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SIMPLIFYING IAS EXAM PREPARATION

# INSTA STATIC QUIZ

## JULY 2021

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# 1. Polity

1) Consider the following Statements:

1. The Prime Minister has to resign if he loses majority in the Lower House - This is just a rule of the Parliament but not mentioned in the Constitution.
2. In the event of both the President and the Vice-President demitting office simultaneously before the end of their tenure, the Speaker of the Lok Sabha will officiate as the President.

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: c)

It is just an unwritten **convention that the Prime Minister has to resign if he loses majority in the Lower House.** It is **neither mentioned in the Constitution nor mentioned in the Rule book of the Parliament.**

When a vacancy occurs in the office of the President due to his resignation, removal, death or otherwise, the Vice-President acts as the President until a new President is elected. Further, when the sitting President is unable to discharge his functions due to absence, illness or any other cause, the Vice-president discharges his functions until the President resumes his office. **In case the office of Vice-President is vacant, the Chief Justice of India (or if his office is also vacant, the senior most judge of the Supreme Court available) acts as the President or discharges the functions of the President.**

2) Consider the following statements regarding Rajya Sabha.

1. As per the Indian Constitution, Candidate Contesting an election to the Rajya Sabha from a particular State need not be an elector in that Particular State.
2. The Constitution has not fixed the term of Office of a member of the Rajya Sabha as six years. It is decided by the Rules of the Rajya Sabha.
3. The question of disqualification under the Tenth Schedule is decided by the Chairman in the case of Rajya Sabha.

Which of the above statements is/are correct?

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

Solution: c)

The Parliament has laid down the following additional qualifications in the **Representation of People Act (1951)** [Not the Indian Constitution]

1. **He must be registered as an elector for a parliamentary constituency.** This is same in the case of both, the Rajya Sabha and the Lok Sabha. The requirement that a candidate contesting an election to the Rajya Sabha from a particular state should be an elector in that particular state was dispensed with in 2003. In 2006, the Supreme Court upheld the constitutional validity of this change.
2. He must be a member of a scheduled caste or scheduled tribe in any state or union territory, if he wants to contest a seat reserved for them.

However, a member of scheduled castes or scheduled tribes can also contest a seat not reserved for them.

**The Constitution has not fixed the term of office of members of the Rajya Sabha and left it to the Parliament.** Accordingly, the **Parliament in the Representation of the People Act (1951)** [Not the Rules of Rajya Sabha] **provided that the term of office of a member of the Rajya Sabha shall be six years.**

**The question of disqualification under the Tenth Schedule is decided by the Chairman in the case of Rajya Sabha** and Speaker in the case of Lok Sabha. In 1992, the Supreme Court ruled that the decision of the Chairman/Speaker in this regard is subject to judicial review.

- 3) For which of the following Committees, the Chairman is invariably from the Ruling Party?
- Estimates Committee
  - Public Accounts Committee
  - Committee on Public Undertakings
  - Committee on Delegated Legislation

Solution: a)

**Estimates Committee** consists of 30 members of Lok Sabha. **Its chairman is invariably from the ruling party.** The Committee acts as a deterrent on extravagance of the government on public expenditure and makes detailed examination of annual budget estimates.

- 4) The Lieutenant Governor of a Union Territory is empowered to promulgate ordinances only
- when the assembly is dissolved
  - with the prior permission of the President

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- None of the above

Solution: b)

Such an ordinance has the same force as an act of the assembly. Every such ordinance must be approved by the assembly within six weeks from its reassembly.

He can also withdraw an ordinance at any time.

But, he **cannot promulgate an ordinance when the assembly is dissolved or suspended**. Further, **no such ordinance can be promulgated or withdrawn without the prior permission of the President.**

- 5) Which of the following is/are the socialist principles of Directive Principle of State Policy?
- To make provision for just and humane conditions for work and maternity relief
  - To prohibit the consumption of intoxicating drinks and drugs which are injurious to health
  - To raise the level of nutrition and the standard of living of people and to improve public health

Select the correct answer code

- 2, 3
- 1 only
- 1, 2
- 1, 3

Solution: d)

### Socialistic Principles

These principles reflect the ideology of socialism. They lay down the framework of a democratic socialist state, aim at providing social and economic justice, and set the path towards welfare state.

They direct the state:

- To promote the welfare of the people by securing a social order permeated by justice—

social, economic and political—and to minimise inequalities in income, status, facilities and opportunities<sup>4</sup> (Article 38).

2. To secure (a) the right to adequate means of livelihood for all citizens; (b) the equitable distribution of material resources of the community for the common good; (c) prevention of concentration of wealth and means of production; (d) equal pay for equal work for men and women; (e) preservation of the health and strength of workers and children against forcible

abuse; and (f) opportunities for healthy development of children<sup>5</sup> (Article 39).

3. To promote equal justice and to provide free legal aid to the poor<sup>6</sup> (Article 39 A).

4. To secure the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement (Article 41).

5. **To make provision for just and humane conditions for work and maternity relief** (Article 42).

6. To secure a living wage<sup>7</sup>, a decent standard of life and social and cultural opportunities for all workers (Article 43).

7. To take steps to secure the participation of workers in the management of industries (Article 43 A).

8. **To raise the level of nutrition and the standard of living of people and to improve public health** (Article 47).

6) Consider the following statements regarding meaning of term 'Republic' used in the Indian constitution

1. Vesting of political sovereignty in the people and not in a single individual

2. The absence of any privileged class

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)

Republic

- A democratic polity can be classified into two categories—monarchy and republic. In a monarchy, the head of the state (usually king or queen) enjoys a hereditary position, that is, he comes into office through succession, e.g., Britain. In a republic, on the other hand, the head of the state is always elected directly or indirectly for a fixed period, e.g., USA.

- The term 'republic' in our Preamble indicates that India has an elected head called the president. He is elected indirectly for a fixed period of five years.

- A republic also means two more things: one, **vesting of political sovereignty in the people and not in a single individual** like a king; second, the **absence of any privileged class** and hence all public offices being opened to every citizen without any discrimination.

7) The provisions relating to the emoluments, allowances, privileges under Second Schedule are covered for

1. The Judges of the High Courts

2. The Comptroller and Auditor-General of India

3. The members of Parliament

4. The state ministers

5. Deputy Chairman of the Legislative Council in the states

Select the correct answer code:

a) 1, 2, 3

b) 1, 2, 3, 4

c) 1, 2, 5

d) 1, 2, 3, 4, 5

Solution: c)

Provisions relating to the emoluments, allowances, privileges and so on of:

- The President of India

- The Governors of States

- The Speaker and the Deputy Speaker of the Lok Sabha
- The Chairman and the Deputy Chairman of the Rajya Sabha
- The Speaker and the Deputy Speaker of the Legislative Assembly in the states
- The Chairman and the **Deputy Chairman of the Legislative Council in the states**
- The Judges of the Supreme Court
- **The Judges of the High Courts**
- **The Comptroller and Auditor-General of India**

8) Which of the following is/are stated in the Constitution of India?

1. The President shall not be a member of either houses of Parliament.
2. The Parliament shall consist of the President and two houses
3. Offices of the leader of the House and the leader of the Opposition.

Select the correct answer code:

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

Solution: b)

**Article 59** - Conditions of Presidents office: **The President shall not be a member of either House of Parliament** or of a House of the Legislature of any State, and if a member of either House of Parliament or of a House of the Legislature of any State be elected President, he shall be deemed to have vacated his seat in that House on the date on which he enters upon his office as President

**Article 79** - Constitution of Parliament: **There shall be a Parliament for the Union which shall consist of the President and two Houses** to be known respectively as the council of States and the House of the People

**Though the offices of the leader of the House and the leader of the Opposition are not mentioned in the Constitution of India**, they are mentioned in the Rules of the House and Parliamentary Statute respectively.

9) Consider the following statements regarding the pardoning power of the President.

1. The power of pardon shall be exercised by the President on the advice of Council of Ministers.
2. The constitution provides for the mechanism to question the legality of decisions of President exercising mercy jurisdiction.

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)

1. The power of pardon shall be exercised by the President on the advice of Council of Ministers.
2. The **constitution does not provide for any mechanism to question the legality of decisions of President or governors exercising mercy jurisdiction.**
3. But the SC in **Epuru Sudhakar case** has given a small window for judicial review of the pardon powers of President and governors for the purpose of ruling out any arbitrariness.

10) Consider the following statements regarding Pardoning Powers of Governor.

1. The Governor cannot Pardon a Death Sentence.
2. The Governor cannot grant pardon in respect to punishment or sentence by a court-martial.
3. The Governor cannot pardon the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the state extends.

Which of the above statements is/are correct?

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

Solution: b)

### Pardoning Powers of Governor:

**Article 161** deals with the Pardoning Power of the Governor.

- The Governor can grant pardons, reprieves, respites and remissions of punishments or suspend, remit and commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the state extends.
- **The Governor cannot Pardon a Death Sentence.** (The President has the power of Pardon a death Sentence).
- **The Governor cannot grant pardon, reprieve, respite, suspension, remission or commutation in respect to punishment or sentence by a court-martial.** However, the President can do so.

11) Consider the following statements regarding office of the Attorney General (AG).

1. He must be a person who is qualified to be appointed a judge of the Supreme Court.
2. He works under the Ministry of Law and Justice reporting to the Union Law Minister.
3. The term of office of the AG is fixed by the Constitution.

Which of the above statements is/are incorrect?

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

Solution: d)

He must be a citizen of India and he must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the president.

**He is an independent constitutional authority.**

**The term of office of the AG is not fixed by the Constitution.** Further, the Constitution does not contain the procedure and grounds for his removal. He holds office during the pleasure of the president. This means that he may be removed by the president at any time.

12) What are the effects of the proclamation of a Financial Emergency in India?

1. The schemes and programmes of States that require significant financial outlays are automatically dissolved.
2. The Consolidated Fund of the States are suspended and Parliament assumes full powers of managing the financial affairs of the 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: d)

The consequences of the proclamation of a Financial Emergency are as follows:

- The executive authority of the Centre extends (a) to directing any state to observe such canons of financial propriety as are specified by it; and (b) to directions as the President may deem necessary and adequate for the purpose.



- Any such direction may include a provision requiring (a) the reduction of salaries and allowances of all or any class of persons serving in the state; and (b) the reservation of all money bills or other financial bills for the consideration of the President after they are passed by the legislature of the state.
- The President may issue directions for the reduction of salaries and allowances of (a) all or any class of persons serving the Union; and (b) the judges of the Supreme Court and the high court.
- Thus, during the operation of a financial emergency, the Centre acquires full control over the states in financial matters.**

13) The least number of judges in the Constitution bench of the Supreme Court is

- Two
- Three
- Five
- Seven

Solution: c)

**Constitution benches normally have five judges**, but there have been benches with seven, nine and even 13 judges.

**Article 145(3) says at least five judges need to hear cases that involve “a substantial question of law as to the interpretation” of the Constitution**, or any reference under Article 143, which deals with the power of the President of India to consult the Supreme Court.

14) Consider the following statements regarding the composition of members of State Legislative Council.

- 1/6 th of the total members are elected by graduates of three years standing and residing within the state.
- 1/6 th of total members are elected by the members of local bodies in the state like municipalities, district boards, etc
- 1/12 th of the total members are elected by teachers who had spent at least three years in teaching in educational institutions within the state not lower than secondary schools.

Which of the above statements is/are correct?

- 2, 3
- 3 only
- 1, 2, 3
- 1, 3

Solution: b)

The size of the State Legislative Council cannot be more than one third of the membership of the State Legislative Assembly. However, its size cannot be less than 40 members. These members elect the Chairman and Deputy Chairman of the State Legislative Council.

MLCs are chosen in the following manner:

- One third are elected by the members of local bodies** such as municipalities, Gram panchayats, Panchayat samitis and district councils.
- One third are elected by the members of Legislative Assembly of the State from among the persons who are not members of the State Legislative Assembly.
- One sixth are nominated by the Governor from persons having knowledge or practical experience in fields such as literature, science, arts, the co-operative movement and social services.
- One twelfth are elected by persons who are graduates of three years' standing residing in that state.**
- One twelfth are elected by teachers who had spent at least three years in teaching in educational institutions within the state not lower than secondary schools**, including colleges and universities.

15) That the President is bound to act on the aid and advice tendered by the Council of Ministers is a \_\_\_\_\_ provision:

- Legal precedent set by the Supreme court
- Constitutional



- c) Conventional
- d) Representation of People of India (RPI) Act

Solution: b)

**Article 74 provides for a council of ministers headed by the Prime Minister to aid and advise the President in the exercise of his functions.** The advice so tendered is binding on the President.

16) Consider the following statement regarding State Human Rights Commission.

1. State Human Rights Commission is a constitutional body
2. The chairperson and members of State Human Rights Commission are appointed by the President.
3. State Human Rights Commission review the constitutional and other legal safeguards for the

protection of human rights.

Which of the above statements is/are correct?

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

Solution: a)

- **State Human Rights Commission is a Non-constitutional body.**
- If any such case is already being inquired into by the National Human Rights Commission or any other Statutory Commission, then the State Human Rights Commission does not inquire into that case.
- The commission can review the constitutional and other legal safeguards for the protection of human rights.
- **Although the chairperson and members of a State Human Rights Commission are appointed by the governor,** they can be removed only by the President (and not by the governor).

