



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

# STATIC QUIZ

# NOVEMBER 2019

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# 1. Polity

- 1) Preamble of the Indian constitution reveals
1. Source of authority of the Constitution
  2. Nature of Indian State
  3. Objectives of the Constitution
  4. Date when Constitution came into effect

Select the correct answer code:

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

Solution: c)

The Preamble reveals four ingredients or components:

1. Source of authority of the Constitution: The Preamble states that the Constitution derives its authority from the people of India.
2. Nature of Indian State: It declares India to be of a sovereign, socialist, secular democratic and republican polity.
3. Objectives of the Constitution: It specifies justice, liberty, equality and fraternity as the objectives.
4. Date of adoption of the Constitution: It stipulates November 26, 1949 as the date.

2) Which of the following were the suggestions made by Swaran Singh Committee to be included as Fundamental Duties?

1. Duty to pay taxes
2. Family Planning
3. Casting vote

Select the correct codes below

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

Solution: a)

- Swaran Singh Committee suggested the incorporation of eight Fundamental Duties in the Constitution, the 42nd Constitutional Amendment Act (1976) included ten Fundamental Duties
- Certain recommendations of the Committee were not accepted and hence, not incorporated in the Constitution. These include:
  1. Parliament may provide for the imposition of such penalty or punishment as may be considered appropriate for any non-compliance with or refusal to observe any of the duties
  2. No law imposing such penalty or punishment shall be called in question in any court on the ground of infringement of any of Fundamental Rights or on the ground of repugnancy to any other provision of the Constitution
  3. Duty to pay taxes should also be a Fundamental Duty of the citizens

3) Consider the following statements regarding appointment of judges to the Supreme Court.

1. The judges of the Supreme Court are appointed by the Collegium.
2. A distinguished jurist is eligible to become a judge of the Supreme Court with final approval of the President.
3. To become a judge of the Supreme court, the person should not exceed 65 years of age.

Which of the above statements is/are correct?

- a) 1, 2

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

Solution: c)

Who appoints judges to the SC?

In exercise of the powers conferred by clause (2) of Article 124 of the Constitution of India, the appointments are made by the President of India.

The names are recommended by the Collegium.

Eligibility to become a Supreme Court judge:

1. The norms relating to the eligibility has been envisaged in the Article 124 of the Indian Constitution.
2. To become a judge of the Supreme court, an individual should be an Indian citizen.
3. In terms of age, a person should not exceed 65 years of age.
4. The person should serve as a judge of one high court or more (continuously), for at least five years or the person should be an advocate in the High court for at least 10 years or a distinguished jurist.

Is the collegium's recommendation final and binding?

The collegium sends its final recommendation to the President of India for approval. The President can either accept it or reject it. In the case it is rejected, the recommendation comes back to the collegium. If the collegium reiterates its recommendation to the President, then he/she is bound by that recommendation.

4) With reference to the power of judicial review of high courts, consider the following statements

1. High court can review the laws enacted by state legislatures only and not the ones enacted by the Parliament.
2. High court cannot interpret the Constitution while reviewing any law or order passed by the government, as Supreme Court is the sole interpreter of Constitution.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: d)

Both the statements are incorrect. High court can review the laws enacted by Parliament. High court can interpret the Constitution while reviewing any law or order passed by the government.

5) Consider the following statements regarding legislative council of a state.

1. Parliament may by law create or abolish the legislative council in a state if the Legislative Assembly of that state passes a resolution to that effect by a simple majority.
2. As per the Indian Constitution, the total number of members in the legislative council of a state shall not exceed one sixth of the total number of the members in the legislative Assembly of that state.
3. Members of municipalities do not take part in electing the members of legislative council.

Which of the above statements is/are incorrect?

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

Solution: d)

Under Article 169 of the constitution, Parliament may by law create or abolish the second chamber in a state if the Legislative Assembly of that state passes a resolution to that effect by a special majority.

As per article 171 clause (1) of the Indian Constitution, the total number of members in the legislative council of a state shall not exceed one third of the total number of the members in the legislative Assembly of that state and the total number of members in the legislative council of a state shall in no case be less than 40.

How are members of the Council elected?

1. 1/3rd of members are elected by members of the Assembly.
2. 1/3rd by electorates consisting of members of municipalities, district boards and other local authorities in the state.
3. 1/12th by an electorate consisting of teachers.
4. 1/12th by registered graduates.
5. The remaining members are nominated by the Governor from among those who have distinguished themselves in literature, science, art, the cooperative movement, and social service.

Legislative Councils are permanent Houses, and like Rajya Sabha, one-third of their members retire every two years.

6) Consider the following statements about Directive Principles

1. They have been derived from the Irish Constitution.
2. Similar instructions to the State also existed in Government of India Act, 1935
3. The explicit provision to minimise inequalities was not there in the original Constitution.

Which of the above statements is/are correct?

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

Solution: d)

- The idea of Directive Principles of State Policy was borrowed from Irish Constitution of 1937.
- Directive Principles resemble the 'Instrument of Instructions' enumerated in the Government of India Act of 1935. In the words of Dr B R Ambedkar, 'the Directive Principles are like the instrument of instructions, which were issued to the Governor-General and to the Governors of the colonies of India by the British Government under the Government of India Act of 1935. What is called Directive Principles is merely another name for the instrument of instructions. The only difference is that they are instructions to the legislature and the executive'.
- 44th Amendment Act of 1978 added one more Directive Principle, which requires the State to minimise inequalities in income, status, facilities and opportunities (Article 38).

7) Consider the following statements regarding Committee on Public Accounts

1. It is constituted each year for examination of accounts showing the appropriation of sums granted by Parliament for expenditure of Government of India.
2. The Committee consists of 22 members comprising 15 members elected by Lok Sabha and 7 members elected by Rajya Sabha.
3. A Minister is not eligible to be elected as a member of the Committee.

Which of the above statements is/are correct?

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

Solution: d)

8) Which of the following are true about qualifications for a Supreme Court Judge

1. A naturalised citizen is eligible.
2. Should be of age more than 35 years.
3. Should have been a judge of High Court for 10 years.

Select the correct answer code

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

Solution: a)

A person to be appointed as a judge of the Supreme Court should have the following qualifications:

1. He should be a citizen of India.
2. (a) He should have been a judge of a High Court (or high courts in succession) for five years; or (b) He should have been an advocate of a High Court (or High Courts in succession) for ten years; or (c) He should be a distinguished jurist in the opinion of the president.

Constitution has not prescribed a minimum age for appointment as a judge of the Supreme Court.

9) Article 110 of the Constitution deals with the definition of money bills. It states that a bill is deemed to be a money bill if it contains 'only' provisions dealing with

1. The imposition, abolition, remission, alteration or regulation of any tax
2. The regulation of the borrowing of money by the Union government.
3. The appropriation of money out of the Consolidated Fund of India.

Which of the above statements is/are correct?

