, 2 and 3 only
- b) 1, 3 and 4 only
- c) 2 and 3 only
- d) 1, 2, 3 and 4

Solution: D

The final wave of annexations occurred under Lord Dalhousie who was the Governor-General from 1848 to 1856. He devised a policy that came to be known as the Doctrine of Lapse.

The doctrine declared that if an Indian ruler died without a male heir his kingdom would “lapse”, that is, become part of Company territory. One kingdom after another was annexed simply by applying this doctrine: **Satara** (1848), **Sambalpur** (1850), **Udaipur** (1852), **Nagpur** (1853) and Jhansi (1854). Finally, in 1856, the Company also took over Awadh.

- 15) Which of the following were the causative factors behind the “Indigo or Blue rebellion” in 1859?
1. The peasants were compelled to plant Indigo rather than the food Crops.
 2. The peasants were provided loans called “dadon” for indigo planting which was at a very high interest rate.
 3. Acquisition of farmland by the British for their industrial projects.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: A

Indigo planting started in Bengal as early as 1777.

When the British Power expanded, the Indigo planting was emphasized because of a high demand of the Blue Dye in Europe. Apart from the reasons mentioned above, others are:

- Indigo farmers received very low returns for their crops.
- The land under Indigo degraded the land for cultivation of any further crop.
- The contract conditions under which Indigo planters kept the cultivators were harsh.
- **The loan made the people indebted and resulted in a rebellion.**

- 16) Rayagajakesari and Dayagajakesari are titles associated with which of the following dynasties?

- a) Gajapati
- b) Rashtrakuta
- c) Kakatiya
- d) Vijayanagara

Solution: C

- **Rayagajakesari and Dayagajakesari are titles of the Kakatiya dynasty.**
- The title Daya Gaja Kesari was given to the first Kakatiya king Prataparudra.
- In the Kakatiya dynasty coins were inscribed with this title.
- Raya-gaja-kesari title belongs to Rudrama Devi, she inherited this title from her father. This title was also inscribed on the coins.

- 17) Name the location of the musical inscription containing groups of musical notes arranged for the benefit of his pupils by a king in the 7th or 8th century CE.

- a) Siyyamangalam
- b) Ennayiram
- c) Uttaramerur
- d) Kudumiyanmalai

Solution: D

- Much before modern musical notations took roots in the West, **classical ragas were inscribed in Kudumiyanmalai temple** in Pudukottai. The inscriptions from the 7th century AD carved on hard rocks of the cave temple contain classical ragas.

- Built during the Pallava era, the temple stands testimony for king Mahendravarman's expertise in music composition. He is said to have coined a new composition of Sangeernasadhi raga and carved it in Devanagari script.
- It is said that Mahendravarman, also called Pallava I, ruled over the place between 630 and 660 AD. The music inscriptions are etched on rocks measuring 13 feet width and 14 feet length.
- According to the researchers, Kudumiyanmalai inscriptions have seven sub sections which have the words like Madhyama grame, Sadja grame, Panchmi and Kaisiki Madyama, connected with music. The notations on the inscription have been coined for the veena instrument with seven strings but it can also be used for eight stringed veena. The inscription carries information on how they could be played with both.
- Kudumiyanmalai was the major place for Pandiya, Chola, Vanadhirayar, Mutharaiyyar and Thondaiman kings. Though the place is under the control of ASI, the Tamil Nadu HR and CE department takes care of the temple and the devotees, cultural enthusiasts are allowed during morning and evening hours.

18) In the context of 18th century India, what was 'Dastak'?

- Signature
- Land document
- Trade Permit
- Tax on textiles

Solution: C

Dastak, in 18th-century Bengal, a permit exempting European traders, mostly of the British East India Company, from paying customs or transit duties on their private trade. The name came from the Persian word for "pass." The practice was introduced by Robert Clive, one of the creators of British power in India, when he had Mīr Ja'far installed as nawab of Bengal in 1757. The attempt of Mīr Ja'far's successor, Mīr Qāsim, to annul the use of *dastaks* led to his overthrow in 1763–64 and the exercise of overt control of Bengal by the British. Free *dastaks* for private trade were finally abolished by Warren Hastings, governor of Bengal (1775). The system put the Indian trader at a grave disadvantage in competing with the European and was an important factor in the impoverishment of Bengal under early British rule.