17) Consider the following statements.

1. The President has the veto power over the bills passed by the Parliament.
2. The President does not have veto power with respect to state legislation.

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 **President has the veto power over the bills passed by the Parliament**, that is, he can withhold his assent to the bills.
- The **President has veto power with respect to state legislation also**. A bill passed by a state legislature can become an act only if it receives the assent of the governor or the President (in case the bill is reserved for the consideration of the President).

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

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

Select the correct answer code:

- a) 1, 2
- b) 2, 3
- c) 1, 3
- d) 1, 2, 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.

19) Consider the following statements

1. The process of removal of a State Election Commissioner is similar to the removal of a Judge of a State High Court.
2. A council of ministers must always exist to advise the governor, even after the dissolution of the state legislative assembly.
3. Article 356 can be invoked only on the written recommendation of the cabinet.

Which of the above statements is/are correct?

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

Solution: c)

- Article 356 can be invoked without written recommendation of the cabinet.

20) Which of the following are the compulsory provisions of the 73rd Constitutional amendment act?

1. Reservation of one-third seats for women in panchayats at all the three levels.
2. Granting powers and authority to the panchayats to enable them to function as institutions of self-government.
3. Granting financial powers to the panchayats to levy, collect and appropriate taxes, duties, tolls and fees.
4. Fixing tenure of 5 years for panchayats at all levels and holding fresh elections within six months in the event of suppression of any panchayat.

Select the correct answer code:

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

Solution: d)

- Statements 1 and 4 are compulsory provisions and statements 2 and 3 are voluntary provisions.

21) Which of the following act exempted the Governor-General and the Council from the jurisdiction of the Supreme Court for the acts done by them in their official capacity?

- a) Regulating Act of 1773
- b) Amending Act of 1781
- c) Pitt's India Act of 1784
- d) Charter Act of 1793

Solution: b)

### Amending Act of 1781

- In a bid to rectify the defects of the Regulating Act of 1773, the British Parliament passed the Amending Act of 1781, also known as the Act of Settlement.

• **It exempted the Governor-General and the Council from the jurisdiction of the Supreme Court for the acts done by them in their official capacity.** Similarly, it also exempted the servants of the company from the jurisdiction of the Supreme Court for their official actions. It excluded the revenue matters and the matters arising in the collection of revenue from the jurisdiction of the Supreme Court.

22) Which of the following is/are the federal features of Indian Constitution?

1. Supremacy of Constitution
2. Bicameralism
3. Integrated judiciary
4. Division of powers

Select the correct answer code:

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

Solution: c)

The Constitution of India establishes a **federal system** of Government. It contains all the usual features of a federation, viz., two Government, **division of powers**, written Constitution, **supremacy of Constitution**, rigidity of Constitution, independent judiciary and **bicameralism**.

However, the Indian Constitution also contains a large number of **unitary or non-federal features**, viz., a strong Centre, single Constitution, single citizenship, flexibility of Constitution, **integrated judiciary**, appointment of state governor by the Centre, all-India services, emergency provisions and so on.

23) Consider the following statements regarding Attorney General for India.

1. He is a part of the Union Executive.
2. He holds office during the pleasure of the President.
3. An eminent jurist cannot be appointed as Attorney General for India.

Which of the above statements is/are correct?

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

Solution: b)

The Attorney General for India is the central government's **chief legal advisor, and its primary lawyer in the Supreme Court of India.**

He is a **part of the Union Executive.**

#### **Appointment and eligibility:**

He is **appointed by the President of India under Article 76(1) of the Constitution** and **holds office during the pleasure of the President.**

- He must be a person qualified to be appointed as a Judge of the Supreme Court.
- He should be an Indian Citizen.
- He must have either completed 5 years in High Court of any Indian state as a judge or 10 years in High Court as an advocate.
- **He may be an eminent jurist too**, in the eye of the President.

24) Consider the following statements regarding Doctrine of Separation of powers.

1. The doctrine of separation of power is a part of the basic structure of the Indian Constitution and is specifically mentioned in it.

2. It implies that the executive, judiciary and legislature, perform separate functions and act as separate entities.

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 **doctrine of separation of power** is a **part of the basic structure of the Indian Constitution**, even though it is not specifically mentioned in its text.

- It implies that **the three pillars of democracy, namely the executive, judiciary and legislature, perform separate functions and act as separate entities.**
- One of the features of the doctrine is that one arm of the state should not interfere in the functioning of the other organs or exercise a function of another organ.

25) Which of the following provisions in the Constitution of India facilitate the Doctrine of Separation of powers?

1. The State shall take steps to separate the judiciary from the executive in the public services of the State.
2. Validity of proceedings in Parliament and the Legislatures cannot be called into question in any Court.
3. The President or the Governor shall not be answerable to any court for the exercise and performance of the powers and duties of his office.

Which of the above statements is/are correct?

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

Solution: d)

#### Articles in the Constitution facilitating Separation of Powers:

**Article 50:** State shall take steps to separate the judiciary from the executive. This is for the purpose of ensuring the independence of the judiciary.

**Article 122 and 212:** Validity of proceedings in Parliament and the Legislatures cannot be called into question in any Court. Also, Legislators enjoy certain privileges with regard to speech and anything said in the Parliament cannot be used against them.

**Article 361:** The President or the Governor shall not be answerable to any court for the exercise and performance of the powers and duties of his office.

## 2. Geography

1) Consider the following statements.

1. The core of the Great Himalayas is made up of granite rocks.

2. The Deccan Plateau receives heavy rainfall throughout the year as it falls on the windward side of major hills of Central and Southern India.

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 Deccan Plateau is a large triangular plateau, bounded by the Vindhyas to the north and flanked by the Eastern and Western Ghats.

This region is mostly semi-arid as it lies on the leeward side of both Ghats. Much of the Deccan is covered by thorn scrub forest scattered with small regions of deciduous broadleaf forest. Climate in the Deccan ranges from hot summers to mild winters.

2) Places in the mountains are usually cooler than places on the plains due to the presence of

- a) Thin air on the mountains
- b) Moisture-laden winds on the mountains
- c) Leeward wind flow on the mountains
- d) All of the above

Solution: a)

Density of air reduces with altitude, and so it is its ability to transfer the heat that the earth receives from the Sun.

The atmosphere is not directly heated by the Sun, but by the air that is in contact with the earth.

So, thin air reduces the warming potential in the mountains. Temperatures decline with gain in altitude.

For example, Agra and Darjiling are located on the same latitude, but temperature of January in Agra is 16°C whereas it is only 4°C in Darjiling.

3) Coriolis force plays a role in which of the following?

- 1. Directing Jet Streams
- 2. Direction of trade winds
- 3. Impact crater
- 4. Formation of meanders

Select the correct answer code:

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

Solution: d)

Jet streams typically cover long distances and can be thousands of miles long. They can be discontinuous and often meander across the atmosphere. The meanders in the jet stream flow slower than the rest of the air and are called Rossby Waves. They move slower because they are caused by the Coriolis Effect and turn west in respect to the flow of air they are embedded in.

Coriolis force deflects the wind to the right direction in the northern hemisphere and to the left in the southern hemisphere.

Coriolis force acting on the fluid water deflecting it like it deflects the wind. This causes rivers to 'meander'.

Crater is a circular depression in the surface of a planet, moon, or other solid body in the Solar System.

4) Consider the following statements regarding Fold Mountains.

1. Fold mountains are created through a process called orogeny.
2. They are created at convergent plate boundaries, sometimes called continental collision zones or compression zones.
3. Most fold mountains are composed primarily of igneous rock.

Which of the above statements is/are correct?

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

Solution: a)

Fold mountains are created where two or more of Earth's tectonic plates are pushed together. At these colliding, compressing boundaries, rocks and debris are warped and folded into rocky outcrops, hills, mountains, and entire mountain ranges.

Fold mountains are created through a process called orogeny. An orogenic event takes millions of years to create a fold mountain.

Fold mountains are often associated with continental crust. They are created at convergent plate boundaries, sometimes called continental collision zones or compression zones. Convergent plate boundaries are sites of collisions, where tectonic plates crash into each other. Compression describes a set of stresses directed at one point in a rock or rock formation.

Most fold mountains are composed primarily of sedimentary rock and metamorphic rock formed under high pressure and relatively low temperatures.

Fold mountains are the most common type of mountain in the world. The rugged, soaring heights of the Himalayas, Andes, and Alps are all active fold mountains.

5) Meghalaya plateau has a highly eroded surface and some places are devoid of vegetation. Which of these can be a probable reason?

- a) It is a major volcanic zone.
- b) It receives maximum rainfall from the Monsoon.
- c) It is a region containing radioactive minerals.
- d) It is disturbed by frequent plate movements.

Solution: b)

This area receives maximum rainfall from the south west monsoon. As a result, the Meghalaya plateau has a highly eroded surface. Cherrapunji displays a bare rocky surface devoid of any permanent vegetation cover.

6) Consider the following statements.

1. Madhya Pradesh accounts for about 90 per cent of the total diamond resource in India.
2. Kimberlite is an intrusive igneous rock that contains diamonds.
3. South Africa is the world's largest producer of Diamonds.

Which of the above statements is/are correct?

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

Solution: b)

In India, Andhra Pradesh, Chhattisgarh, and Madhya Pradesh are the three states that produce diamonds. Among them, **Madhya Pradesh accounts for about 90% of the total diamond resource of the country.**

**Kimberlite**, also called **blue ground**, a dark-coloured, heavy, often altered and brecciated (fragmented), **intrusive igneous rock that contains diamonds** in its rock matrix.

**Russia is the world's largest producer and exporter of rough diamonds.**

7) Consider the following statements.

1. The core of the Great Himalayas is made up of granite rocks.
2. The Deccan Plateau receives heavy rainfall throughout the year as it falls on the windward side of major hills of Central and Southern 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: b)

- The **Deccan Plateau** is a large triangular plateau, bounded by the Vindhyas to the north and flanked by the Eastern and Western Ghats.
- This region is mostly semi-arid as it **lies on the leeward side** of both Ghats. Much of the Deccan is covered by thorn scrub forest scattered with small regions of deciduous broadleaf forest. Climate in the Deccan ranges from hot summers to mild winters.

8) Siachen Glacier, one of the world's longest mountain glaciers, is part of

- a) Ladakh
- b) The Zaskar
- c) Karakoram Range
- d) Greater Himalayas

Solution: c)

The Siachen Glacier is a glacier located in the eastern Karakoram range in the Himalayas.

9) Consider the following statements regarding La Niña.

1. It means the large-scale cooling of ocean surface temperatures in the central and eastern equatorial Pacific Ocean.
2. La Niña conditions enhance the rainfall associated with Northeast monsoon.

Which of the above statements is/are correct?

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

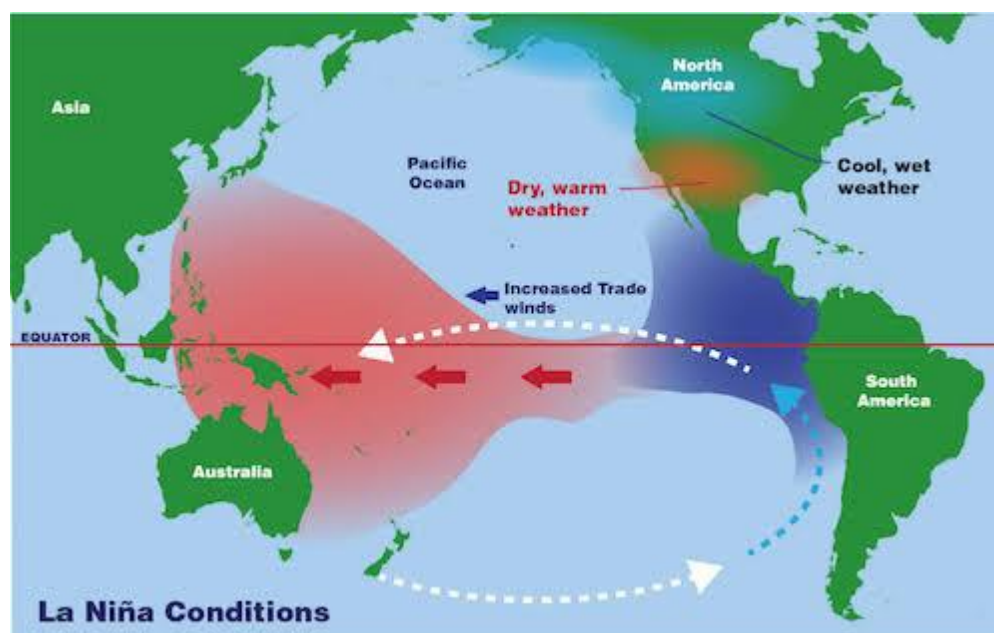
Solution: a)



### What is La Niña?

It means **the large-scale cooling of ocean surface temperatures in the central and eastern equatorial Pacific Ocean**, together with changes in the tropical atmospheric circulation, namely winds, pressure and rainfall.