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

Solution: d)

Article 110 of the Constitution deals with the definition of money bills. It states that a bill is deemed to be a money bill if it contains 'only' provisions dealing with all or any of the following matters:

- The imposition, abolition, remission, alteration or regulation of any tax;
  - The regulation of the borrowing of money by the Union government;
  - The custody of the Consolidated Fund of India or the contingency fund of India, the payment of moneys into or the withdrawal of money from any such fund;
  - The appropriation of money out of the Consolidated Fund of India;
  - Declaration of any expenditure charged on the Consolidated Fund of India or increasing the amount of any such expenditure;
  - The receipt of money on account of the Consolidated Fund of India or the public account of India or the custody or issue of such money, or the audit of the accounts of the Union or of a state; or
- Any matter incidental to any of the matters specified above.

10) Consider the following statements regarding Delimitation of Constituencies.

1. In the delimitation process, the number of seats allocated to different states in Lok Sabha and the total number seats in a Legislative Assembly remains the same.
2. The Delimitation Commission in India is a high-power body whose orders have the force of law and cannot be called in question before any court.
3. The first delimitation exercise in 1950-51 was carried out by the President with the help of the Election Commission.

Which of the above statements is/are incorrect?

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

Solution: a)

Delimitation is the act of redrawing boundaries of Lok Sabha and state Assembly seats to represent changes in population.

In this process, the number of seats allocated to different states in Lok Sabha and the total number seats in a Legislative Assembly may also change.

The main objective of delimitation is to provide equal representation to equal segments of a population.

It also aims at a fair division of geographical areas so that one political party doesn't have an advantage over others in an election.

Delimitation is carried out by an independent Delimitation Commission.

1. The Constitution mandates that its orders are final and cannot be questioned before any court as it would hold up an election indefinitely.
2. Under Article 82, the Parliament enacts a Delimitation Act after every Census.
3. Once the Act is in force, the Union government sets up a Delimitation Commission.

The first delimitation exercise in 1950-51 was carried out by the President (with the help of the Election Commission), as the Constitution at that time was silent on who should undertake the division of states into Lok Sabha seats.

This delimitation was temporary as the Constitution mandated redrawing of boundaries after every Census. Hence, another delimitation was due after the 1951 Census. Subsequently, the Delimitation Commission Act was enacted in 1952.

Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002. There was no delimitation after the 1981 and 1991 Censuses.

Source

11) Consider the following statements.

1. Indian brand of socialism is both a 'democratic socialism' and 'communistic socialism'.
2. Democratic socialism holds faith only in public sector.
3. Democratic socialism aims to end poverty, ignorance, disease and inequality of opportunity.

Which of the above statements is/are correct?

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

Solution: b)

The Indian brand of socialism is a 'democratic socialism' and not a 'communistic socialism' (also known as 'state socialism') which involves the nationalisation of all means of production and distribution and the abolition of private property. Democratic socialism, on the other hand, holds faith in a 'mixed economy' where both public and private sectors co-exist side by side. As the Supreme Court says, 'Democratic socialism aims to end poverty, ignorance, disease and inequality of opportunity. Indian socialism is a blend of Marxism and Gandhism, leaning heavily towards Gandhian socialism'.

12) Consider the following statements.

1. The Indian Constitution embodies the positive concept of secularism.
2. A democratic polity, as stipulated in the Preamble, is based on the doctrine of popular sovereignty.
3. The term 'democratic' used in the Preamble, embraces only political and social democracy.

Which of the above statements is/are correct?

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

Solution: b)

The Indian Constitution embodies the positive concept of secularism ie, all religions in our country (irrespective of their strength) have the same status and support from the state.

A democratic polity, as stipulated in the Preamble, is based on the doctrine of popular sovereignty, that is, possession of supreme power by the people.

The term 'democratic' is used in the Preamble in the broader sense embracing not only political democracy but also social and economic democracy.

13) Which of the following are the manifestations of the democratic character of the Indian polity.

1. Universal adult franchise
2. Periodic elections
3. Rule of Law
4. Independence of judiciary

Select the correct answer code:

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

Solution: d)

Universal adult franchise, periodic elections, rule of law, independence of judiciary, and absence of discrimination on certain grounds are the manifestations of the democratic character of the Indian polity.

14) Which of the following Statements is/ are correct?

1. The Salary, allowances and other service conditions of the Information Commissioner are similar to those of Election Commissioner.
2. Information Commissioner is not eligible for reappointment for the same post.

Select the correct answer code:

- a) 1 Only
- b) 2 Only
- c) Both
- d) None

Solution: d)

According to THE RIGHT TO INFORMATION (AMENDMENT) ACT, 2019:

The salaries and allowances payable to and other terms and conditions of service of the Chief Information Commissioner and the Information Commissioners shall be such as may be prescribed by the Central Government.

Source

15) Consider the following statements.

1. President should consult the Chief Minister of the state while appointing the Governor.
2. Election Commission can take suo-moto decision to disqualify a Member of Parliament.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: d)

- President may consult the Chief Minister of the state while appointing the Governor.
- It is not mandatory.

• Election Commission cannot take suo-moto decision to disqualify a Member of Parliament. Election Commission advises the president on matters relating to the disqualifications of the members of Parliament.

16) Consider the following statements regarding Republic.

1. In a republic, the head of the state is only elected directly.
2. It means vesting of political sovereignty in the people.
3. Absence of any privileged class.

Which of the above statements is/are correct?

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

Solution: c)

In a republic, the head of the state is always selected directly or indirectly for a fixed period, eg, USA. Therefore, 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.

17) Consider the following statements.

1. Distributive justice is the combination of social justice and economic justice.
2. The ideal of justice—social, economic and political has been taken from the Russian Revolution.
3. Justice is secured through various provisions of Fundamental Rights and Directive Principles.

Which of the above statements is/are correct?

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

Solution: d)

The term 'justice' in the Preamble embraces three distinct forms—social, economic and political, secured through various provisions of Fundamental Rights and Directive Principles.

A combination of social justice and economic justice denotes what is known as 'distributive justice'.

The ideal of justice—social, economic and political—has been taken from the Russian Revolution (1917).

18) Which of the following word indicates that "People have the Supreme right to make decisions" in our Preamble?

- a) Republic
- b) Sovereign
- c) Secular
- d) None of the above

Solution: b

The word SOVEREIGN means People have supreme right to make decisions on internal as well as external matters. No external power can dictate the government of India.

19) Which of the following are envisaged by the “Right to Freedom” in the Constitution of India?

1. Protection of the interests of minorities
2. Protection in respect of conviction for offences
3. Protection of freedom of profession
4. Prohibition of untouchability

Select the correct answer code:

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

Solution: b)

Right to freedom (Articles 19–22)

- (a) Protection of six rights regarding freedom of: (i) speech and expression, (ii) assembly, (iii) association, (iv) movement, (v) residence, and (vi) profession (Article 19).
- (b) Protection in respect of conviction for offences (Article 20).
- (c) Protection of life and personal liberty (Article 21).
- (d) Right to elementary education (Article 21A).
- (e) Protection against arrest and detention in certain cases (Article 22).