19) Match List-I with List-II

List-I (Authors)	List-II (Books)
A. Ashvaghosha	1. Kamasutra
B. Vatsyayana	2. Gathasaptashati
C. Hala	3. Milinda Panho
D. Nagasena	4. Buddha Charita

Select the correct answer code:

- A B C D
- 4 1 2 3
 - 4 1 3 2
 - 1 4 2 3
 - 1 4 3 2

Solution: A

- **Ashvaghosha** is the author of *Buddha Charita*, a Sanskrit epic that presents a poetic biography of Gautama Buddha and is among the earliest classical literary compositions linked to Buddhist philosophy.
- **Vatsyayana** is universally known for composing the *Kamasutra*, a systematic and philosophical treatise on human relationships, social life, and ethics, rather than merely a manual on pleasure.
- **Hala**, a Satavahana ruler, is traditionally credited with compiling the *Gathasaptashati*, an anthology of Prakrit verses that offers rich insights into early Deccan society, emotions, and rural life.
- **Nagasena**, the Buddhist monk-philosopher, is associated with the *Milinda Panho*, a dialogical text recording profound philosophical exchanges between him and Indo-Greek king Menander (Milinda).

20) Consider the following statements regarding Raja Rammohan Roy and Brahmo Samaj.

1. Raja Rammohan Roy, the founder of Brahmo Samaj was called the father of Indian Renaissance.
2. Rammohan Roy translated into Bengali the Vedas and the five Upanishads.
3. Brahmo Samaj aimed to purify Hinduism, preach monotheism and establish a new religion.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 3 is incorrect.

Raja Rammohan Roy (1772-1833), often called the father of Indian Renaissance and the maker of Modern India. Rammohan Roy believed in the modern scientific approach and principles of human dignity and social equality. He put his faith in monotheism. He wrote Gift to Monotheists (1809) and **translated into Bengali the Vedas and the five Upanishads** to prove his conviction that ancient Hindu texts support monotheism.

Raja Rammohan Roy founded the Brahmo Sabha in August 1828; it **was later renamed Brahmo Samaj**. Rammohan Roy **did not want to establish a new religion**. He only wanted to purify Hinduism of the evil practices which had crept into it.

6. Environment

1) Consider the following statements.

1. Climate change and unprecedented floods can facilitate the introduction of aquatic invasive alien species into new habitats.
2. Invasive alien species slowly begin to wipe out local diversity and the economy by altering the functions of the ecosystem.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: C

Climate change and unprecedented floods resulting from cloud bursts have facilitated the introduction of aquatic invasive alien species into new habitats in India. This phenomenon threatens ecosystems, habitats and native species.

Researchers say that during heavy floods, invasive alien fishes which are illegally farmed in fragile systems, including domestic aquarium tanks, ponds, lakes and abandoned quarries, effortlessly escape from captivity and enter nearby wetlands. After a while, they **slowly begin to wipe out local diversity and the economy by altering the functions of the ecosystem.**

2) Consider the following statements regarding Ocean deoxygenation.

1. Ocean deoxygenation is the maximum reduction of oxygen minimum zones in the world's oceans as a consequence of anthropogenic emissions of carbon dioxide.
2. Oxygen is less soluble in warmer water.
3. The areas of Sea water that is depleted of dissolved oxygen is called Anoxic waters.

How many of the above statements is/are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: A

Statement 1 is incorrect.

Ocean deoxygenation is the expansion of oxygen minimum zones in the world's oceans as a consequence of anthropogenic emissions of carbon dioxide. The change has been fairly rapid and poses a threat to fish and other types of marine life, as well as to people who depend on marine life for nutrition or livelihood.

Ocean deoxygenation poses implications for ocean productivity, nutrient cycling, carbon cycling, and marine habitats.