- It has **the opposite impacts on weather and climate as El Niño**, which is the warm phase of **the El Niño Southern Oscillation (ENSO)**.



### How is La Niña linked with the Northeast monsoon?

While La Niña conditions enhance the rainfall associated with the Southwest monsoon, **it has a negative impact on rainfall associated with the Northeast monsoon.**

**During La Niña years**, the synoptic systems — low pressure or cyclones — formed in the Bay of Bengal remain significantly to the north of their normal position.

- Besides, instead of moving westwards, these systems recurve. As they lie to the north of their normal position, not much rainfall occurs over southern regions like Tamil Nadu.

10) Consider the following statements.

1. Solar Eclipse happens at New Moon, when the Sun and Moon are in conjunction with each other.
2. There isn't a solar eclipse every month since the lunar orbit is elliptical and tilted with respect to Earth's orbit.

Earth's orbit.

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)

Solar Eclipse is a natural event that takes place on Earth when the Moon moves in its orbit between Earth and the Sun (this is also known as an occultation).

- **It happens at New Moon, when the Sun and Moon are in conjunction with each other.**
- During an eclipse, the Moon's shadow (which is divided into two parts: the dark umbra and the lighter penumbra) moves across Earth's surface.

### Then, why isn't there a solar eclipse every month?

- If the Moon was only slightly closer to Earth, and orbited in the same plane and its orbit was circular, we would see eclipses each month.

- The lunar orbit is elliptical and tilted with respect to Earth's orbit, so we can only see up to 5 eclipses per year.
- Depending on the geometry of the Sun, Moon and Earth, the Sun can be totally blocked, or it can be partially blocked.

11) Willy Willy is

- A wind that blows in a desert
- A type of tree grown in taiga region
- Tornados* in the southern USA
- Tropical cyclone in north-western Australia

Solution: d)

**Cyclones are given many names in different regions of the world** – They are known as **typhoons** in the China Sea and Pacific Ocean; **hurricanes** in the West Indian islands in the Caribbean Sea and Atlantic Ocean; **tornados** in the Guinea lands of West Africa and southern USA.; **willy-willies** in north-western Australia and **tropical cyclones** in the Indian Ocean.

12) Consider the following statements regarding Precipitation in Equatorial Climate.

- Equatorial regions receive rainfall throughout the year.
- Most of the annual rainfall in the equatorial region is received in the form of convectional rainfall.
- Horizontal convergence of trade winds forming intertropical convergence and a fairly large number of atmospheric disturbances also cause rainfall in the equatorial regions.

Which of the above statements is/are correct?

- 1 only
- 1, 2
- 1, 3
- 1, 2, 3

Solution: d)

**Equatorial regions receive rainfall throughout the year** and thus there is no dry season. Average annual rainfall exceeds 200cm to 250cm. Even the driest month of the year receives rainfall more than 6cm.

**Most of the annual rainfall in the equatorial region is received in the form of convectional rainfall.**

The strong daily vertical convective mechanism due to intense heating of ground surface because of high amount of insolation, **horizontal convergence of trade winds forming intertropical convergence, a fairly large number of atmospheric disturbances** (cyclonic storms) and thunderstorms yield heavy rainfall daily throughout the equatorial regions.

13) Consider the following statements.

- In India, the tropical zone, lying south of the Tropic of Cancer experiences high temperatures throughout the year with high daily and annual range of temperature.
- Area north of the Tropic of Cancer being away from the equator, experiences extreme climate with high daily and annual range of temperature.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Solution: b)

- The tropical zone being nearer to the equator, experiences high temperatures throughout the year with small daily and annual range of temperature.
- **Area north of the Tropic of Cancer being away from the equator, experiences extreme climate with high daily and annual range of temperature.**

14) Consider the following statements regarding Mass Movements

1. Weathering is a pre-requisite for mass movement.
2. Mass movements are aided by both gravity and geomorphic agents.

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: c)

MASS MOVEMENTS:

- These movements transfer the mass of rock debris down the slopes under the direct influence of gravity. That means, air, water or ice do not carry debris with them from place to place but on the other hand the debris may carry with it air, water or ice. The movements of mass may range from slow to rapid, affecting shallow to deep columns of materials and include creep, flow, slide and fall. Gravity exerts its force on all matter, both bedrock and the products of weathering.
- So, **weathering is not a pre-requisite for mass movement** though it aids mass movements. Mass movements are very active over weathered slopes rather than over unweathered materials.
- **Mass movements are aided by gravity and no geomorphic agent** like running water, glaciers, wind, waves and currents **participate in the process of mass movements.**

15) Which of the following factors affect the formation of soil?

1. Parent material
2. Topography
3. Climate
4. Biological activity
5. Time

Select the correct answer code:

- a) 1, 2, 3, 4
- b) 2, 3, 4, 5
- c) 1, 3, 4, 5
- d) 1, 2, 3, 4, 5

Solution: d)

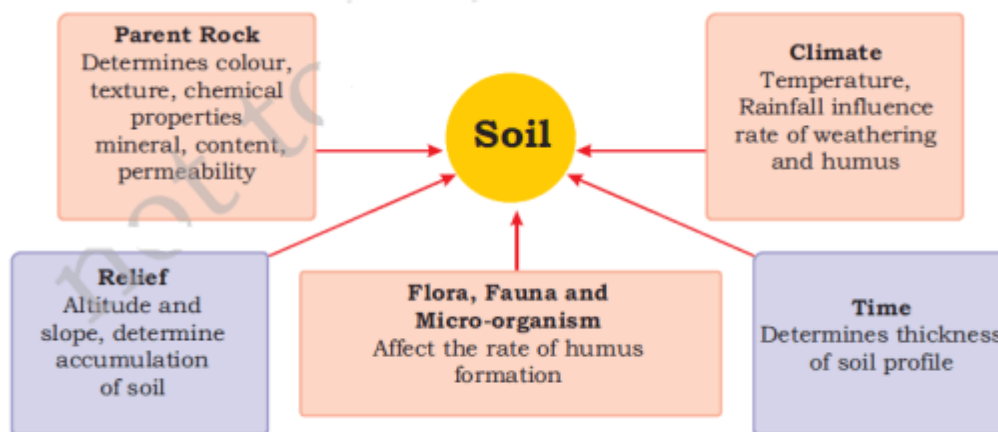


Fig. : Factors affecting soil formation

16) Consider the following statements regarding Meteor showers.

1. Meteor showers are witnessed when Earth passes through the trail of debris left behind by a comet.
2. All meteor showers origin lie in a comet.

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)

#### What are meteor showers?

- Meteors are bits of rock and ice that are ejected from comets as they manoeuvre around their orbits around the sun.
- **Meteor showers are witnessed when Earth passes through the trail of debris left behind by a comet or an asteroid.**

#### Why is the Geminid meteor shower considered to be the best of the year?

The Geminids meteor showers are unique because **their origin does not lie in a comet, but what is believed to be an asteroid or an extinct comet.** The Geminids emerge from **3200 Phaethon**, which meteor scientists consider to be an asteroid.

17) Consider the following statements regarding Geothermal springs.

1. Geothermal springs are produced by the emergence of geothermally heated groundwater that rises from the Earth's crust.
2. They are not present in the Garhwal region of the Himalayas in Uttarakhand.
3. They release a huge amount of carbon dioxide in the atmosphere.

Which of the above statements is/are correct?

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

Solution: b)

Scientists of the **Wadia Institute of Himalayan Geology (WIHG)** conducted a study on Geothermal springs in Himalayas.

#### Key observations and findings:

1. Geothermal springs cover about **10,000 square kms in the Garhwal region of the Himalayas in Uttarakhand.**
2. The Himalayas host hundreds of geothermal springs and **they release a huge amount of carbon dioxide in the atmosphere.**
3. **CO<sub>2</sub> in these thermal springs are sourced from metamorphic decarbonation of carbonate rocks** present deep in the Himalayan core along with **magmatism and oxidation of graphite.**
4. **Most of the geothermal water** is dominated by evaporation followed by weathering of silicate rocks.

#### What are hot/geothermal springs?

A hot spring is a spring **produced by the emergence of geothermally heated groundwater** that rises from the Earth's crust.

18) Consider the following statements regarding Volcanoes.

1. Volcanic eruption takes place when magma formed when the earth's mantle melts, rises to the surface.
2. The explosivity of volcanoes depends on the composition of the magma.
3. The region around Pacific Ring of Fire is home to about 75 per cent of the world's volcanoes.

Which of the above statements is/are correct?

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

Solution: d)

Indonesia is home to many active volcanoes, due to its position on the **“Ring of Fire”, or the Circum-Pacific Belt**, which is **an area along the Pacific Ocean** characterised by active volcanoes and frequent earthquakes.

• The **Ring of Fire is home to about 75 per cent of the world’s volcanoes** and about **90 per cent of its earthquakes**.

#### Why do volcanoes erupt?

- A volcano can be **active, dormant or extinct**.
- An eruption takes place **when magma (a thick flowing substance), formed when the earth’s mantle melts, rises to the surface**.
- Because **magma is lighter than solid rock**, it is able to rise through vents and fissures on the surface of the earth. **After it has erupted, it is called lava**.

Not all volcanic eruptions are explosive, since **explosivity depends on the composition of the magma**.

19) Consider the following statements.

1. The rain water does not contain any mineral salts.
2. The ocean currents contribute to the salinity variations.
3. Any change in the temperature or density influences the salinity of water in an area.

Which of the above statements is/are correct?

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

Solution: c)

**All waters in nature, whether rain water or ocean water, contain dissolved mineral salts.** Salinity is the term used to define the total content of dissolved salts in sea water.

#### Factors affecting ocean salinity are mentioned below:

- The salinity of water in the surface layer of oceans depend mainly on evaporation and precipitation.
- Surface salinity is greatly influenced in coastal regions by the fresh water flow from rivers, and in polar regions by the processes of freezing and thawing of ice.
- Wind, also influences salinity of an area by transferring water to other areas.
- The **ocean currents contribute to the salinity variations**. Salinity, temperature and density of water are interrelated. Hence, **any change in the temperature or density influences the salinity of water in an area**.

20) Consider the following statements regarding Climate of India.

1. The Himalayas trap the monsoon winds, forcing them to shed their moisture within the subcontinent.
2. Difference in air pressure causes reversal in the direction of monsoon winds.

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 lofty Himalayas in the north along with its extensions act as an effective climatic divide. The towering mountain chain provides an invincible shield to protect the subcontinent from the cold northern winds.
- These cold and chilly winds originate near the Arctic circle and blow across central and eastern Asia. **The Himalayas also trap the monsoon winds, forcing them to shed their moisture within the subcontinent.**
- As compared to the landmass, water heats up or cools down slowly. This differential heating of land and sea creates different air pressure zones in different seasons in and around the Indian subcontinent. **Difference in air pressure causes reversal in the direction of monsoon winds.**



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### 3. Economy

- 1) The major traits of recession are
1. There is a general fall in demand
  2. Inflation remains lower
  3. Employment rate falls
  4. Industries resort to price cuts

Select the correct answer code:

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

Solution: d)

A recession is a period of decline in general economic activity, typically defined when an economy experiences a decrease in its gross domestic product for two consecutive quarters.

Major traits of recession may be summed up as follows:

- (i) there is a **general fall in demand as economic activities** takes a downturn;
- (ii) **inflation remains lower** or/and shows further signs of falling down;
- (iii) **employment rate falls/unemployment rate grows**;
- (iv) **Industries resort to 'price cuts'** to sustain their business.

- 2) Arrange the following Core Industries in the decreasing order of their weightage.

1. Crude Oil
2. Cement
3. Fertilizers
4. Natural Gas

Select the correct answer code:

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

Solution: c)

The eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.

	Weight
Coal	10.3335
Crude Oil	8.9833
Natural Gas	6.8768
Refinery Products	28.0376
Fertilizers	2.6276
Steel	17.9166
Cement	5.372
Electricity	19.853
Overall Index	100



- 3) Consider the following statements regarding Capital adequacy ratio (CAR).
1. It is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.
  2. A lower CAR means the bank can absorb losses without diluting capital.

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)

Capital adequacy ratio:

**What this is:** It is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.

**What it means:** This is a measure of a bank's ability to meet its obligations. A high CAR means the bank can absorb losses without diluting capital.

- 4) Consider the following statements regarding Net interest margin (NIM).
1. Net interest margin is the difference between interest earned by a bank on loans and the interest it pays on deposits.
  2. NIM will be high for banks with higher low-cost deposits or high lending rates.

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)

Net interest margin

**What this is:** This is the difference between interest earned by a bank on loans and the interest it pays on deposits.

**What it means:** NIM will be high for banks with higher low-cost deposits or high lending rates. Low NIM and high NPA is a bad combination.

- 5) Which of the following are covered under Wilful default?
1. Deliberate non-payment of the dues.
  2. Misrepresentation / falsification of records
  3. Disposal / removal of securities without bank's knowledge
  4. Fraudulent transactions by the borrower

Select the correct answer code:

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

Solution: c)

Wilful default broadly covered the following:

- a) Deliberate non-payment of the dues despite adequate cash flow and good network;
- b) Siphoning off of funds to the detriment of the defaulting unit;
- c) Assets financed either not been purchased or been sold and proceeds have been misutilised;
- d) Misrepresentation / falsification of records;

- e) Disposal / removal of securities without bank's knowledge;
- f) Fraudulent transactions by the borrower.