20) With reference to the Zonal Councils, consider the following statements

1. Zonal Councils are established by the States Reorganization Act of 1956.
2. Prime Minister is the common chairman of the five zonal councils.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: a)

The Zonal Councils are the statutory bodies. They are established by an Act of the Parliament, that is, States Reorganisation Act of 1956. The act divided the country into five zones (Northern, Central, Eastern, Western and Southern) and provided a zonal council for each zone.

The home minister of Central government is the common chairman of the five zonal councils. Each chief minister acts as a vice-chairman of the council by rotation, holding office for a period of one year at a time.

## 2. Geography

1) Consider the following statements regarding Lightning.

1. Lightning is a very rapid and massive discharge of electricity in the atmosphere which are generated in giant moisture-bearing clouds that are 10-12 km tall.
2. Lightning always strike tall objects such as trees, towers or buildings.
3. Lightning occurs commonly during thunderstorms.

Which of the above statements is/are correct?

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

Solution: c)

Lightning is a very rapid — and massive — discharge of electricity in the atmosphere, some of which is directed towards the Earth's surface.

These discharges are generated in giant moisture-bearing clouds that are 10-12 km tall.

There is a greater probability of lightning striking tall objects such as trees, towers or buildings.

Source

2) Consider the following statements about Damodar River

1. Damodar occupies the eastern margins of the Chotanagpur Plateau.
2. It flows through a rift valley
3. Barakar and Sharda are its main tributaries.

Which of the above statements is/are correct?

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

Solution: a)

Damodar occupies the eastern margins of the Chotanagpur Plateau where it flows through a rift valley and finally joins the Hugli. Barakar is its main tributary.

The Sharda River or Mahakali River is also called Kali Gad or Kali Ganga in Uttarakhand where the river demarcates Nepal's western border with India.

3) Like tropical cyclones, Tornados also cause devastating effect on life and material property. How tornedos are different from tropical cyclones?

1. Tornadoes originate over land, while cyclone originate on water.
2. Tornadoes forms on relatively larger area than tropical cyclone.
3. Tornadoes mostly occur in middle latitude, while tropical cyclone occurs in 5 to 25 degree north south latitude.

Select the correct answer code:

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

Solution: c)

Tornadoes form in a relatively smaller area compared to tropical cyclones.  
All other statements are correct regarding tornadoes.

4) Consider the following statements about Indian Ocean Dipole (IOD).

1. The western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean.
2. A study has demonstrated a significant correlation between the IOD and drought in the southern half of Australia.
3. IOD can either aggravate or weaken the impact of El Niño on Indian monsoon.

Which of the above statements is/are correct?

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

Solution: d)

The Indian Ocean Dipole (IOD), also known as the Indian Niño, is an irregular oscillation of sea-surface temperatures in which the western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean. A 2009 study has demonstrated a significant correlation between the IOD and drought in the southern half of Australia, in particular the south-east.

During the Positive IOD, the eastern equatorial Indian Ocean off Sumatra in Indonesia becomes colder than normal while the western tropical part of the Indian Ocean near the African coast becomes unusually warm. This is beneficial for the monsoon.

During the Negative IOD the eastern equatorial Indian Ocean off Sumatra in Indonesia becomes abnormally warm while the western tropical part of the ocean near the African coast becomes relatively colder. This effect obstructs the progression of monsoon over India.

5) Tropical monsoon type of climate feeds about 50% of Asia. Which of the following regions in the world have this type of climate?

1. Central America
2. West coast of Europe
3. Western parts of South America
4. East coast of Africa

Select the correct answer code:

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

Solution: c)

Central America and East coast of Africa has tropical monsoon type of climate.

6) Consider the following statements regarding Red and Yellow Soil.

1. Red soil develops in areas of high rainfall in the eastern and southern part of the Deccan Plateau.
2. The soil looks yellow when it occurs in a hydrated form.
3. They are generally poor in Nitrogen and phosphorous and rich in humus.

Which of the above statements is/are incorrect?

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

Solution: c)

Red soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern part of the Deccan Plateau. The soil develops a reddish colour due to a wide diffusion of iron in crystalline and metamorphic rocks. It looks yellow when it occurs in a hydrated form. They are generally poor in nitrogen, phosphorous and humus.

7) Consider the following statements regarding Laterite Soil.

1. The laterite soils develop in areas with high temperature and low rainfall.
2. Humus content of the soil is removed fast by bacteria that thrives well in high temperature.
3. Since iron oxide and potash are in excess, laterites are suitable for cultivation.

Which of the above statements is/are correct?

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

Solution: c)

The laterite soils develop in areas with high temperature and high rainfall. These are the result of intense leaching due to tropical rains. With rain, lime and silica are leached away, and soils rich in iron oxide and aluminium compound are left behind. Humus content of the soil is removed fast by bacteria that thrives well in high temperature. These soils are poor in organic matter, nitrogen, phosphate and calcium, while iron oxide and potash are in excess.

Hence, laterites are not suitable for cultivation; however, application of manures and fertilisers are required for making the soils fertile for cultivation.

8) Consider the following statements.

1. The laterite soils are commonly found in the hilly areas of Odisha and Assam.
2. Common salt is obtained from Arid soils.
3. Gypsum is added to solve the problem of salinity in the soil.

Which of the above statements is/are correct?

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

Solution: d)

The laterite soils are commonly found in Karnataka, Kerala, TamilNadu, Madhya Pradesh and the hilly areas of Odisha and Assam.

In Arid soils in some areas, the salt content is so high that common salt is obtained by evaporating the saline water.

Gypsum is added to solve the problem of salinity in the soil.

9) Consider the following statements about anticyclone?

1. It is an area of high pressure.
2. The wind direction is Anticlockwise in the Northern Hemisphere.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: a)

#### Pattern of Wind Direction in Cyclones and Anticyclones

Pressure System	Pressure Condition at the Centre	Pattern of Wind Direction	Pattern of Wind Direction
		Northern Hemisphere	Southern Hemisphere
Cyclone	Low	Anticlockwise	Clockwise
Anticyclone	High	Clockwise	Anticlockwise

10) Earth experiences highest temperatures in the subtropics of the northern hemisphere rather than at the equator. Why?

- Subtropical areas have longer day hours in the summer than the equatorial region.
- Subtropical areas have an enhanced greenhouse effect compare to equatorial areas.
- Subtropical areas are nearer to the oceanic areas than the equatorial locations.
- Subtropical areas tend to have less cloud cover than equatorial areas.

Solution: d)

11) Consider the following statements regarding Soil Degradation.

- Soil degradation occurs when the nutritional status declines and depth of the soil goes down due to erosion and misuse.
- Once the soil forming processes is complete, the erosional processes start and both does not go simultaneously.
- Wind Erosion takes place mainly in the form of sheet and gully erosion.

Which of the above statements is/are correct?

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

Solution: a)

In a broad sense, soil degradation can be defined as the decline in soil fertility, when the nutritional status declines and depth of the soil goes down due to erosion and misuse. Soil degradation is the main factor leading to the depleting soil resource base in India.

The destruction of the soil cover is described as soil erosion. The soil forming processes and the erosional processes of running water and wind go on simultaneously.