Most of the excess heat from CO₂ and other greenhouse gas emissions is absorbed by the oceans. Warmer oceans cause deoxygenation both because **oxygen is less soluble in warmer water**, and through temperature driven stratification of the ocean which inhibits the production of oxygen from photosynthesis.

Anoxic waters are areas of sea water, fresh water, or groundwater that are depleted of dissolved oxygen and are a more severe condition of hypoxia.

3) Consider the following statements regarding Kelp forests.

1. Kelp forests are underwater areas which provide food and shelter for fish, invertebrates and marine mammal species.
2. They offer crucial services such as carbon sequestration and erosion control.
3. Bryozoa are highly beneficial for increasing the productivity of kelp forests.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: A

Kelps cover 25 percent of the world's coastlines and **provide food and shelter for fish, invertebrates and marine mammal species**. They also **offer crucial services such as carbon sequestration and erosion control**, according to scientists.

But kelps are increasingly threatened by climate change, eutrophication and shoreline development, among other human-induced stressors.

One such threat is from bryozoa, moss animals that grow as mats on kelps. They drive the seaweed to sink into the seafloor and disintegrate.

The outbreak can be linked to high temperatures. For example, in 2015, researchers observed an expansive outbreak of bryozoa. These observations coincided with 'the blob', a marine heat wave that emerged across the northeast Pacific Ocean, according to a report.

Dense kelp beds in warmer and less wave-exposed sites are more susceptible to bryozoan outbreaks.

Seaweeds are farmed as they have industrial applications. They can be harvested to extract biostimulants for plant growth. They also can help in long-term carbon sequestration and regeneration of ocean habitats.

- 4) There are many documented cases of groundwater pollution which followed coal ash disposal. Which of these elements in coal ash makes it so harmful?
1. Arsenic
 2. Cadmium
 3. Mercury
 4. Sorbitol

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 1, 3, and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

Solution: C

Option 4 is incorrect.

Since coal contains trace levels of trace elements (like e.g. **arsenic**, barium, beryllium, boron, **cadmium**, chromium, thallium, selenium, molybdenum and **mercury**).

Fly ash obtained after combustion of this coal contains enhanced concentrations of these elements, and therefore the potential of the ash to cause groundwater pollution is high.

- 5) Consider the following statements regarding Solid wastes to energy plants.
1. Waste-to-energy plants can convert salt water to potable fresh water.
 2. The Processing of waste into biofuel is carbon-negative.
 3. The residue ash can be used in manufacturing cinder blocks or for road construction.

Which of the above statements are correct?

- (a) 3 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Solution: D

Benefits of wastes to energy plants:

- **In terms of volume, usually waste-to-energy plants incinerate 80 to 90 percent of waste**, thus helping large cities from choking due to unmanageable waste.
- Waste to energy generates clean, reliable energy from a renewable fuel source, thus reducing dependence on fossil fuels, the combustion of which is a major contributor to Greenhouse Gas (GHG) emissions.
- Sometimes, the residue ash is clean enough to be used for some purposes such as raw materials for use in manufacturing cinder blocks or for road construction.
- **Some waste-to-energy plants convert salt water to potable fresh water as a by-product of cooling processes.**
- Waste-to-energy plants cause less air pollution than coal plants.
- **It is carbon-negative** – processing waste into biofuel releases considerably less carbon and methane into the air than having waste decay away in landfills or the lake.

- 6) Consider the following statements.
1. Carbon sinks are natural systems that suck up and store carbon dioxide from the atmosphere.
 2. A forest is considered a carbon sink if it absorbs more carbon than it releases.
 3. Continental forests store at least ten times more carbon than Mangroves, seagrass beds and salt marshes.

How many of the above statements are correct?

- (a) Only one
- (b) Only two

- (c) All three
- (d) None

Solution: B

Statement 3 is incorrect.

Carbon sinks are natural systems that suck up and store carbon dioxide from the atmosphere. The Earth's land and oceans absorb about half of all carbon dioxide emissions from human activities.