- 6) Consider the following statements regarding current and savings account (CASA) ratio.
1. It is the proportion of current account and savings account deposits in the total deposits of the bank.
  2. A low CASA ratio means the bank relies heavily on costlier wholesale funding, which can hurt its interest margins.

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)

**CASA ratio** stands for **current and savings account ratio**. CASA ratio of a bank is the **ratio of deposits in current and saving accounts to total deposits**.

**A low CASA ratio means the bank relies heavily on costlier wholesale funding, which can hurt its margins.**

**A higher CASA ratio indicates a lower cost of funds**, because banks do not usually give any interests on current account deposits and the interest on saving accounts is usually very low.

If a large part of a bank's deposits comes from these funds, it means that the bank is getting those funds at a relative lower cost. It is generally understood that **a higher CASA ratio leads to higher net interest margin**.

In India, it is used as one of the metrics to assess the profitability of a bank.

- 7) Consider the following statements regarding Return on assets (RoA).
1. It shows how profitable a bank's assets are in generating revenue.
  2. A higher RoA means that bank is not able to utilise assets efficiently.

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)

Return on assets

**What this is:** it shows how profitable a bank's assets are in generating revenue.

**What it means:** **A lower RoA means that bank is not able to utilise assets efficiently.** Negative RoA implies the bank's assets are yielding negative return.

- 8) Consider the following statements regarding Wholesale Price Index (WPI) and the Consumer Price Index (CPI) inflation.
1. The weight of food in CPI is far higher than in WPI.
  2. Both capture price changes of services.
  3. Both are released by Central Statistical Organisation (CSO).

Which of the above statements is/are correct?

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

Solution: c)

- The WPI and the CPI baskets are different, both at the weightage assigned to food, fuel and manufactured items as well as at the broken-down level of these segments. **The weight of food in CPI is higher than in WPI.**
- **The WPI inflation does not capture price changes of services but the CPI does.**
- WPI inflation is released by Office of Economic Adviser, Department for Promotion of Industry and Internal Trade (DPIIT).
- CPI for Industrial workers CPI(IW), CPI for Rural Labourers (RL) and CPI for Agricultural Labourers CPI(AL) are compiled by Labour Bureau.
- CPI(Urban), CPI(Rural) and CPI Combined are compiled by Central Statistical Organisation (CSO).

9) *Reciprocal trade agreements (RTAs)* include:

1. Preferential arrangements
2. Free trade agreements
3. Customs unions
4. Common markets

Which of the above statements is/are correct?

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

Solution: d)

Countries use bilateral/regional trade agreements to increase market access and expand trade in foreign markets. These agreements are called *reciprocal trade agreements (RTAs)* because members grant special advantages to each other.

*RTAs include* many types of agreements, such as **preferential arrangements, free trade agreements, customs unions, and common markets**, in which members agree to open their markets to each other's exports by lowering trade barriers.

10) Consider the following statements regarding Operation Twist

1. It was launched by RBI to bring down interest rates.
2. In the operation, the central bank uses the proceeds from sale of long-term government debt papers to buy short-term securities

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)

#### Operation Twist

- RBI launched US-style 'Operation Twist' to **bring down interest rates**.
- '**Operation Twist**' is when the central bank uses the proceeds from **sale of short-term securities to buy long-term government debt papers**, leading to **easing of interest rates** on the long-term papers.
- The objective behind such an operation is management of the yield curve.
- It will help to make loans less expensive with those looking to buy homes, cars and make savings less desirable as it doesn't pay much interest.
- Other central banks, including the US Federal Reserve, have used similar measures.

11) Consider the following statements regarding Five Year Plans in India.

1. The Second Five Year plan followed the Mahalanobis model.
2. Third Five Year Plan was based on Gadgil Yojana.
2. "Garibi Hatao" slogan was given during Fourth Five Year Plan.

Which of the above statements is/are correct?

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

Solution: a)

The **Fifth Five-Year Plan** laid stress on employment, poverty alleviation (**Garibi Hatao**), and justice. The plan also focused on self-reliance in agricultural production and defence.

12) Full convertibility of the rupee would mean

- 1. Its free float with the international currencies.
- 2. Its direct exchange with any other international currency at any prescribed place inside and outside the country.
- 3. No limit on inflow or outflow of capital for various purposes including investments, remittances, or asset purchases/sales.

Select the correct answer code:

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

Solution: d)

Convertibility is the ease with which a country's currency can be converted into gold or another currency through global exchanges. **It indicates the extent to which the regulations allow inflow and outflow of capital to and from the country.** Currencies that aren't fully convertible, on the other hand, are generally difficult to convert into other currencies.

Full convertibility would mean the rupee exchange rate would be left to market factors without any regulatory intervention. **There may be no limit on inflow or outflow of capital for various purposes including investments, remittances, or asset purchases/sales.**

13) Consider the following statements regarding **Open market operations**.

- 1. **Open market operations are the only tool utilised by the RBI** to adjust the quantum and price of money in the system.
- 2. These operations are conducted only on quarterly basis in a manner that balances inflation while helping banks continue to lend.
- 3. *RBI carries out the Open market operations through commercial banks and does not directly deal with the public.*

Which of the above statements is/are incorrect?

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

Solution: b)

**What are open market operations?**

- They are *conducted by the RBI by way of sale or purchase of government securities (g-secs)* to adjust money supply conditions.
- The central bank sells g-secs to suck out liquidity from the system and buys back g-secs to infuse liquidity into the system.

- **These operations are often conducted on a day-to-day basis in a manner that balances inflation while helping banks continue to lend.**
- The RBI uses OMO along with other monetary policy tools such as repo rate, cash reserve ratio and statutory liquidity ratio to adjust the quantum and price of money in the system.
- When the RBI wants to increase the money supply in the economy, it purchases the government securities from the market and it sells government securities to suck out liquidity from the system.
- **RBI carries out the OMO through commercial banks and does not directly deal with the public.**

14) Consider the following statements regarding Fiscal Deficit.

1. Fiscal deficit is “reflective of the total borrowing requirements of Government”.
2. A high fiscal deficit is always bad for the economy.
3. High fiscal deficit can lead to higher rates of interest for the borrowings by private entrepreneurs and businesses.

Which of the above statements is/are correct?

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

Solution: c)

**What is the fiscal deficit?**

It is **the difference between the Revenue Receipts plus Non-debt Capital Receipts (NDCR) and the total expenditure.**

- In other words, fiscal deficit is “reflective of the total borrowing requirements of Government”.

The significance of fiscal deficit is that if this ratio is too high, it implies that there is a lesser amount of money left in the market for private entrepreneurs and businesses to borrow. Lesser amount of this money, in turn, leads to higher rates of interest charged on such lending.

So, simply put, **a higher fiscal deficit means higher borrowing by the government, which, in turn, mean higher interest rates in the economy.**

**A high fiscal deficit can also be good for the economy if the money spent goes into the creation of productive assets like highways, roads, ports and airports that boost economic growth and result in job creation.**

15) Stagflation often seen in news occurs when the economy is facing

1. High Fiscal Deficit
2. Currency appreciation
3. High inflation
4. High unemployment rate

Select the correct answer code:

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

Solution: c)

Stagflation is characterized by slow economic growth and relatively high unemployment—or economic stagnation—which is at the same time accompanied by rising prices (i.e. inflation). Stagflation can also be alternatively defined as a period of inflation combined with a decline in gross domestic product (GDP).

16) Consider the following statements.

1. If the fiscal deficit ratio is too high it leads to higher rates of interest for the borrowings of private entrepreneurs and businesses.

2. The Fiscal Responsibility and Budget Management (FRBM) Act, 2003 suggests bringing the fiscal deficit down to about 3% plus or minus 2% of the GDP.

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)

- If the fiscal deficit ratio is too high, it implies that there is a lesser amount of money left in the market for private entrepreneurs and businesses to borrow.
- Lesser amount of this money, in turn, leads to higher rates of interest charged on such lending.
- A high fiscal deficit and higher interest rates would also mean that the efforts of the Reserve Bank of India to reduce interest rates are undone.

The Fiscal Responsibility and Budget Management (FRBM) Act, 2003, intends to bring transparency and accountability in the conduct of the fiscal and monetary actions of the government.

The rules set targets for the phased reduction of the fiscal deficit to acceptable levels. It requires the government to **limit the fiscal deficit to 3% of the GDP** by 31 March 2021 and the debt of the central government to 40% of the GDP by 2024-25, among others.

17) The government is required to provide the Parliament details of which of the following fiscal indicators?

- 1. Fiscal, revenue and primary deficit as a percentage of GDP
- 2. Tax and non-tax revenues as a percentage of GDP.
- 3. Central government debt as a percentage of GDP.

Select the correct answer code:

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

Solution: d)

The government is required to provide the Parliament details of fiscal indicators such as fiscal, revenue and primary deficit as a percentage of GDP, tax and non-tax revenues as a percentage of GDP, and central government debt as a percentage of GDP.

18) Consider the following statements regarding Government borrowing.

- 1. Government borrowing falls under both capital receipts and revenue receipts in the Budget document.
- 2. Government borrows through issue of government securities called G-secs and Treasury Bills.
- 3. Bulk of government's fiscal deficit comes from its interest obligation on past debt.

Which of the above statements is/are correct?

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

Solution: c)

### What is government borrowing?

Borrowing is a loan taken by the government and falls under **capital receipts** in the Budget document. Usually, Government borrows through issue of government securities called **G-secs and Treasury Bills**.

**Bulk of government's fiscal deficit comes from its interest obligation on past debt.**

19) Consider the following statements regarding Nidhi Company.

1. Nidhi company is formed with the exclusive object of cultivating the habit of thrift, savings and functioning for the mutual benefit of members.
2. Nidhis are governed by the overall ceiling on the rate of interest prescribed by RBI.
3. Nidhis are included in the definition of Non-Banking Financial companies.

Which of the above statements is/are correct?

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

Solution: d)

**Nidhi** is a company formed with the **exclusive object of cultivating the habit of thrift, savings and functioning for the mutual benefit of members** by receiving deposits only from individuals enrolled as members and by lending only to individuals, also enrolled as members.

- Nidhis are governed by the overall ceiling on the rate of **interest prescribed by RBI** under NBFC Directions.
- Nidhis are companies registered under the **Companies Act, 2013** and is **regulated by Ministry of Corporate Affairs (MCA)**.
- Nidhis are also included in the definition of **Non- Banking Financial companies or (NBFCs)** which operate mainly in the **unorganized money market**.

20) Which of these is/are the examples of fixed capital formation?

1. Office equipment, such as computers
2. Energy infrastructure
3. Accumulation of foreign exchange reserve

Select the correct answer code:

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

Solution: a)

- **Currency is not considered as fixed capital, it is liquid capital.** Fixed capital are the assets used in the productive process.
- Examples include Building or expanding existing factory, Purchase of transport equipment and all other machineries used in the productive process.
- Increasing an economy's capital stock also increases its capacity for production, which means an economy can produce more.

21) Consider the following statements.

1. The 'Escape clause' allows the Central government to deviate from fiscal deficit targets in times of need.
2. The amendments to FRBM Act mentions that the deviation from the stipulated fiscal deficit target must not exceed 2 percentage points in a year.

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)

'Escape clause' generally refers to a contract provision that specifies the conditions under which a party can be freed from an obligation. **The escape clause under the FRBM (Fiscal Responsibility and Budget Management) Act details a set of events in which the Central government can deviate from fiscal deficit targets.**

Escape clauses provide flexibility to governments to overshoot fiscal deficit targets in times of need, enabling them to respond to economic shocks. To ensure escape clauses are not misused, they are generally allowed only in exceptional circumstances, and with a check on the quantum of deviation.

**The FRBM amendments also mentioned that the deviation from the stipulated fiscal deficit target must not exceed 0.5 percentage points in a year.**

[Source](#)

22) According to amendments to FRBM Act, under which of the following conditions, the escape clause can be invoked?

1. Collapse of agriculture severely affecting farm output and incomes.
2. Far-reaching structural reforms in the economy with unanticipated fiscal implications.
3. Sharp decline in real output growth of at least 3 percentage points below the average for the previous four quarters.

Select the correct answer code:

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

Solution: d)

In 2018, the FRBM Act was amended to specify three conditions upon which the escape clause can be invoked.

- First, over-riding considerations of national security, acts of war, and calamities of national proportion and collapse of agriculture severely affecting farm output and incomes.
- Second, far-reaching structural reforms in the economy with unanticipated fiscal implications.
- Three, a sharp decline in real output growth of at least 3 percentage points below the average for the previous four quarters.

[Source](#)

23) Which of the following is generally not an activity carried out by shell companies?

- a) Make financial transactions.
- b) Manufacturing products and rendering services
- c) Diverting money or money laundering.
- d) None of the above are the activities of Shell companies.