Wind and water are powerful agents of soil erosion because of their ability to remove soil and transport it. Wind erosion is significant in arid and semi-arid regions. In regions with heavy rainfall and steep slopes, erosion by running water is more significant. Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion.

12) Consider the following statements regarding Soil Erosion.

- Sheet erosion takes place on level lands after a heavy shower and is harmful since it removes the finer and more fertile top soil.
- Gully erosion is common on steep slopes which leads to level lands fit for cultivation.

Which of the above statements is/are correct?

- 1 only
- 2 only

- c) Both
- d) None

Solution: a)

Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion. Sheet erosion takes place on level lands after a heavy shower and the soil removal is not easily noticeable. But it is harmful since it removes the finer and more fertile top soil. Gully erosion is common on steep slopes. Gullies deepen with rainfall, cut the agricultural lands into small fragments and make them unfit for cultivation.

- 13) The most prominent feature in the oceans, forming an almost continuous mountain range, is the
- a) Seamount
  - b) Deep ocean trench
  - c) Abyssal plain
  - d) Mid-ocean ridge

Solution: d)

A mid-ocean ridge or mid-oceanic ridge is an underwater mountain range, formed by plate tectonics. This uplifting of the ocean floor occurs when convection currents rise in the mantle beneath the oceanic crust and create magma where two tectonic plates meet at a divergent boundary. The mid-ocean ridges of the world are connected and form a single global mid-oceanic ridge system that is part of every ocean, making the mid-oceanic ridge system the longest mountain range in the world, with a total length of about 60,000 km.

- 14) The California Ocean current, which flows along the west coast of North America, is a
- a) Cold current, flowing north
  - b) Cold current, flowing south
  - c) Warm current, flowing south
  - d) Warm current, flowing north

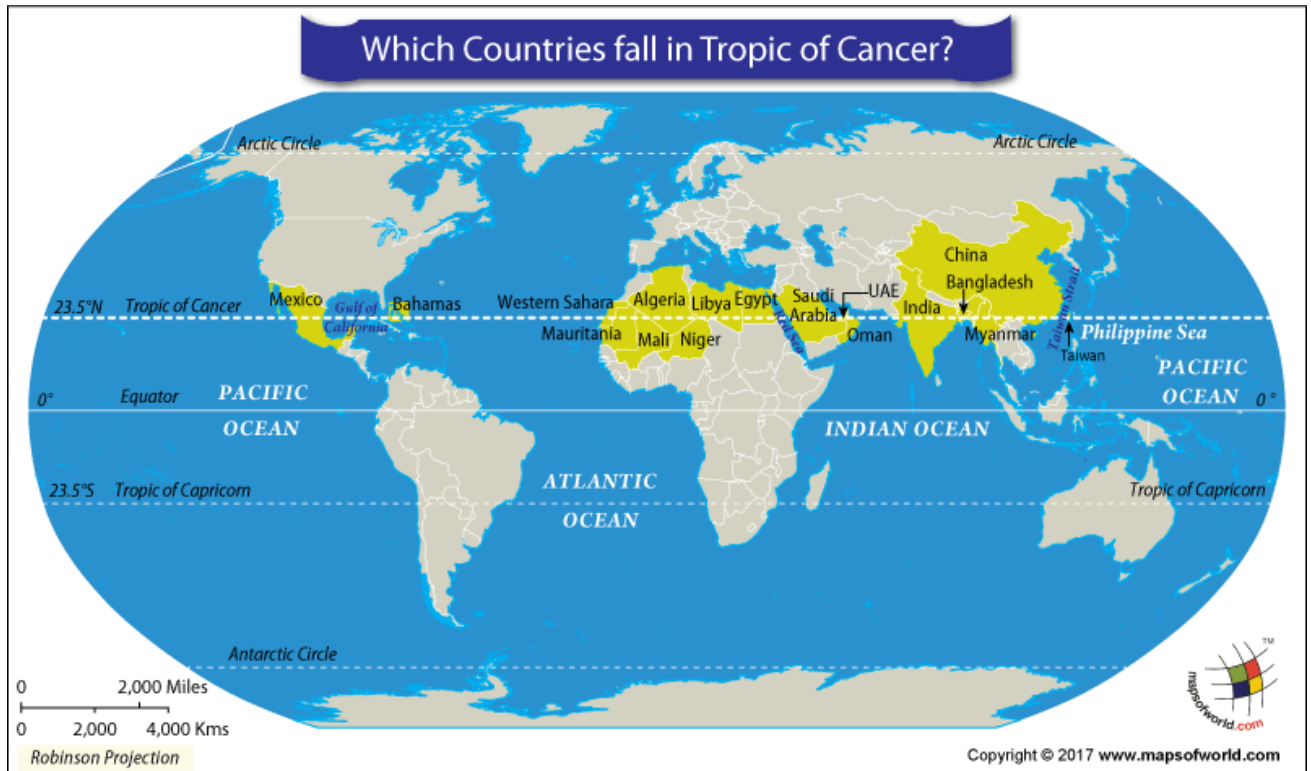
Solution: b)

The California Current is a Pacific Ocean current that moves southward along the western coast of North America, beginning off southern British Columbia and ending off southern Baja California Peninsula. It is considered an Eastern boundary current due to the influence of the North American coastline on its course. It is also one of five major coastal currents affiliated with strong upwelling zones, the others being the Humboldt Current, the Canary Current, the Benguela Current, and the Somali Current. The California Current is part of the North Pacific Gyre, a large swirling current that occupies the northern basin of the Pacific.

- 15) Through which of the groups of countries does the Tropic of Cancer Passes
- a) India, Pakistan, Oman and Saudi Arabia
  - b) India, Pakistan, Iran and Iraq
  - c) India, Oman, UAE and Saudi Arabia
  - d) India, Oman, Yemen and Iran

Solution: c)

Tropic of cancer passes through the countries highlighted in Yellow colour.



16) Consider the following statements.

1. Arable land becomes saline only because of low irrigation.
2. Chemical fertilisers in the absence of organic manures are harmful to the soil.
3. Soil erosion is always a slow process that continues relatively unnoticed.

Which of the above statements is/are correct?

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

Solution: c)

Soil erosion may be a slow process that continues relatively unnoticed, or it may occur at an alarming rate causing a serious loss of topsoil.

A fairly large area of arable land in the irrigated zones of India is becoming saline because of overirrigation. The salt lodged in the lower profiles of the soil comes up to the surface and destroys its fertility. Chemical fertilisers in the absence of organic manures are also harmful to the soil.

Unless the soil gets enough humus, chemicals harden it and reduce its fertility in the long run.

17) Consider the following statements regarding Tropical Evergreen and Semi Evergreen Forests.

1. Tropical Evergreen forests are the most widespread forests in India.
2. In Tropical Evergreen forests, there is no definite time for trees to shed their leaves, flowering and fruition.
3. The semi evergreen forests have a mixture of evergreen and moist deciduous trees.

Which of the above statements is/are correct?