Mangroves, seagrass beds and salt marshes store at least ten times more carbon than continental forests.

Sedimentary rocks in the Earth's crust contain loads of carbon compounds, including the hydrocarbons we use as fossil fuels that leads to excess carbon dioxide in our atmosphere.

A forest is considered a carbon sink if it absorbs more carbon than it releases.

- 7) The warming up of oceans would affect fishes in which of the following ways?
1. It causes stress and decrease the range for fishes.
 2. Increase diseases and even wipe out many commonly eaten fish.
 3. The aerobic capacity of fish increases in warming waters.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 1 and 3 only
- d) 1, 2 and 3

Solution: B

Warming oceans can **cause stress, decrease the range, increase diseases and even wipe out many commonly eaten fish.**

As temperature increases, the demand for oxygen of many fish species will exceed their capacity to extract oxygen from the environment through their gills. As a result, the aerobic capacity of fish decreases in warming waters, and this reduction may be more important in larger fishes.

- 8) The chemical oxygen demand (COD) test is commonly used to measure which of the following?
- a) Amount of oxygen used in an oxygenation process
 - b) Computing oxygen levels in forest ecosystems
 - c) Oxygen required to decompose organic constituents present in the wastewater
 - d) None of the above

Solution: C

The amount of oxygen that is required for the chemical oxidation of the organic and inorganic chemicals present in the wastewater by utilising oxidising agents like Potassium permanganate, Potassium dichromate etc. is called as chemical oxygen demand (COD). COD is the oxygen demand that is consumed by both inorganic and organic matter present in the wastewater sample.

- 9) Consider the following statements.
1. Soil Organic Matter (SOM) is mainly composed of carbon, hydrogen and oxygen but also have small amounts of nutrients such as nitrogen and phosphorous.
 2. Storing the carbon contained in organic matter within the soil, is seen as one way to mitigate climate change.
 3. Soil Organic Carbon (SOC) cannot be emitted back in gaseous form or lost into the atmosphere.
- How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Solution: B

Statement 3 is incorrect.

Soil Organic Matter (SOM) is mainly composed of carbon, hydrogen and oxygen but also has small amounts of nutrients such as nitrogen, phosphorous, sulphur, potassium, calcium and magnesium contained within organic residues.

After carbon enters the soil in the form of organic material from soil fauna and flora, it can persist in the soil for decades, centuries or even millennia. Eventually, **SOC can be lost as CO₂ or CH₄ emitted back into the atmosphere**, eroded soil material, or dissolved organic carbon washed into rivers and oceans.

- 10) Which of these ecosystems would sequester most carbon for a given unit of area?
- a) Grassland
 - b) Bare soil
 - c) Mature tropical forests
 - d) Saltmarsh

Solution: D

Saltmarshes are one of the key coastal 'blue carbon' habitats, recognised for their ability to store carbon within above- and below-ground biomass and sediments.

Saltmarshes sequester carbon at a rate two to four times greater than that recorded for mature tropical forests.

- 11) What do you understand by an indicator species?
- (a) It is an endemic species that is at the lowest level of the food chain.
 - (b) It is a representative species of all species that are threatened or endangered in the ecosystem
 - (c) It is a keystone species of an ecosystem without which the local food chain may collapse.
 - (d) Its status provides information on the overall health of the ecosystem.

Solution: D

It provides information on the overall condition of the ecosystem and of other species in that ecosystem. It reflects the quality and changes in environmental conditions as well as aspects of community composition. River otters (*Lontra canadensis*) can be an indicator species of clean rivers. Or presence of too much algae can be the indication of toxicity in a marine ecosystem.

- 12) What is a "Biotope"?
- (a) It is a biome that harbours all species of same phenotype.
 - (b) It is a well-defined geographical area, characterised by specific ecological conditions.
 - (c) It is an ecosystem that supports the genetic mutation of a contiguous ecosystem.
 - (d) It is a community of species that reproduces entirely by asexual reproduction.