Solution: b)

Typically shell companies include multiple layers of companies that have been **created for the purpose of diverting money or for money laundering. Most shell companies do not manufacture any product or deal in any product or render any service.** They are mostly used to make financial transactions. Generally, these companies hold assets only on paper and not in reality. These companies conduct almost no economic activity.

24) Fiscal Consolidation refers to the policies undertaken by Governments to

1. Reduce their fiscal deficits
2. Reduce the accumulation of debt stock

Select the correct answer code:

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

Solution: c)

**Fiscal Consolidation refers to the policies undertaken by Governments (national and sub-national levels) to reduce their deficits and accumulation of debt stock.**

FISCAL CONSOLIDATION is a process where government's FISCAL health is getting improved and is indicated by reduced FISCAL deficit. Improved tax revenue realization and better aligned expenditure are the components of FISCAL CONSOLIDATION as the FISCAL deficit reaches at a manageable level.

25) Which of the following taxes are not subsumed under GST?

- 1. Taxes on lottery, betting and gambling.
- 2. Entertainment Tax
- 3. Tax levied by the local bodies

Select the correct answer code:

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

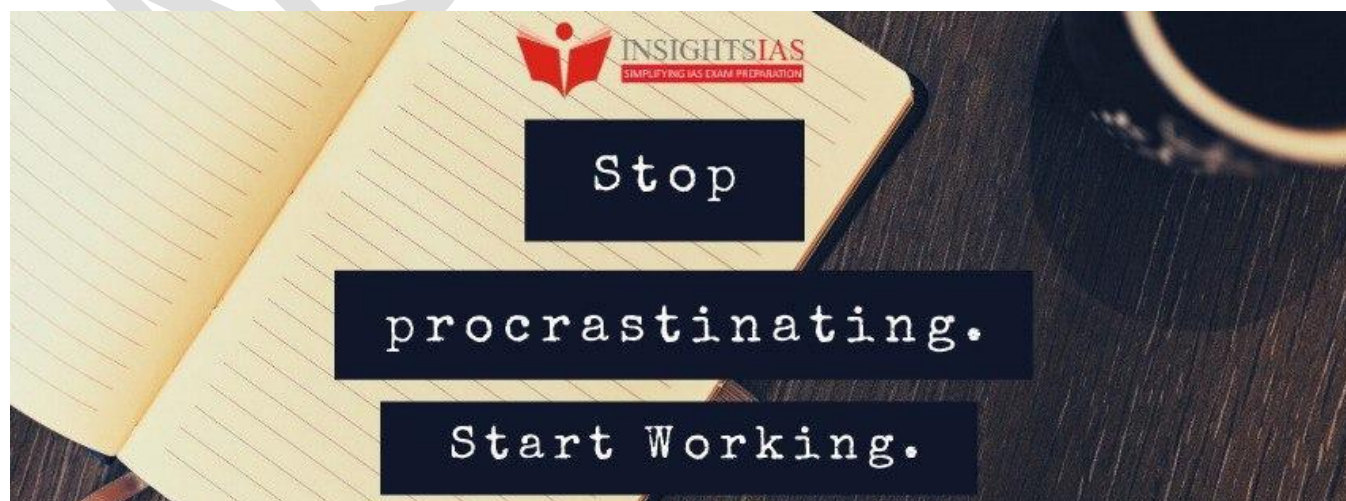
Solution: b)

The Supreme court held that **lottery, betting and gambling were “actionable claims”** and came within the definition of ‘goods’ under **Section 2(52) of the Central Goods and Services Tax Act, 2017.**

The Court said **the levy of GST on lotteries did not amount to “hostile discrimination”.**

**At the State level, the following taxes are being subsumed:**

- a. Subsuming of State Value Added Tax/Sales Tax,
- b. Entertainment Tax (**other than the tax levied by the local bodies**), Central Sales Tax (levied by the Centre and collected by the States),
- c. Octroi and Entry tax,
- d. Purchase Tax,
- e. Luxury tax, and
- f. Taxes on lottery, betting and gambling.



## 4. Art and Culture

- 1) Milindapanha is in the form of a dialogue between the King Menander and which of the following Buddhist monk:
- Nagarjuna
  - Nagabhatta
  - Nagasena
  - None of the above

Solution: c)

The **Milindapanha** is a Buddhist text which dates from sometime between 100 BC and 200 AD. It purports to **record a dialogue between the Buddhist sage Nāgasena, and the Indo-Greek king Menander I** of Bactria, who reigned in the 2nd century BC.

- 2) Consider the following statements.
- Ashoka annexed Kalinga to the Mauryan Empire.
  - According to Ashoka's edicts, religious devotion and promotion of religion was more important than social harmony.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Solution: a)

**Ashoka waged a destructive war against the state of Kalinga which he conquered** in about 260 BCE.

**Ashoka's edicts put stress on social harmony** among the people by spreading ideas of equity instead of promotion of religion.

- 3) Consider the following statements regarding Vaisheshika school.
- According to this school, everything in the universe was created by the five main elements: fire, air, water, earth and ether (sky).
  - They also developed the atomic theory, i.e. all material objects are made of atoms.

Which of the above statements is/are incorrect?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Solution: d)

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. They also argue that reality has many categories, for example, action, attribute, genus, inherence, substance and distinct quality.
- As this school has a very scientific approach, **they also developed the atomic theory, i.e. all material objects are made of atoms.**

- 4) Consider the following statements regarding Central Indian paintings.

1. They take inspiration from love poems in Sanskrit and other Indian languages, and works on musical themes.
2. Vaishnavism, Saivism and Sakti exercised tremendous influence on these paintings.

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)

Unlike Mughal painting which is primarily secular, the art of painting in Central India, Rajasthani and the Pahari region etc. is deeply rooted in the Indian traditions, taking **inspiration from Indian epics, religious texts like the Puranas, love poems in Sanskrit and other Indian languages, Indian folk-lore and works on musical themes.**

- 5) Lai Haraoba, a ritualistic festival is celebrated by
  - a) Hajong communities of Meghalaya
  - b) Angami Naga of Nagaland
  - c) Lusei communities of Mizoram
  - d) Meitei communities of Manipuri

Solution: d)

In Tripura, Lai Haraoba, is a ritualistic festival observed by Manipuri meitei communities since ancient times.

- 6) Consider the following statements regarding Arya Samaj.
  1. Arya Samaj is a Hindu reform movement that was founded by Ishwar Chandra Vidyasagar.
  2. Arya Samaj does not believe in the authority of the Vedas.
  3. The central objectives of Arya Samaj is to eradicate Ignorance, Poverty and Injustice from this earth.

Which of the above statements is/are correct?

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

Solution: b)

**Arya Samaj is a Hindu reform movement that was founded by Dayanand Saraswati in 1875 in Bombay. The movement believes in the infallible authority of the Vedas.**

The central objectives of Arya Samaj is to, “**eradicate Ignorance (Agyan), Indigence or Poverty (Abhav) and Injustice (Anayay) from this earth.** This mission is enshrined in the ten Niyams or Principles.”

**Members of the Arya Samaj believe in one God and reject the worship of idols.**

- 7) Consider the following statements
  1. According to this philosophy, Vedas are eternal and possess all knowledge.
  2. Religion means the fulfilment of duties prescribed by the Vedas.
  3. This philosophy encompasses the Nyaya-Vaisheshika systems and emphasizes the concept of valid knowledge.

The above statements are related to?

- a) Vedanta School
- b) Samkhya School
- c) Mimamsa School
- d) Yoga School

Solution: c)

- Mimamsa philosophy is basically the analysis of interpretation, application and the use of the text of the Samhita and Brahmana portions of the Veda.
- According to Mimamsa philosophy, **Vedas are eternal and possess all knowledge**, and **religion means the fulfilment of duties prescribed by the Vedas**.
- This **philosophy encompasses the Nyaya-Vaisheshika systems and emphasizes the concept of valid knowledge**.

8) Consider the following statements regarding Lokayata Philosophy.

1. Brihaspati laid the foundation stone of this school.
2. It emphasises on the materialistic view to achieve salvation.
3. They argued in favour of Gods and their representatives on the Earth.

Which of the above statements is/are correct?

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

Solution: b)

### Charvaka School or Lokayata Philosophy

**Brihaspati laid the foundation stone** of this school and it was supposed to be one of the earliest schools that developed a philosophical theory. The **philosophy is old enough to find mention in the Vedas and Brihadarankya Upanishad**. The Charvaka School was the main propounder of the **materialistic view to achieve salvation**. As it was geared towards the common people, the philosophy was soon dubbed as **Lokayata** or something derived from the common people.

They argued for a complete disregard of any world beyond this world that was inhabited by a person. They denied the existence of any supernatural or divine agent who could regulate our conduct on earth. They argued **against the need to achieve salvation** and also denied the existence of brahma and God. They believed in anything that could be touched and be experienced by the human senses.

#### Some of their main teachings are:

They **argued against Gods and their representatives on the earth – the priestly class**.

They argued that a Brahman manufactures false rituals so as to acquire gifts (dakshina) from the followers.

Man is the centre of all activities and he should enjoy himself as long as he lives. He should consume all earthly goods and indulge in sensual pleasure.

**The Charvakas do not consider 'ether'** as one of the five essential elements as it cannot be experienced through the perception. Hence, they say the universe consists of **only four elements**: fire, earth, water and air.

The materialistic philosophies dominated over the idealist ones.

9) Consider the following statements regarding Khyal.

1. The origin of this style was attributed to Amir Khusrau.
2. Alap is given more room in the Khyal music as compared to Dhrupad.
3. Usually, the theme for Khyal bandish is romantic in nature.

Which of the above statements is/are correct?

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

Solution: c)

The word 'Khyal' is derived from Persian and means **"idea or imagination"**. The origin of this style was attributed to **Amir Khusrau**. This form is popular amongst the artists as this provides greater scope for improvisation. Khyal is based on the repertoire of **short songs** ranging from two to eight lines. Generally, a Khyal composition is also referred to as a 'Bandish'.

Sultan Mohammad Sharqi gave the biggest patronage to Khyal in the 15th century. One of the most unique features of Khyal is the use of taan in the composition. Because of this, **Alap is given much less room in the Khyal music as compared to Dhrupad**. A typical Khyal performance uses two songs:

**Bada Khyal:** sung in the slow tempo

**Chhota Khyal:** sung in the fast tempo

In most cases, every singer renders the same bandish differently, while keeping the text and raga as constant. Usually, the theme for these Khyal bandish is **romantic** in nature. They sing about love, even if they are related to the divine creatures. It may be praising God or a particular king. Exceptional Khyal compositions are composed in the praise of **Lord Krishna**.

10) Consider the following statements regarding Madhubani Painting.

1. It is a style of folk painting old enough to find mention in Ramayana.
2. Traditionally, the Madhubani paintings were created using fingers and twigs.
3. They use bright earthy colours.

Which of the above statements is/are correct?

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

Solution: d)

Madhubani Paintings

- **Madhubani** means **'forest of honey'**.
- It is a style of **folk painting old enough to find mention in some of the ancient Indian texts** like the holy **Ramayana**.
- It is also known as **Mithila**, for its **origin, is said to be the Mithila region in Bihar**.
- Traditionally, the Madhubani paintings were **created using fingers and twigs, and items like matchsticks have come to be used in their creation in recent times**.
- This style of painting has been **traditionally done by the women of the region, though today men are also involved to meet the demand**.
- These paintings are **popular because of their tribal motifs and use of bright earthy colours**.





11) Which of the following animals are represented on the seals and terracotta art of the Harappan Culture?

1. Unicorn bull
2. Elephant
3. Tiger
4. Cow

Select the correct answer code:

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

Solution: a)

Archaeologists have discovered thousands of seals, mostly made of steatite, and occasionally of agate, chert, copper, faience and terracotta, with beautiful figures of animals, such as **unicorn bull, rhinoceros, tiger, elephant, bison, goat and buffalo.**

12) The concept of Eight-fold path forms the theme of

- a) Parinirvana
- b) Divyavadana
- c) Dipavamsa
- d) Dharma Chakra Pravartana Sutra

Solution: d)

The teaching of Dhamma Cakka Pavattana Sutta (Pali) or Dharma Chakra Pravartana Sutra (Sanskrit) is also known as **the First Turning of Wheels of Dharma and comprised the Four Noble Truths and Noble Eightfold Path.**

13) Consider the following statements regarding Dhamma Chakra Day.

1. The day marks Buddha's first teaching after attaining Enlightenment.
2. This day is considered as the only sacred day for Buddhists.
3. The teaching of Dharma chakra Pravartana Sutra is also known as the First Turning of Wheels of Dharma.

Which of the above statements is/are correct?

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



d) 1, 2, 3

Solution: c)

#### Significance of the Dhamma Chakra Day:

- It marks **Buddha's first teaching after attaining Enlightenment** to the first five ascetic disciples (**pañcavargika**) on the full-moon day of Asadha at '**Deer Park**', **Rishipatana** in modern-day Sarnath, near Varanasi.
- This teaching of Dhamma Cakka Pavattana Sutta (Pali) or Dharma Chakra Pravartana Sutra (Sanskrit) is also known as **the First Turning of Wheels of Dharma and comprised the Four Noble Truths and Noble Eightfold Path**.
- The day is also known as **Esala Poya in Sri Lanka and Asanha Bucha in Thailand**.
- It is **the second most sacred day for Buddhists after the Buddha Poornima or Vesak**.