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

Solution: c)

Tropical evergreen forests are well stratified, with layers closer to the ground and are covered with shrubs and creepers, with short structured trees followed by tall variety of trees. In these forests, trees reach great heights upto 60 m or above. There is no definite time for trees to shed their leaves, flowering and fruition. As such these forests appear green all the year round. Species found in these forests include rosewood, mahogany, aini,ebony, etc.

The semi evergreen forests are found in the less rainy parts of these regions. Such forests have a mixture of evergreen and moist deciduous trees.

Tropical Deciduous Forests are the most widespread forests in India.

18) Consider the following statements regarding Tropical Deciduous Forests.

1. They are also called the monsoon forests.
2. Moist deciduous forests are found in the north-eastern states along the foothills of Himalayas and eastern slopes of the Western Ghats.
3. Teak, sal and sandalwood are the main species of Moist deciduous forests.

Which of the above statements is/are correct?

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

Solution: d)

Tropical Deciduous Forests are the most widespread forests in India. They are also called the monsoon forests. They spread over regions which receive rainfall between 70-200 cm. On the basis of the availability of water, these forests are further divided into moist and dry deciduous.

The Moist deciduous forests are more pronounced in the regions which record rainfall between 100-200 cm. These forests are found in the north-eastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and Odisha. Teak, sal, shisham, hurra,mahua, amla, semul, kusum, and sandalwood etc. are the main species of these forests.

19) Which of the following port is known as “Queen of Arabian Sea”?

- a) Jawaharlal Nehru port
- b) Marmagao port
- c) Kochi port
- d) New Mangalore port

Solution: c)

Kochi is a major port city on the south-west coast of India bordering the Laccadive Sea. Called the Queen of the Arabian Sea, Kochi was an important spice trading centre on the west coast of India from the 14th century onward.

20) Consider the following statements.

1. Cyclones originate at the area of low pressure, while anticyclones originate at high pressure area.
2. Cyclones direction is anticlockwise in southern hemisphere, while anticyclones takes anti-clockwise direction in the same hemisphere.
3. Cyclones brings stability in the atmosphere, while anticyclones bring instability in the prevailing region.

Which of the above statements is/are correct?

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

Solution: a)

Cyclone brings instability in the atmosphere and its direction is clockwise in southern hemisphere. Anticyclone has opposite features to it.

21) Which of the following factors affect Ocean Salinity?

1. Evaporation
2. Wind
3. Influx of river water
4. Ocean currents
5. Precipitation

Select the correct code:

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

Solution: d)

The factors affecting Ocean Salinity are:

The salinity of water in the oceans depend mainly on evaporation and precipitation. Precipitation is inversely related to salinity. Higher the precipitation, lower the salinity and vice-versa.

- Wind influences salinity of an area by transferring water to other areas.
- Salinity in coastal regions is influenced by the fresh water flow from rivers, and in Polar Regions by the processes of freezing and thawing of ice.
- The ocean currents also contribute to the salinity variations.

22) December and January are the coldest months in the northern plain. The reasons for the excessive cold in north India are:

1. Far away from the sea.
2. Snowfall in the nearby Himalayan ranges
3. Cold winds coming from Taklamakan Desert and Plateau of Tibet.

Which of the above statements is/are correct?

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

Solution: a)

There are three main reasons for the excessive cold in north India during this season:

(i) States like Punjab, Haryana and Rajasthan being far away from the moderating influence of sea experience continental climate.

(ii) The snowfall in the nearby Himalayan ranges creates cold wave situation; and

(iii) Around February, the cold winds coming from the Caspian Sea and Turkmenistan bring cold wave along with frost and fog over the north-western parts of India.

23) Consider the following statements about Intertropical Convergence Zone (ITCZ).

1. ITCZ is also known as doldrums.
2. ITCZ is an area encircling the Earth near the Equator, where the northeast and southeast trade winds converge.
3. ITCZ has no effect on tropical cyclone formation.

Which of the above statements is/are correct?

- a) 1, 2

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

Solution: a)

The Intertropical Convergence Zone (ITCZ), known by sailors as the doldrums, is the area encircling Earth near the Equator, where the northeast and southeast trade winds converge.

The Inter Tropical Convergence Zone (ITCZ) is a low-pressure zone located at the equator, it is a zone where air tends to ascend. In July, the ITCZ is located around 20°N-25°N latitudes (over the Gangetic plain), sometimes called the monsoon trough. This monsoon trough encourages the development of thermal low over north and northwest India. Due to the shift of ITCZ, the trade winds of the southern hemisphere cross the equator between 40° and 60°E longitudes and start blowing from southwest to northeast due to the Coriolis force. It becomes southwest monsoon. In winter, the ITCZ moves southward, and so the reversal of winds from northeast to south and southwest, takes place. They are called northeast monsoons.

24) Which of the following is not part of the extensive commercial grain cultivation regions of the world?

- a) Pampas of Argentina
- b) Velds of South Africa
- c) Canterbury plains of New Zealand
- d) Campos of Brazilian Highlands

Solution: d)

Extensive Commercial grain cultivation type of agriculture is best developed in Eurasian steppes, the Canadian and American Prairies, the Pampas of Argentina, the Velds of South Africa, the Australian Downs and the Canterbury Plains of New Zealand.

25) Consider the following statements regarding foot loose industries.

1. Foot loose industries can be located in a wide variety of places.
2. They largely depend on component parts which can be obtained anywhere
3. These industries are generally non-polluting industries.

Which of the above statements is/are correct?

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

Solution: c)

- Foot loose industries can be located in a wide variety of places. They are not dependent on any specific raw material, weight losing or otherwise. They largely depend on component parts which can be obtained anywhere.
- They produce in small quantity and also employ a small labour force. These are generally not polluting industries. The important factor in their location is accessibility by road network.

### 3. Economy

1) Consider the following statements regarding Sovereign Bonds.

1. A sovereign bond is a specific debt instrument issued by the government in both foreign and domestic currency.
2. The Yield of the sovereign bond is the interest rate that the government pays on issuing bonds.
3. The central banks also control the supply of money within the economy by the use of these bonds.

Which of the above statements is/are correct?

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

Solution: d)

A sovereign bond is a specific debt instrument issued by the government. They can be denominated in both foreign and domestic currency. Just like other bonds, these also promise to pay the buyer a certain amount of interest for a stipulated number of years and repay the face value on maturity. They also have a rating associated with them which essentially speaks of their credit worthiness.

The Yield of the sovereign bond is the interest rate that the government pays on issuing bonds. Countries with volatile economies and high inflation rates have to issue higher interest returns on their bonds compared to more stable ones.

The Yield of the bonds are dependent on primarily 3 factors:

- Creditworthiness - The issuing countries' perceived ability to repay their debts. This can be obtained from rating agencies.
- Country Risk - External/Internal factors like unrest and wars tend to jeopardize a country's ability to pay off their debts.
- Exchange Rates- In cases where bonds are issued in foreign currency, fluctuations in exchange rate may lead to increased pay out pressure on the issuing government.