Solution: B

Biotope is an area that is uniform in environmental conditions and in its distribution of animal and plant life. It is often used interchangeably with the word habitat.

A biotope is generally not considered to be a large-scale phenomenon. For example, a biotope might be a neighbouring park, a back garden, even potted plants or a fish tank on a porch.

In other words, the biotope is not a macroscopic but a microscopic approach to preserving the ecosystem and biological diversity.

Phenotype is the set of observable characteristics of an individual resulting from the interaction of its genotype with the environment.

13) What do you understand by Ecological footprint?

- (a) The way in which ecological agents reveal their preferences through ecological activity
- (b) A degree of impairment to an ecosystem, which when surpassed is too severe to allow recovery of that ecosystem
- (c) An index of the area of a productive ecosystem required to produce the resources used and to assimilate the wastes produced by a defined population
- (d) Non-monetary assessment of ecosystem integrity, health or resilience

Solution: C

As per the Millennium Eco Assessment it is an index of the area of productive land and aquatic ecosystems required to produce the resources used and to assimilate the wastes produced by a defined population at a specified material standard of living, wherever on Earth that land may be located.

Ecological footprint analysis is widely used around the Earth in support of sustainability assessments.

It can be used to measure and manage the use of resources throughout the economy and explore the sustainability of individual lifestyles, goods and services, organizations, industry sectors, neighborhoods, cities, regions and nations.

14) Humus is the dark organic matter that forms in the soil when plant and animal matter decays.

Consider the following statements in this context.

1. Humus contributes to moisture retention in the soil by increasing micro-porosity.
2. Humus contains nitrogen that is essential for plant growth and helps in nutrient retention.

Which of the above statements is/are incorrect?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Solution: D

Humus should be differentiated from decomposing organic matter. The latter is rough- looking material and remains of the original plant are still visible. Fully humified organic matter, on the other hand, has a uniform dark, spongy, jelly-like appearance, and is amorphous. It may remain like this for millennia or more.

The process of humification can occur naturally in soil, or in the production of compost.

Humus has a characteristic black or dark brown color and is organic due to an accumulation of organic carbon.

The rate at which raw organic matter is converted into humus promotes (when fast) or limits (when slow) the coexistence of plants, animals, and microbes in soil.

Effective humus and stable humus are further sources of nutrients to microbes, the former provides a readily available supply, and the latter acts as a longer-term storage reservoir.

15) In what ways do naturally-occurring wildfires play an integral role in nature?

1. They act as a disinfectant
2. They help return nutrients to the soil
3. They allow sunlight to reach the forest floor, enabling a new generation of seedlings to grow

Select the correct answer code:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only

(d) 1, 2 and 3

Solution: D

“Although often harmful and destructive to humans, **naturally occurring wildfires play an integral role in nature**. They return nutrients to the soil by burning dead or decaying matter. They also act as a disinfectant, removing disease-ridden plants and harmful insects from a forest ecosystem. And by burning through thick canopies and brushy undergrowth, wildfires allow sunlight to reach the forest floor, enabling a new generation of seedlings to grow.”

16) Bioluminescence is the property of a living organism to produce and emit light. Which of the following organisms naturally show the property of bioluminescence?

1. Fungi
2. Plants
3. Bacteria
4. Animals

Select the correct answer code:

- (a) 1 and 2 only
- (b) 1, 3, and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

Solution: B

- Bioluminescence is a naturally occurring biological phenomenon resulting from a chemical reaction involving luciferin, luciferase, oxygen, and energy.
- **Animals, fungi, and bacteria** are well-established groups that exhibit natural bioluminescence. In animals, it is widespread in marine ecosystems—seen in jellyfish, squid, deep-sea fishes, and plankton—and also on land in organisms like fireflies, where it plays roles in communication, mating, camouflage, predation, and defense.
- **Bioluminescent fungi**, such as species of *Armillaria* and *Mycena*, emit a continuous greenish glow, often linked to ecological interactions like spore dispersal. **Bioluminescent bacteria**, notably *Vibrio* and *Photobacterium*, can glow independently or live symbiotically within marine animals.
- **Plants, however, do not naturally exhibit bioluminescence**. Any glowing observed in plants is usually due to symbiotic microorganisms, fungal infection, or artificial genetic modification in laboratory settings.