14) Consider the following statements regarding Zardozi Art.

1. Zardozi art prospered in India during the reign of the Mughal emperor Akbar.
2. Zardozi is the indigenous art of India.
3. The gold coils and beads are tucked onto fabric.

Which of the above statements is/are correct?

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

Solution: b)

**Zardozi prospered in India during the 17th century during the reign of the Mughal emperor Akbar. It came to India from Persia.**

Its literal translation, '**Zar**' means **gold** and '**dozi**' meaning **embroidery**. Thus, Zardozi come from the Persian term meaning '**embroidering with gold threads**.'

- In this embroidery, gold coils and beads are tucked onto fabric using a needle and thread.
- Metals like gold and silver are transformed into a zari (thin thread) that is used to adorn motifs onto rich fabrics like silk, velvet, organza, chiffon, etc.

**In 2013 the Geographical Indication Registry (GIR) accorded the Geographical Indication (GI) registration to the Lucknow Zardozi.**



15) Consider the following statements regarding Chindu Yakshagana.

1. It is a form of theatre practised by members of the Chindu Madiga community.

2. It is a form of entertainment in villages across Tamil Nadu.

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)

**Chindu Yakshaganam, a.k.a Chindu Bhagavatam is a form of theatre practised by members of the Chindu Madiga community.**

**It is a form of entertainment in villages across Telangana**, with the artists skilfully depicting classic tales from the epics and entertaining the masses.

The art form probably started when people enacted acts of hunting, wars and other acts of valour.

The Chindu community has traditionally been a nomadic community.

16) Xorai, is a traditional symbol of

- a) Odisha
- b) West Bengal
- c) Assam
- d) Uttarakhand

Solution: c)

The **Xorai**, a manufactured bell metal product is one of the **traditional symbols of Assam**, which is considered as an article of great respect by the people of Assam.



17) Consider the following statements regarding Aryabhatta.

1. Aryabhatta wrote Aryabhattiya in which the concepts of mathematics as well as astronomy were mentioned.

2. Aryabhatta in his book, mentioned Zero for the first time as a number.

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)

**Aryabhatta** in around **499 A.D.** wrote **Aryabhattiya** in which the **concepts of mathematics** as well as **astronomy** were explicitly mentioned.

**Brahmagupta** in the **7th century AD** in his book **Brahmasputa Siddhantika** mentioned **Zero** for the **first time as a number**. In his book, he also **introduced negative numbers** and described them as debts and positive numbers as fortunes.

18) Consider the following statements regarding Rudreswara Temple.

1. It was built during the reign of Kakatiya dynasty.
2. It is located in Tamil Nadu.

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)

**UNESCO inscribed** the 13th-century Rudreswara (Ramappa) temple in Telangana as a **World Heritage Site**.

An inscription dates it to 1213 and says it was built by a Kakatiya General Recherla Rudra Reddy, during the period of the **Kakatiya ruler Ganapati Deva**. "Ramappa is the main Shiva temple in a larger walled temple complex, which includes several smaller temples and structures,"

It is built of sandstone with decorated beams and pillars of carved granite and dolerite. The inner sanctum is made of lightweight porous bricks. The sculptures, especially bracket figures, have their lustre intact.



19) Consider the following statements regarding Varahamihira.

1. He lived in the Gupta period and was among the nine gems in the court of Vikramaditya.
2. Vikramaditya awarded him with the title of "Varaha".
3. The earth cloud theory was also propounded by him in his book Brihat Samhita.

Which of the above statements is/are correct?

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

Solution: d)

In the field of geology, hydrology and ecology, the contribution of **Varahamihira** cannot be forgotten. He lived in the **Gupta period** and was **among the nine gems** in the court of **Vikramaditya**. His predictions were so accurate that king Vikramaditya awarded him with the **title of "Varaha"**.

The **earth cloud theory** was also propounded by him in his book **Brihat Samhita**. He related **earthquake** to the influence of plants, behaviour of animals, underground water, **undersea activities** and the **unusual cloud formation**. He also made contributions in **Astrology** or **Jyotish shastra**.

20) Consider the following statements regarding 'Kathakali Dance'.

1. It generally represents the eternal conflict between good and evil.
2. It is mainly performed by both men and women.

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)

- Most Kathakali recitals are a grand representation of the **eternal conflict between good and evil**.
- It draws its themes from the stories narrated in the epics and the puranas.
- It is also called as the 'ballad of the east'. Kathakali is essentially an **all-male troupe performance**.

## 5. History

1) Who among the following is known as Father of Indian archaeology?

- a) Sir William Jones
- b) James Prinsep
- c) Max Mueller
- d) Alexander Cunningham

Solution: d)

Although Harappa was the first site to be discovered, it was badly destroyed by brick robbers. As early as 1875, **Alexander Cunningham**, the first Director-General of the Archaeological Survey of India (ASI), often called the **father of Indian archaeology**, noted that the amount of brick taken from the ancient site was enough to lay bricks for “about 100 miles” of the railway line between Lahore and Multan. Thus, many of the ancient structures at the site were damaged. In contrast, Mohenjodaro was far better preserved.

2) Consider the following statements regarding Prayaga Prashasti.

- 1. It was composed in Sanskrit by Nagasena.
- 2. It describes the circumstances of Samudragupta’s accession, his military campaigns in north India and the Deccan.

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 Prayaga Prashasti (also known as the Allahabad Pillar Inscription) composed in Sanskrit by Harisena**, the court poet of Samudragupta, arguably the most powerful of the Gupta rulers (c. fourth century CE), is a case in point.

The most important source for the reign of Samudragupta is the Allahabad Pillar inscription. It describes his personality and achievements. This inscription is engraved on an Asokan pillar. It is written in classical Sanskrit, using the Nagari script. It consists of 33 lines composed by Harisena. **It describes the circumstances of Samudragupta’s accession, his military campaigns in north India and the Deccan**, his relationship with other contemporary rulers, and his accomplishments as a poet and scholar.

3) Consider the following statements.

- 1. The first gold coins were issued by the Indo-Greeks.
- 2. The first coins to bear the names and images of rulers were issued by Guptas.

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: d)

**The first coins to bear the names and images of rulers were issued by the Indo-Greeks**, who established control over the north-western part of the subcontinent in second century BCE.

The **kushanas**, however, issued the largest hoards of gold coins **first gold coins** in first century CE. These were virtually identical in weight with those issued by contemporary Roman emperors and the Parthian rulers of Iran, and have been found from several sites in north India and Central Asia.

- 4) Amongst the following, the latest to form was
- The British Indian Association
  - The Bombay Association
  - The Madras Mahajana Sabha
  - East India Association, London

Solution: c)

These were some of the early Political Associations that paved the way for organized struggle in India:

- The British Indian Association – 1851 Bengal
- The Bombay Association — 1852 Dadabhai Naoroji
- Madras Native Association 1852
- East India Association, London 1866
- Poona Sarvajanik Sabha—1870
- The Madras Mahajana Sabha—1884

- 5) Following the rejection of the recommendations of the Simon Commission by Indians, an all-party conference was held at Mumbai in May 1928. The conference appointed a drafting committee under Motilal Nehru to
- Draw up a constitution for India
  - Dwell on the future leadership of the Indian National Congress (INC)
  - Prepare the roadmap to the next non-cooperation movement
  - None of the above

Solution: a)

The draft constitution was prepared which was called “Nehru Committee Report”. This report was submitted on August 28, 1928 at the Lucknow conference of all the parties.

The main points of the Nehru report were as follows:

- India would be given Dominion status. This means independence within the British Commonwealth. India will be a federation which shall have a bicameral legislature at the centre and Ministry would be responsible to the legislature.
  - Governor General of India would be the constitutional head of India and will have the same powers as that of British Crown. There will be no separate electorate. The draft report also defined the citizenship and fundamental rights.
- 6) Consider the following statements regarding Middle Stone Age.
1. Stone artifacts often more than five centimeters in size, called microliths were found.
  2. There seems to have been a shift from big animal hunting to small animal hunting and fishing.
  3. Domestication of animals, horticulture and primitive cultivation started during this period.

Which of the above statements is/are correct?

- 1, 2
- 1, 3
- 2, 3
- 1, 2, 3

Solution: c)

### Mesolithic or Middle Stone Age

The next stage(Old Stone Age) of human life is called **Mesolithic or Middle Stone Age** which falls roughly from 10000 B.C. to 6000 B.C. It was the **transitional phase between the Paleolithic Age and Neolithic Age**. Mesolithic remains are found in Langhanj in Gujarat, Adamgarh in Madhya Pradesh and also in some places of Rajasthan, Uttar Pradesh and Bihar. The paintings and engravings found at the rock shelters give an idea about the social life and economic activities of Mesolithic people. **In the sites of Mesolithic Age, a different type of stone tools is**



**found. These are tiny stone artifacts, often not more than five centimeters in size, and therefore called microliths.** The hunting-gathering pattern of life continued during this period.

However, **there seems to have been a shift from big animal hunting to small animal hunting and fishing.** The use of bow and arrow also began during this period. Also, there began a tendency to settle for longer periods in an area. Therefore, **domestication of animals, horticulture and primitive cultivation started.** Animal bones are found in these sites and these include dog, deer, boar and ostrich. Occasionally, burials of the dead along with some microliths and shells seem to have been practiced.

7) Who among the following was the last Mauryan king?

- a) Ashoka
- b) Kunala
- c) Brihatratha
- d) Dasaratha

Solution: c)

Ashoka's death in 232 B.C. was followed by the division of the Mauryan Empire into two parts – western and eastern. The western part was ruled by Kunala, son of Ashoka and the eastern part by Dasaratha, one of the grand sons of Ashoka. Due to the Bactrian invasions, the western part of the empire collapsed. The eastern part was intact under Samprati successor of Dasaratha. The **last Mauryan king was Brihatratha**, who was assassinated by Pushyamitra Sunga.

8) Consider the following statements regarding Lachit Borphukan.

- 1. He was a commander in the Ahom kingdom.
- 2. He is Known for his leadership in the Battle of Saraighat.
- 3. Battle of Saraighat was fought between Ahom kingdom and British Empire.

Which of the above statements is/are correct?

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

Solution: b)

Lachit Borphukan

- He was **a commander in the Ahom kingdom.**
- Known for his leadership in **the 1671 Battle of Saraighat** that thwarted a drawn-out attempt by Mughal forces under the command of Ramsingh I to take over Ahom kingdom.
- The **battle of Saraighat** was fought on the banks of the Brahmaputra in Guwahati.
- The **National Defence Academy (NDA)**, ever since 1999 has been conferring the best passing out cadet with **the Lachit Borphukan gold medal.**

During the last phase of **the Battle of Saraighat, when the Mughals attacked the Assamese forces** through the river in Saraighat, many Assamese soldiers began losing their will to fight. It was Lachit's clarion call to all the soldiers that made them fight till their last breath, ultimately resulting in the defeat of the Mughals.

9) Consider the following statements regarding Mappila rebellion.

- 1. It was against the British and the Hindu landlords in Malabar region.
- 2. It also led to communal violence between Hindus and Muslims.
- 3. The year 2021 marks the 100th year anniversary of the uprising.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3



d) 1, 2, 3

Solution: d)

The **Mapilla rebellion or Moplah Rebellion (Moplah Riots) of 1921** was the culmination of a series of riots by Moplahs (Muslims of Malabar) in the 19th and early 20th centuries **against the British and the Hindu landlords in Malabar (Northern Kerala).**

- The year **2021 will mark the 100th year anniversary of the uprising.**
- The resistance which started against the British colonial rule and the feudal system later ended in communal violence between Hindus and Muslims.

10) Consider the following statements.

1. He was the editor of *the 'Indian Opinion'*.
2. He worked for *the temple entry of Dalits at the Kalaram Temple at Nashik.*
3. *He was instrumental in founding the Benares Hindu University in 1916 and also became its Vice-Chancellor.*

The above statements refer to

- a) V. O. Chidambaram Pillai
- b) Subhas Chandra Bose
- c) Surendranath Tagore
- d) None of the above

Solution: d)

- Madan Mohan Malaviya was a freedom fighter and social reformer.
- He had served as the President of the INC on four occasions.
- He was awarded the Bharat Ratna posthumously in 2014.
- He was the editor of a Hindi magazine, 'Hindusthan'.
- **He became the editor of the 'Indian Opinion'** in 1889. He also started a Hindi weekly 'Abhyudaya', an English daily 'Leader', a Hindi newspaper 'Maryada'.
- Pandit Malaviya was **instrumental in founding the Benares Hindu University** in 1916. He also became its Vice-Chancellor till 1939.
- He was opposed to separate electorates to Muslims and the Lucknow Pact.
- He was a participant in the Second Round Table Conference in 1931.
- He was also a social reformer who *opposed untouchability. He worked for the temple entry of Dalits at the Kalaram Temple at Nashik, Maharashtra.*

11) The term 'Aryan' denotes

- a) a superior group
- b) a linguistic group
- c) a nomadic group
- d) an ethnic group

Solution: b)

**Aryan**, name originally given to a **people who were said to speak an archaic Indo-European language** and who were thought to have settled in prehistoric times in ancient Iran and the northern Indian subcontinent.