The central banks also control the supply of money within the economy by the use of these bonds. When the government is in expansionist mode, the central bank will back debt in exchange for cash to raise capital for the expenditure. In case it is in the contracting mode, the banks hope to slow growth by selling more securities to take out liquidity from the system.

Source

2) Consider the following statements about International Finance Corporation (IFC).

1. It is a sister organization of the IMF.
2. It is the largest global development institution focused exclusively on the private sector in developing countries.
3. Its goals are to increase sustainable agriculture opportunities, improve healthcare and education.

Which of the above statements is/are correct?

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

Solution: c)

IFC—a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused exclusively on the private sector in developing countries. The Bank Group has set two goals for the world to achieve by 2030: end extreme poverty and promote shared prosperity in every country.

- The IFC is owned and governed by its member countries, but has its own executive leadership and staff that conduct its normal business operations.
- It is a corporation whose shareholders are member governments that provide paid-in capital and which have the right to vote on its matters.

Functions:

- It offers an array of debt and equity financing services and helps companies face their risk exposures, while refraining from participating in a management capacity.
- The corporation also offers advice to companies on making decisions, evaluating their impact on the environment and society, and being responsible.
- It advises governments on building infrastructure and partnerships to further support private sector development.

Since 2009, the IFC has focused on a set of development goals that its projects are expected to target. Its goals are to increase sustainable agriculture opportunities, improve healthcare and education, increase access to financing for microfinance and business clients, advance infrastructure, help small businesses grow revenues, and invest in climate health.

Source

3) Which of the following are the possible implications when a country adopts negative rate policy.

1. Increases borrowing costs.
2. Help weaken a country's currency rate by making it a less attractive investment than that of other currencies.
3. Boosts Inflation

Select the correct answer code:

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

Solution: c)

Under a negative rate policy, financial institutions are required to pay interest for parking excess reserves with the central bank.

That way, central banks penalise financial institutions for holding on to cash in hope of prompting them to boost lending.

4) Consider the following statements about National Payments Corporation of India (NPCI).

1. It is a "Not for Profit" Company under the provisions of Companies Act 2013.
2. It is set up to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.
3. National Financial Switch (NFS) and Cheque Truncation System (CTS) are the flagship products of NPCI.

Which of the above statements is/are correct?

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

Solution: d)

National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems. The Company is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems.

National Financial Switch (NFS) and Cheque Truncation System (CTS) continues to be the flagship products of NPCI. Unified Payments Interface (UPI) has been termed as the revolutionary product in payment system and Bharat Bill Payment System (BBPS) has also been launched in pilot mode. The other products include RuPay Credit Card, National Common Mobility Card (NCMC) and National Electronic Toll Collection (NETC). With these products the aim is to transform India into a 'less-cash' society by touching every Indian with one or other payment services.

5) Consider the following statements regarding 'most-favoured-nation' (MFN) status in international trade:

1. It is one of the important principles of GATT agreement conceived by WTO.
2. If any country grants one country a special favour such as lower customs duty same would need to be extended to all other WTO members under MFN.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: c)

Under the World Trade Organisation (WTO) agreements, countries cannot normally discriminate between their trading partners. If any country grants one country a special favour such as a lower customs duty rate for one of their products the same would need to be extended to all other WTO members. This principle is known as most-favoured nation (MFN) treatment.

MFN is so important a principle that it is the first article of the General Agreement on Tariffs and Trade (GATT), which governs trade in goods. MFN is also a priority in the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Together, those three agreements cover all three main areas of trade handled by the WTO.

6) Consider the following statements regarding Yield curve.

1. The yield curve is a graph showing the relationship between interest rates earned on lending money for different durations.
2. The yield curve turns positive when near-term Treasuries yield more than their long-term counterparts.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: b)

The yield curve is a graph showing the relationship between interest rates earned on lending money for different durations.

Normally, someone who lent to the government or a corporation for one year (by buying a one-year government or corporate bond) would expect to get a lower interest rate than someone who lent for five or ten years, making the yield curve upward-sloping.

In the US in recent days the ten-year bond rate has fallen to the point at which the ten-year rate is below the two-year rate – so the yield curve is inverted.

The yield curve turns negative when near-term Treasuries yield more than their long-term counterparts.

7) Which of the following are the Fully owned subsidiaries of RBI.

1. Deposit Insurance and Credit Guarantee Corporation of India (DICGC).
2. National Housing Bank (NHB).
3. Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL).
4. Indian Financial Technology and Allied Services (IFTAS).

Select the correct answer code:

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

Solution: c)

Subsidiaries Fully owned: Deposit Insurance and Credit Guarantee Corporation of India (DICGC), Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL), Reserve Bank Information Technology Private Limited (ReBIT), Indian Financial Technology and Allied Services (IFTAS).

The National Housing Bank (NHB), once a wholly-owned subsidiary of Reserve Bank of India (RBI), has now been taken over by the government.

Source

8) Consider the following statements about Cash Reserve Ratio (CRR).

1. It is the fraction of the total Net Demand and Time Liabilities (NDTL) of a Scheduled Commercial Bank in India that has to maintain as cash deposit with the RBI.
2. It applies uniformly to all banks in the country irrespective of an individual bank's financial situation or size.
3. Non-Bank Financial Corporations (NBFCs) also come under the purview of CRR.
4. Banks are paid interest for parking the required cash under CRR.

Which of the above statements is/are correct?

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

Solution: a)

Cash Reserve Ratio refers to the fraction of the total Net Demand and Time Liabilities (NDTL) of a Scheduled Commercial Bank held in India, that it has to maintain as cash deposit with the Reserve Bank of India (RBI). The requirement applies uniformly to all banks in the country irrespective of an individual bank's financial situation or size. In contrast, certain countries e.g. China stipulates separate reserve requirements for 'large' and 'small' banks.

As per the RBI Act 1934, all Scheduled Commercial Banks (that includes public and private sector banks, foreign banks, regional rural banks and co-operative banks) are required to maintain a cash balance on average with the RBI on a fortnightly basis to cater to the CRR requirement. Non-Bank Financial Corporations (NBFCs) are outside the purview of this reserve requirement.

Presently, banks are not paid any interest on behalf of the RBI for parking the required cash. If a bank fails to meet its required reserve requirements, the RBI is empowered to impose a penalty by charging a penal interest rate.

9) The Qualitative measures of money control through monetary policy includes

1. Bank Rate
2. Consumer Credit Regulation
3. Cash Reserve Ratio
4. Rationing of credit

Select the correct answer code:

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

Solution: c)

Reserve bank of India employs the monetary policy as an instrument of achieving the objectives of general economic policy.

The quantitative measures of credit control are:

- Bank Rate
- Open Market Operations
- Cash Reserve Ratio
- Statutory Liquidity Ratio

Qualitative measures:

- Margin requirements: This refers to difference between the securities offered and amount borrowed by the banks.
- Consumer Credit Regulation: This refers to issuing rules regarding down payments and maximum maturities of instalment credit for purchase of goods.
- Guidelines: RBI issues oral, written statements, appeals, guidelines, warnings etc. to the banks.
- Rationing of credit: The RBI controls the Credit granted / allocated by commercial banks.
- Moral Suasion: psychological means and informal means of selective credit control.