17) Consider the following statements regarding Black corals.

1. Black corals are located in the Great Barrier Reef and Coral Sea off the coast of Australia.
2. They are filter feeders and eat tiny zooplankton that are abundant in deep waters.
3. They are found only in deep waters and they cannot survive in shallow waters.
4. They act as important habitats where fish and invertebrates feed and hide from predators.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1, 2, and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

Solution: B

- Black corals (order *Antipatharia*) are widely distributed across the world’s oceans, including the **Great Barrier Reef and the Coral Sea region off Australia**, making statement 1 correct.
- They are **sessile suspension feeders** that capture tiny zooplankton and organic particles from passing currents using their polyps, which supports statement 2.

- These corals are **ecologically significant habitat-forming species**, creating complex three-dimensional structures that provide shelter, feeding grounds, and nursery areas for fish and invertebrates, thereby validating statement 4.
- Statement 3 is incorrect because black corals are **not restricted exclusively to deep waters**. While many species are abundant in mesophotic and deep-sea environments, several species are known to occur in **relatively shallow waters**, especially in regions with low light, strong currents, or overhangs. Their depth distribution is therefore broad and not confined solely to deep-water ecosystems. Hence, only statements 1, 2, and 4 are correct.

18) The phenomenon of increasing concentration of a substance, such as a toxic chemical, in the tissues of tolerant organisms at successively higher levels in a food chain is known as:

- Biodilution
- Biosparging
- Biomagnification
- Bioaccumulation

Solution: C

- Biomagnification refers to the progressive **increase in concentration of persistent, non-biodegradable, and fat-soluble substances** as they move up successive trophic levels in a food chain.
- Substances such as mercury, DDT, PCBs, and other persistent organic pollutants are not easily metabolized or excreted by organisms. As a result, primary producers or lower-level consumers accumulate small amounts, which are then transferred to higher consumers when they are eaten. Because predators consume many individuals from lower trophic levels, the toxin concentration becomes increasingly magnified in their tissues.
- This is why top predators—such as birds of prey, large fish, and humans—often suffer the most severe toxic effects.

19) Consider the following statements.

1. Panthera is the genus of large wild cats that include lion, leopard, and jaguar.
2. Tiger is the largest of all wild cats.
3. India is the only country having Tiger as its national animal.

How many of the above statements is/are incorrect?

- Only one
- Only two
- All three
- None

Solution: A

Statement 3 is incorrect.

Panthera:

This is the genus of large wild cats that can roar, but can't purr. Among them, the **lion, the leopard, and the jaguar** are more closely related, while the other strand has the **tiger and the snow leopard**. The snow leopard is an exception to the rest of the group in that it can't roar.

Jim Corbett's "large-hearted gentleman with boundless courage", the solitary and strongly territorial **tiger is the largest of all wild cats** and also the earliest Panthera member to exist. Primarily a forest animal, they range from the Siberian taiga to the Sunderban delta. The **national animal of India, Bangladesh, Malaysia, and South Korea**, the tiger was voted the world's favourite animal ahead of the dog in a 2004 Animal Planet global online poll.

20) Consider the following statements regarding Carbon neutrality.

1. Carbon neutrality refers to achieving net zero carbon dioxide emissions.
2. It can be achieved through carbon offsetting or eliminating carbon dioxide emissions altogether.
3. Renewable energy always produce zero carbon emissions.

How many of the above statements is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Solution: B

Statement 3 is incorrect.

Carbon neutrality refers to achieving net zero carbon dioxide emissions by balancing carbon dioxide emissions with removal (often through carbon offsetting) or simply eliminating carbon dioxide emissions altogether (the transition to the "post-carbon economy").

Although both renewable and non-renewable energy both produce carbon emissions in some form, **renewable energy has a lesser to almost zero carbon emissions.**



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