12) Which of the following pairs are correctly matched?

1. Nalanda: Great seat of Buddhist learning
2. Rajgir: Lion Capital of Ashoka
3. Sarnath: First sermon of Buddha
4. Lothal: Ancient Dockyard

Select the correct answer code:

[www.insightsonindia.com](http://www.insightsonindia.com)

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

Solution: c)

**Nalanda** is one of the well-known ancient universities of India. Nalanda is located in the Indian state of Bihar, and was a **Buddhist center of learning** from 427 to 1197 CE.

The **lion capital of emperor Ashoka** was found at **Sarnath**.

A popular subject in medieval Buddhist art is the **Buddha preaching his first sermon** in a deer forest at **Sarnath**.

According to the ASI, **Lothal had the world's earliest known dockyard**.

13) Consider the following statements regarding **Tatya Tope**.

- 1. He was a general in the Indian Rebellion of 1857.
- 2. He collaborated with Rani Lakshmi Bai of Jhansi to seize Gwalior.
- 3. He was defeated in the battle over the Indian troops of the East India Company at Kanpur

Which of the above statements is/are correct?

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

Solution: b)

**Tatya Tope**

Also known as Ramachandra Pandurang Tope, he was one of the most notable Indian freedom fighters and a **general in the Rebellion of 1857**.

- Born in 1814 in Nashik, Maharashtra, Tatya Tope was the only son of Pandurang Rao Tope and his wife Rukhmabai
- Tatya Tope was an intimate friend and the right hand of Nana Sahib, the adopted son of Peshwa
- In May 1857, Tatya Tope **won the battle over the Indian troops of the East India Company at Kanpur**
- He forced General Windham to retreat from the city of Gwalior.
- He **collaborated with Rani Lakshmi Bai of Jhansi to seize Gwalior**.

Tatya Tope was defeated by Sir Colin Campbell (later Baron Clyde) on December 6, 1857. He was hanged on April 18, 1859, in General Meade's camp at Shivpuri.

14) In the history of modern India, the Wagon tragedy was associated with which of the following events?

- a) Patharughat Uprising
- b) Kol Uprising
- c) Santhal Rebellion
- d) Mappila Rebellion

Solution: d)

**Wagon Tragedy:**

A noteworthy event of the British suppression was the wagon tragedy when approximately 60 **Mappila** prisoners on their way to prison, were suffocated to death in a closed railway goods wagon.

15) Consider the following statements regarding Joseph Francis Dupleix.

- 1. Dupleix did not interfere in the internal politics of the Indian rulers.

2. Dupleix was the originator of the practice of subsidiary alliance 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: a)

- **Joseph Francis Dupleix** was the first European to **interfere in the internal politics of the Indian rulers**.
- Dupleix was, in fact, the **originator of the practice of subsidiary alliance** in India.

16) Consider the following statements regarding Rig Vedic Aryans.

- 1. The Rig Vedic Aryans were pastoral people.
- 2. Their wealth was estimated mainly in terms of holding of Gold coins.
- 3. Workers in metal made a variety of articles with copper, bronze and iron.

Which of the above statements is/are correct?

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

Solution: b)

- 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 clear forests and bring more lands under cultivation. Carpentry was another important profession and the availability of wood from the forests cleared made the profession profitable. Carpenters produced chariots and ploughs. **Workers in metal made a variety of articles with copper, bronze and iron**.
- Spinning was another important occupation and cotton and woollen fabrics were made. Goldsmiths were active in making ornaments. The potters made various kinds of vessels for domestic use. Trade was another important economic activity and rivers served as important means of transport. **Trade was conducted on barter system**.

17) Consider the following statements regarding Bimbisara.

- 1. Bimbisara belonged to the Haryanka dynasty.
- 2. He consolidated his position by matrimonial alliances.
- 3. He was neither a contemporary of Vardhamana Mahavira nor Gautama Buddha.

Which of the above statements is/are correct?

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

Solution: b)

- **Bimbisara belonged to the Haryanka dynasty**. He consolidated his position by **matrimonial alliances**. His first matrimonial alliance was with the ruling family of Kosala. He married Kosaladevi, sister of Prasenajit. He was given the Kasi region as dowry which yielded large revenue. Bimbisara married Chellana, a princess of the Licchavi family of Vaisali. **This matrimonial alliance secured for him the safety of the northern frontier**. Moreover, it facilitated the expansion of Magadha northwards to the borders of Nepal. He also married Khema of the royal house of Madra in central Punjab. **Bimbisara also undertook many expeditions and added more territories to his empire**. He defeated Brahmadatta of Anga and annexed that kingdom. He

maintained friendly relations with Avanti. He had also efficiently reorganized the administration of his kingdom.

- **Bimbisara was a contemporary of both Vardhamana Mahavira and Gautama Buddha.** However, both religions claim him as their supporter and devotee. He seems to have made numerous gifts to the Buddhist Sangha.

18) Consider the following statements.

1. Fa-Hien visited India during the reign of Chandra Gupta-II.
2. The Chinese pilgrim Hiuen-Tsang met Harsha and found him to be antagonistic to Buddhism.

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)

**Faxian's visit to India occurred during the reign of Chandragupta II.**

**According to the Chinese Buddhist traveller Hiuen-Tsang, Harsha was a devout Buddhist.** Hiuen-Tsang states that Harsha built monasteries at the places visited by Gautama Buddha.

19) Consider the following statements.

1. Jainism spread in South India under the leadership of Sthulabahu.
2. Jainism enjoyed the patronage of the Kalinga king Kharavela in the first century BC.

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)

**Jainism spread in South India under the leadership of Bhadrabahu (not Sthulabahu).**

20) Which of the following were the outcomes of Jallianwala Bagh Massacre?

1. General Dyer was exiled to Britain.
2. Rabindranath Tagore renounced the British Knighthood.
3. Rowlatt Act was repealed by the British.

Select the correct answer code:

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

Solution: d)

**Outcomes:**

1. Considered '**The Butcher of Amritsar**' in the aftermath of the massacre, **General Dyer was removed from command and exiled to Britain.**
2. **Rabindranath Tagore and Mahatma Gandhi**, as a sign of condemnation, renounced their British Knighthood and Kaiser-i-Hind medal respectively.
3. In 1922, the infamous **Rowlatt Act was repealed by the British.**

21) Consider the following statements regarding Alfonso de Albuquerque

1. Albuquerque was the first Portuguese governor in India.
2. He was considered as the real founder of the Portuguese power in the East.
3. One of the notable features under his rule was the abolition of the practice of sati.

Which of the above statements is/are correct?

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

Solution: c)

### Alfonso de Albuquerque

• **Albuquerque**, who succeeded **Almeida** as the **Portuguese governor** in India, was the **real founder of the Portuguese power in the East**, a task he completed before his death. He secured for Portugal the strategic control of the Indian Ocean by establishing bases overlooking all the entrances to the sea. There were Portuguese strongholds in East Africa, off the Red Sea, at Ormuz; in Malabar; and at Malacca. The Portuguese, under Albuquerque bolstered their stranglehold by introducing a permit system for other ships and exercising control over the major ship-building centres in the region. The nonavailability of timber in the Gulf and Red Sea regions for ship-building also helped the Portuguese in their objectives.

• **Albuquerque acquired Goa from the Sultan of Bijapur in 1510** with ease; the principal port of the Sultan of Bijapur became "the first bit of Indian territory to be under the Europeans since the time of Alexander the Great". An interesting feature of his rule was the abolition of sati.

22) Consider the following statements regarding Dutch invasion.

1. The Dutch founded their first factory in Masulipatnam in 1605.
2. The battle of Hooghly dealt a crushing blow to Dutch ambitions 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)

### Dutch Settlements

• After their arrival in India, the Dutch founded their **first factory in Masulipatnam** (in Andhra Pradesh) in **1605**. They went on to establish trading centres at different parts of India and thus became a threat to the Portuguese. They captured **Nagapatam** near Madras (Chennai) from the Portuguese and made it their main stronghold in South India.

• The Dutch got drawn into the trade of the Malay Archipelago. Further, in the **third Anglo-Dutch War (1672-74)**, communications between Surat and the new English settlement of Bombay got cut due to which three homebound English ships were captured in the Bay of Bengal by the Dutch forces. The retaliation by the English resulted in the **defeat of the Dutch, in the battle of Hooghly** (November 1759), which dealt a **crushing blow to Dutch ambitions in India**.

23) With reference to medieval kingdoms of North-eastern India what was the position of Paiks?

- a) They were the patrons of literature and arts.
- b) They were forced to work for the state.
- c) They held large amount of land and gold and donated it for public welfare.
- d) They were mercenaries recruited from other kingdoms.

Solution: b)

The Ahoms migrated to the Brahmaputra valley from present-day Myanmar in the thirteenth century. They created a new state by suppressing the older political system of the bhuiyans (landlords).

- **The Ahom state depended upon forced labour. Those forced to work for the state were called paiks.**
- A census of the population was taken. Each village had to send a number of paiks by rotation. People from heavily populated areas were shifted to less populated ones.

24) In the modern Indian History, the 'Ulgulan Movement' is associated with

- Jyotirao Phule
- Veer Savarkar
- Birsa Munda
- Sidhu and Kanhu Murmu

Solution: c)

**Birsa Munda** started a movement called '**Ulgulan**', or '**The Great Tumult**'. His struggle against the exploitation and discrimination against tribals led to a big hit against the British government in the form of **the Chotanagpur Tenancy Act being passed in 1908**. The act restricted the passing on of land from the tribal people to non-tribals.

25) Consider the following statements regarding Salt Satyagraha.

- Salt Satyagraha was started from the village of Dandi in Gujarat.
- It was a campaign of tax resistance and nonviolent protest against the British salt monopoly.
- It led to the mass Civil Disobedience Movement.

Which of the above statements is/are correct?

- 1, 2
- 2 only
- 2, 3
- 1, 2, 3

Solution: c)

On March 12, 1930, Mahatma Gandhi embarked a historic Salt March **from Sabarmati Ashram** in Gujarat's Ahmedabad to the village of Dandi in the state's coastal area to protest against the steep tax the British levied on salt.

- The Salt March began on March 12, 1930 and continued till April 6, 1930.

It was a **direct-action campaign of tax resistance and nonviolent protest against the British salt monopoly**.

- It was a 24-day Salt March, which was non-violent in nature, is historically significant as **it led to the mass Civil Disobedience Movement**.

## 6. Environment

- 1) Consider the following statements regarding Panna Tiger Reserve.
1. The Panna tiger reserve is situated in the Northern part of Vindhya mountain range in Uttar Pradesh.
  2. It has been declared a UNESCO Biosphere Reserve.
  3. Ken-Betwa river interlinking project passes through Panna Tiger Reserve.

Which of the above statements is/are correct?

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

Solution: c)

**Madhya Pradesh's Panna National Park has been declared a UNESCO Biosphere Reserve.**

- The UNESCO's recognition cited PTR as a critical tiger habitat.

About Panna Tiger Reserve:

- The Panna tiger reserve is **situated in the Vindhya mountain range in the northern part of Madhya Pradesh.**
- Ken river (a tributary of the Yamuna River) flows through the reserve.
- The region is also famous for Panna diamond mining.
- **Ken-Betwa river interlinking project will be located within the tiger reserve.**

- 2) Which of the following Tiger Reserve bagged the first international award, TX2, among the 13 tiger ranging countries for having doubled the number of tigers in less than the stipulated time?

- a) Bandipur Tiger Rerve
- b) Pilibhit Tiger Reserve
- c) Periyar Tiger Reserve
- d) Tadoba-Andhari Tiger Reserve

Solution: b)

**Pilibhit Tiger Reserve (PTR) in Uttar Pradesh has bagged the first international award, TX2, among the 13 tiger ranging countries for having doubled the number of tigers in less than the stipulated time.**

- 3) Torrefaction technology is used for

- a) Reducing water pollution
- b) Bioremediation
- c) Stubble burning
- d) Desalination of sea water

Solution: c)

What is Torrefaction?

- **It is a thermal process used to produce high-grade solid biofuels from various streams of woody biomass or agro residues.**
- The end product is a stable, homogeneous, high quality solid biofuel with far greater energy density and calorific value than the original feedstock, providing significant benefits in logistics, handling and storage, as well as opening up a wide range of potential uses.

How it works?

- Biomass torrefaction involves heating the biomass to temperatures between 250 and 300 degrees Celsius in a low-oxygen atmosphere.



- When biomass is heated at such temperatures, the moisture evaporates and various low-calorific components (volatiles) contained in the biomass are driven out.
- During this process the hemi-cellulose in the biomass decomposes, which transforms the biomass from a fibrous low-quality fuel into a product with excellent fuel characteristics.

4) Consider the following statements regarding Fly ash.

1. Fly ash is a major source of PM 2.5
2. It can settle on water and other surfaces.
3. It is air borne, but does not get transported beyond the radius of 1 to 2 kms.
4. It contains heavy metals from coal, a large amount of black carbon (BC).