10) Which among the following is/are likely to result in current account surplus of Balance of Payments (BoP)?

1. Steep fall in global crude oil prices
2. Increase in the remittances received from abroad.
3. External commercial borrowing

Select the correct answer code:

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

Solution: b)

External Commercial borrowing is a part of Capital account.

11) Consider the following statements regarding Imported Inflation.

1. When the general price level rises in a country because of the rise in prices of imported commodities, inflation is termed as imported.
2. The weakening of the domestic currency may lead to imported inflation in the country.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both

d) None

Solution: c)

When the general price level rises in a country due to the rise in prices of imported commodities, inflation is termed imported. Inflation may also rise due to depreciation of the domestic currency, which pushes up the landed rupee cost of imported items.

Source

12) Consider the following statements regarding Basel III.

1. Basel III is a global, voluntary regulatory framework on bank capital adequacy.
2. It was developed in response to the deficiencies in financial regulation revealed by the financial crisis of 2007–08.
3. It is intended to increase bank liquidity and bank leverage.

Which of the above statements is/are correct?

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

Solution: a)

Basel III is a global, voluntary regulatory framework on bank capital adequacy, stress testing, and market liquidity risk. This third installment of the Basel Accords was developed in response to the deficiencies in financial regulation revealed by the financial crisis of 2007–08. It is intended to strengthen bank capital requirements by increasing bank liquidity and decreasing bank leverage.

Basel III was agreed upon by the members of the Basel Committee on Banking Supervision in November 2010, and was scheduled to be introduced from 2013 until 2015; however, implementation was extended repeatedly to 31 March 2019 and then again until 1 January 2022.

13) Participatory Notes commonly known as P-Notes are one of the instruments of foreign investment. In this context, consider the following statements:

1. These are financial instruments used by overseas investors that are not registered with the SEBI to invest in Indian securities.
2. The investors enjoy the voting rights in relation to shares invested through the P - Notes.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: a)

Participatory Notes, also called P-Notes or just PNs are instruments that are issued by registered FIIs to overseas investors who want to invest in the stock markets in India, without registering themselves with the market regulatory authority SEBI. PNs are not used within India but by investors abroad. Hence, they are also known as offshore derivative instruments. They are used by clients of FIIs who do not wish to directly participate in the stock market in India, but do it through the FIIs using PNs.

The PN holder also does not enjoy any voting rights in relation to security/shares referenced by the PN.

14) Consider the following statements about Regional Rural Banks (RRBs).

1. Regional Rural Banks were set up on the basis of the recommendations of Vijay Kelkar committee.
2. The larger shareholder of regional rural banks is the Central Government.
3. RRBs are under the ambit of priority sector lending on par with the commercial banks.

Which of the above statements is/are correct?

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

Solution: b)

Regional Rural Banks (RRBs) are financial institutions which ensure adequate credit for agriculture and other rural sectors. Regional Rural Banks were set up on the basis of the recommendations of the Narasimham Working Group (1975), and after the legislations of the Regional Rural Banks Act, 1976. The first Regional Rural Bank "Prathama Grameen Bank" was set up on October 2, 1975.

The equity of a regional rural bank is held by the Central Government, concerned State Government and the Sponsor Bank in the proportion of 50:15:35.

The RRB's have also been brought under the ambit of priority sector lending on par with the commercial banks.

15) With reference to World Trade Organization (WTO) affairs, which of the following best describes Special Safeguard Mechanism (SSM)?

- a) Mechanism provided for the developed countries to raise tariffs to deal with cheap goods from the developing nations.
- b) Mechanism to restrict the imports of disease infected agricultural products from other countries.
- c) Mechanism to curb the imports of goods whose manufacturing process has violated International labour norms
- d) A tool that will allow developing countries to raise tariffs temporarily to deal with import surges or price falls.

Solution: d)

It is a tool that will allow developing countries to raise tariffs temporarily to deal with import surges or price falls.

16) Consider the following statements regarding Inflation indexed bonds.

1. The main objective of Inflation Indexed Bonds is to provide a hedge and to safeguard the investor against macroeconomic risks in an economy.

2. Inflation indexed bonds provide inflation protection only to principal and not to interest payment.

2. In India, inflation indexed bonds are linked to Wholesale price index (WPI).

Which of the above statements is/are correct?

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

Solution: a)

Inflation Indexed Bond (IIB) is a bond issued by the Sovereign, which provides the investor a constant return irrespective of the level of inflation in the economy. The main objective of Inflation Indexed Bonds is to provide a hedge and to safeguard the investor against macroeconomic risks in an economy.

Inflation indexed bonds are linked to consumer price index (CPI).

A predecessor of Inflation Indexed Bonds (IIBs) was Capital Indexed Bonds (CIBs) issued during 1997. However, the CIBs issued in 1997 provided inflation protection only to principal and not to interest payment. IIBs provide inflation protection to both principal and interest payments.

17) Why 'Indirect Tax' is considered as regressive taxation

- a) They are not charged the same for all income groups
- b) They are charged at higher rates than direct taxes

- c) They are charged at lower rates than direct taxes
- d) None of the above

Solution: d)

- Indirect taxes make the distribution of income more unequal because of their regressive effects. The poor will get taxed a higher proportion of their income than the rich, making it a regressive tax.
- Higher indirect taxes can cause cost-push inflation which can lead to a rise in inflation expectations.

18) Consider the following statements about India Brand Equity Foundation (IBEF).

1. IBEF is a private company.
2. Its objective is to promote and create international awareness about the Made in India label in overseas markets.
3. It is more focused on the trade side rather than on the investment side.

Which of the above statements is/are correct?

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

Solution: c)

India Brand Equity Foundation (IBEF) is a Trust established by the Department of Commerce, Ministry of Commerce and Industry, Government of India as an Investment Promotion Agency for creating the “brand India”. Set up in 1996, IBEF is fully funded, owned and controlled by Union Government, unlike Invest India which is a private company.

IBEF's primary objective is to promote and create international awareness about the Made in India label in overseas markets and to facilitate dissemination of knowledge of Indian products and services.

IBEF works with a network of stakeholders – domestic and international – to promote Brand India.

IBEF is registered as the Investment Promotion Agency of India with the World Association of Investment Promotion Agencies (WAIPA).

However, IBEF functions more like a trade promotion body as it is more focused on the trade side rather than on the investment side.

19) Which of the following statements best describes ‘Hard Currency’?

- a) It is a currency used during the balance of payment crisis.
- b) It is a currency having wide circulation in international market.
- c) It is a currency widely accepted around the world as a form of payment for goods and services.
- d) None of the above are correct.

Solution: c)

HARD CURRENCY refers to money that is issued by a nation that is seen as politically and economically stable. HARD CURRENCIES are widely accepted around the world as a form of payment for goods and services and may be preferred over the domestic CURRENCY.

20) Which of the following statements best describes ‘External Debt’?