Which of the above statements is/are correct?

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

Solution: a)

Fly ash is a major source of PM 2.5 (fine, respirable pollution particles) in summer. It becomes **air borne, and gets transported to a radius of 10 to 20 kms**. It can **settle on water and other surfaces**. **Fly ash contains heavy metals from coal**, a large amount of PM 2.5 and black carbon (BC).

5) India is a party to the Ramsar Convention and has declared many areas as Ramsar Sites. Which of the following statements best describes as to how we should maintain these sites in the context of this Convention?

- a) Conserve all the sites through ecosystem approach and permit tourism and recreation only
- b) Keep all the sites completely inaccessible to man so that they will not be exploited
- c) Conserve all the sites for a period without any exploitation, and then allow complete use of them by future generations
- d) Conserve all the sites through ecosystem approach and allow their simultaneous sustainable use

Solution: d)

The Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat is an international treaty for the **conservation and sustainable use of wetlands**.

6) Consider the following statements regarding Global Tiger Initiative (GTI).

1. Global Tiger Initiative (GTI) is a global alliance of governments, international organizations, civil society and the private sector, with the aim of working together to save wild tigers from extinction.
2. The scope of the initiative was broadened to include Snow Leopards.
3. UNEP is one of the founding partners of the Initiative.

Which of the above statements is/are correct?

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

Solution: b)

The Global Tiger Initiative (GTI) was launched in 2008 as a global alliance of governments, international organizations, civil society, the conservation and scientific communities and the private sector, with the aim of working together to save wild tigers from extinction. In 2013, the scope was broadened to include Snow Leopards.

The GTI's founding partners included the World Bank, the Global Environment Facility (GEF), the Smithsonian Institution, Save the Tiger Fund, and International Tiger Coalition (representing more than 40 non-government organizations). The initiative is led by the 13 tiger range countries (TRCs).

In November 2010, leaders of the tiger range countries (TRCs) assembled at an International Tiger Forum in St. Petersburg, Russia to adopt the St. Petersburg Declaration on Tiger Conservation and endorsed its implementation mechanism, called the Global Tiger Recovery Program. Their overarching goal was to double the number of wild tigers across their geographical area from about 3,200 to more than 7,000 by 2022.

7) Consider the following statements regarding Turtles.

1. Turtles act as scavengers in the rivers.
2. They are the indicators of healthy aquatic ecosystems.
3. They have come under serious threat primarily for food and pet trade.

Which of the above statements is/are correct?

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

Solution: d)

According to environmentalists, the turtles play a **significant role in the river by scavenging dead organic materials and diseased fish**, controlling fish population as predators and controlling aquatic plants and weeds. They are also described as **indicators of healthy aquatic ecosystems**.

However, these species are now under severe threats due to habitat fragmentation and loss through dams and barrages, pollution, illegal poaching, accidental drowning through fishing nets and threats to their nesting habitats, a report jointly prepared by the National Mission for Clean Ganga and Wildlife Institute of India has said.

**The turtles have come under serious threat primarily for two reasons — food and the flourishing pet trade.**

8) Consider the following statements.

1. The energy required for the life within the biosphere comes only from the sun.
2. Biome is larger than an Ecotone.
3. A well-developed ecotone may contain some unique organisms which might be absent in the adjacent ecosystems.

adjacent ecosystems.

Which of the above statements is/are correct?

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

Solution: d)

- The energy required for the life within the biosphere usually comes from the sun. But, **Chemosynthetic bacteria are organisms that use inorganic molecules as a source of energy and convert them into organic substances. They do not need sunlight for their survival.**

- Chemosynthetic bacteria, unlike plants, obtain their energy from the **oxidation of inorganic molecules**, rather than photosynthesis. Chemosynthetic bacteria use inorganic molecules, such as ammonia, molecular hydrogen, sulfur, hydrogen sulfide and ferrous iron to produce the organic compounds needed for their subsistence.

- **Most chemosynthetic bacteria live in environments where sunlight is unable to penetrate and which are considered inhospitable to most known organisms.**

**Ecotone** is a zone of junction between two or more diverse ecosystems. For e.g. the mangrove forests represent an ecotone between marine and terrestrial ecosystem. **It may be very narrow or quite wide, but not larger than a biome which is a much larger entity. Well-developed ecotones contain some organisms which are entirely different from that of the adjoining communities.**

9) Consider the following statements regarding carbon credits.

1. The concept of carbon credits was formalized in the Kyoto Protocol.

2. Carbon credits are awarded to groups or countries that have reduced greenhouse gases emissions below their quota.

3. Carbon credits are traded at a price fixed from time to time by the United Nations Environment Programme.

Which of the above statements is/are correct?

a) 2 only

b) 1, 2

c) 2, 3

d) 1, 2, 3

Solution: b)

A **carbon credit** is a generic term for **any tradable certificate or permit representing the right to emit one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas.** The mechanism was formalized in the Kyoto Protocol.

Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of greenhouse gases (GHGs).

**They can be traded in the international market at their current market price.**

10) Seedless fruits are produced by

a) Spraying mineral solution on plants

b) Spraying hormones on flowers

c) Applying fertilizers containing radioactive elements

d) Applying trace elements in fruits

Solution: b)

**Seedless fruits are obtained by spraying the flowers with growth hormone like auxin.** The ovary gets converted into fruit before fertilisation, and because fertilization hasn't occurred, the seed does not develop in the fruit.

11) Consider the following statements regarding Global Tiger Forum (GTF).

1. Global Tiger forum is the only intergovernmental international body established with members from willing countries to embark on a global campaign to protect the tiger.

2. It is focused on saving the remaining five subspecies of tigers distributed over 13 tiger range countries of the world.

3. India is the only member country from Asia to join the initiative.

Which of the above statements is/are correct?

a) 1 only

b) 2, 3

c) 1, 2

d) 1, 3

Solution: c)

**Global Tiger forum** is the **only intergovernmental international body established with members from willing countries to embark on a global campaign to protect the tiger.**

- It is focused on saving the remaining **five subspecies of tigers** distributed over **13 tiger range countries of the world**.

**Bangladesh, Bhutan, Cambodia, India, Myanmar, Nepal and Vietnam are the members.**

12) Which of the following are the Ex-situ conservation methods?

1. Seed Banks
2. Sacred Groves
3. Botanical Gardens
4. Cryopreservation of gametes

Select the correct answer code:

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

Solution: b)



13) Consider the following statements regarding measurement of Biodiversity.

1. Alpha diversity: It refers to the diversity within a particular area or ecosystem.
2. Beta diversity: It is a comparison of diversity between ecosystems.
3. Gamma diversity: It is a measure of the overall diversity for the different ecosystems within a region.

Which of the above statements is/are correct?

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

Solution: d)

Three terms for measuring biodiversity over spatial scales: alpha, beta, and gamma diversity.

- a) **Alpha diversity:** It refers to the diversity within a particular area or ecosystem, and is usually expressed by the number of species (i.e., species richness) in that ecosystem.
- b) **Beta diversity:** It is a comparison of diversity between ecosystems, usually measured as the change in amount of species between the ecosystems.
- c) **Gamma diversity:** It is a measure of the overall diversity for the different ecosystems within a region.

14) Consider the following statements.

1. In the composition of living organisms, carbon constitutes the maximum share in the dry weight of organisms.
2. In the total quantity of global carbon, maximum percentage of carbon is found dissolved in oceans.

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)

When you study the composition of living organisms, **carbon constitutes 49 per cent of dry weight of organisms and is next only to water**. If we look at **the total quantity of global carbon, we find that 71 per cent carbon is found dissolved in oceans**. This oceanic reservoir regulates the amount of carbon dioxide in the atmosphere.

15) Consider the following statements regarding Seaweeds.

1. Seaweeds are macroscopic algae, which mean they have no differentiation of true tissues such as roots, stems and leaves.
2. Seaweeds usually grow in deep coastal waters wherever sizable substrata is available.
3. Seaweeds have the ability to bind and accumulate metals strongly.

Which of the above statements is/are correct?

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

Solution: c)

- **Seaweeds are (thalloid plants) macroscopic algae, which mean they have no differentiation of true tissues such as roots, stems and leaves.** They have leaflike appendages.
- Seaweeds, the larger and visible marine plants are found attached to rocks, corals and other submerged strata in the intertidal and shallow sub tidal zones of the sea.
- **Seaweeds grow in shallow coastal waters wherever sizable substrata is available.**
- Based on the colour of their pigmentation, sea weeds are broadly classified into different classes such as blue-green, green, brown, red, etc.
- Seaweeds are important as food for humans, feed for animals, and fertilizer for plants.
- **Seaweeds are also used as the potential indicators of pollution in coastal ecosystem, particularly heavy metal pollution due to their ability to bind and accumulate metals strongly.**

16) Consider the following statements regarding difference between Wild life sanctuary and National Park (NP).

1. Certain activities like grazing of livestock are regulated in sanctuaries and are prohibited in National Parks.
2. National park can be created for a particular species whereas the Wildlife sanctuary is not primarily focused on a particular species.

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)

**Difference between the Wild life sanctuary and National Park (NP)**

- National Parks enjoy a greater degree of protection than sanctuaries.
- **Certain activities which are regulated in sanctuaries, such as grazing of livestock, are prohibited in National Parks.**
- **Wildlife sanctuary can be created for a particular species** (for e.g. grizzled giant squirrel w.l.s in srivalliputhur) **whereas the national park is not primarily focused on a particular species.**

17) Consider the following statements regarding Marine Upwelling.

1. Upwelling generates some of the world's most fertile ecosystems.
2. Upwelling affects the movement of animal life in the Ocean.
3. It promotes the development of sea fog in some areas.

Which of the above statements is/are correct?

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

Solution: d)

Upwelling is a process in which currents bring deep, cold water to the surface of the ocean. Upwelling is a result of winds and the rotation of the Earth.

Because the deep water brought to the surface is often **rich in nutrients**, coastal upwelling supports the **growth of seaweed and plankton**. These, in turn, **provide food for fish, marine mammals, and birds**.

**Upwelling generates some of the world's most fertile ecosystems.**

Overall, coastal upwelling regions only cover 1 percent of the total area of the world's oceans, but they provide about 50 percent of the fish harvest brought back to shore by the world's fisheries.

**Upwelling affects the movement of animal life in the area.** Tiny larvae—the developing forms of many fish and invertebrates—can drift around in ocean currents for long periods of time. A strong upwelling event can wash the larvae far offshore, endangering their survival.

The cold water welling up to the surface cools the air in the region. This promotes the **development of sea fog**.

[Source](#)

18) The formation of Ozone hole in the Antarctica region is because of

- 1. Absence of polar stratospheric clouds (PSCs)
- 2. Inflow of chlorofluorocarbons (CFCs)

Select the correct answer code:

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

Solution: b)

The main cause of ozone depletion and the ozone hole is manufactured chemicals, especially manufactured halocarbon refrigerants, solvents, propellants, and foam-blowing agents (**chlorofluorocarbons (CFCs)**, HCFCs, halons), referred to as **ozone-depleting substances (ODS)**.

Reactions that take place on **polar stratospheric clouds (PSCs)** play an important role in enhancing **ozone depletion**. PSCs form more readily in the extreme cold of the Arctic and Antarctic stratosphere. This is why ozone holes first formed, and are deeper, over Antarctica.

19) Consider the following statements regarding Project Tiger.

- 1. Forest (Conservation) Act of 1980, reinforced Project Tiger.
- 2. Project Tiger was administered by the National Tiger Conservation Authority.
- 3. The project was launched in Ranthambore National Park.

Which of the above statements is/are correct?

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



Solution: b)

**Project Tiger** is a **tiger conservation programme** launched in April 1973 by the Government of India. The project aims at ensuring a viable population of Bengal tigers in their natural habitats. Project Tiger was **administered by the National Tiger Conservation Authority**. The project was launched in **Jim Corbett National Park**, Uttarakhand

**Two legal instruments that have enabled tiger recoveries in India are:**

1. The Wildlife Protection Act of 1972.
2. **The Forest (Conservation) Act of 1980, which reinforced Project Tiger.**

20) Which among the following is the main constituents of Biogas?

- a) Methane and Hydrogen
- b) Methane and Hydrogen Sulfide
- c) Methane and Carbon Dioxide
- d) Methane and Nitrogen

Solution: c)

**Biogas comprises primarily methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>)** and may have small amounts of Nitrogen, Hydrogen, hydrogen sulphide and oxygen.

When things didn't fall in line even in my third Mains, I emailed InsightsonIndia to seek guidance for the next attempt. InsightsIAS Offline program suited all my requirements. Thus, I moved in and stayed nearby Insights institute.

I followed offline prelims test series of Insights and also, prelims cum mains integrated study plan that was given to core batch students. I scheduled my day in accordance with the test series timetable (please make your own timetable which suits you the best). In my timetable I ensured 8 hours of sleep, one hour of sports and 5 minutes break in between. Make a realistic timetable which is practically possible to implement, set achievable targets and be honest to yourself in following it.

I improved immensely by getting the personal feedback by Vinay Sir, and was able to top the UPSC CSE-2016.

**NANDINI K R**

AIR 01, CSE 2016