- a) It comprises of all foreign currency denominated debt owned by Indian companies and residents only
- b) It comprises of all foreign currency denominated debt owned by the central and state governments only
- c) It comprises of all foreign currency denominated debt owned by the central and state governments, Indian companies and Indian residents.
- d) None of the above

Solution: c)

21) A banking correspondent works as an agent of the bank and substitutes for the brick and mortar branch of the bank. BCs engage in:

1. Identification of borrowers.
2. Creating awareness about savings and other products.
3. Disbursal of small value credit.
4. Sale of mutual fund products and pension products.

Which of the above statements is/are correct?

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

Solution: d)

Banking Correspondents (BCs) are individuals/entities engaged by a bank in India (commercial banks, Regional Rural Banks (RRBs) and Local Area Banks (LABs)) for providing banking services in unbanked / under-banked geographical territories. A banking correspondent works as an agent of the bank and substitutes for the brick and mortar branch of the bank.

BCs engage in

- identification of borrowers;
- collection and preliminary processing of loan applications including verification of primary information/data;
- creating awareness about savings and other products and education and advice on managing money and debt counselling;
- processing and submission of applications to banks;
- promoting, nurturing and monitoring of Self Help Groups/ Joint Liability Groups/Credit Groups/others;
- post-sanction monitoring;
- follow-up for recovery,
- disbursal of small value credit,
- recovery of principal / collection of interest
- collection of small value deposits
- sale of micro insurance/ mutual fund products/ pension products/ other third party products and
- receipt and delivery of small value remittances/ other payment instruments.

22) Consider the following statements regarding Asian Infrastructure and Investment Bank (AIIB).

1. It is a multilateral development bank that aims to support the building of infrastructure in the Asia-Pacific region.
2. India and Japan holds second and third largest subscriptions of share of the bank respectively.
3. Headquarters of AIIB is located at Beijing.

Select the correct answer code:

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

Solution: b)

Japan is not a member of AIIB.

23) Consider the following statements about Marginal Standing Facility (MSF).

1. It is always fixed above the repo rate.
2. The MSF is the first resort for banks to borrow money from the RBI.
3. It was introduced by RBI with the main aim of reducing volatility in the overnight lending rates in the inter-bank market.

Which of the above statements is/are correct?

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

Solution: c)

Marginal Standing Facility (MSF) was announced by the Reserve Bank of India (RBI) in its Monetary Policy (2011-12) and refers to the penal rate at which banks can borrow money from the central bank over and above what is available to them through the LAF window.

MSF, being a penal rate, is always fixed above the repo rate. The MSF would be the last resort for banks once they exhaust all borrowing options including the liquidity adjustment facility by pledging government securities, where the rates are lower in comparison with the MSF. The MSF would be a penal rate for banks and the banks can borrow funds by pledging government securities within the limits of the statutory liquidity ratio. The scheme has been introduced by RBI with the main aim of reducing volatility in the overnight lending rates in the inter-bank market and to enable smooth monetary transmission in the financial system.

MSF represents the upper band of the interest corridor with repo rate at the middle and reverse repo as the lower band.

24) Consider the following statements regarding Warehouse Receipts.

1. Warehouse Receipts are documents issued by warehouses to depositors against the commodities deposited in the warehouses.
2. Warehouse Receipts issued by registered warehouses would help farmers to seek loans from banks against the receipts.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: c)

Warehouse Receipts are documents issued by warehouses to depositors against the commodities deposited in the warehouses, for which the warehouse is the bailee.

Warehouse Receipt is a proof of storage. It is an acknowledgement of the goods held by the warehouse keeper on behalf of the person named therein. It is a document issued by a warehouse keeper stating that he holds the goods mentioned in the receipt and is awaiting instructions from the person to whom it is addressed. It is a mere deposit receipt. Banker can accept it as a security to grant loans.

25) Consider the following statements regarding Small Finance Banks (SFB's).

1. SFB's cannot lend to big corporates
2. SFB's cannot invest in mutual funds or insurance products.
3. It lends 75% of their total adjusted net bank credit to priority sector.

Which of the above statements is/are correct?

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

Solution: c)

What are small finance banks?

The small finance bank will primarily undertake basic banking activities of acceptance of deposits and lending to unserved and underserved sections including small business units, small and marginal farmers, micro and small industries and unorganised sector entities.

What they can do?

- Take small deposits and disburse loans. Distribute mutual funds, insurance products and other simple third-party financial products.
- Lend 75% of their total adjusted net bank credit to priority sector.
- Maximum loan size would be 10% of capital funds to single borrower, 15% to a group.
- Minimum 50% of loans should be up to 25 lakhs.

What they cannot do?

- Lend to big corporates and groups.
- Cannot open branches with prior RBI approval for first five years.
- Other financial activities of the promoter must not mingle with the bank.
- It cannot set up subsidiaries to undertake non-banking financial services activities.
- Cannot be a business correspondent of any bank

## 4. Art and Culture

1) Consider the following statements regarding Vijayanagara School of temple architecture.

1. They combined the features of Chola, Hoysalas, Pandyas and Chalukyas architectural styles.
2. Vijayanagara School of temple architecture did not have any influence of Indo-Islamic style of architecture.
3. Temple pillars have a mythical creature Yali (Horse) engraved in them.
4. Secular buildings inside the temple premises was introduced during this period.

Which of the above statements is/are correct?

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

Solution: c)

The rulers of the Vijayanagara Empire (1335-1565AD) were great patrons of art and architecture with capital at Hampi (Karnataka). They combined the features of Chola, Hoysalas, Pandyas, Chalukyas architectural styles. Under them, the architectural style started to be influenced by the Indo-Islamic style of Bijapur, which in turn was reflected in the temples built during this period.

Generally, temple pillars have a mythical creature Yali (Horse) engraved in them. The concept of secular buildings inside the temple premises was also introduced during this period. Example: Vittalsami temple, Lotus Mahal, Virupaksha temple in Hampi, Raghunatha Temple in Hampi etc.

2) Which of the following are the famous universities of Ancient India.

1. Odantapuri
2. Vikramshila
3. Malinithan
4. Valabhi
5. Kancheepuram

Select the correct answer code:

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

Solution: c)

**Odantapuri:** It is located in Bihar and was made under the patronage of Pala dynasty King Gopala I. It was a Buddhist mahavihara.

**Vikramshila:** It is located in present-day Bhagalpur district of Bihar. It was established by King Dharampala of Pala dynasty, primarily as a Buddhist learning centre.

**Valabhi:** It was situated in Saurashtra, Gujarat. It was an important centre of learning for the Hinayana Buddhism.

**Kancheepuram:** It was a centre of learning for Hinduism, Jainism and Buddhism from 1st century AD and achieved great name under the rule of Pallavas.

**Malinithan** is a temple dedicated to Deity Durga in her Shakti form located in Northern bank of the Brahmaputra River, Arunachal Pradesh.

3) Which of the following are the temples situated outside India.

1. Umananda Devaloi
2. Angkor Vat
3. Prambanan Temple
4. Pashupatinath Temple

Select the correct answer code:

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

Solution: c)

Angkor Vat, Cambodia

Prambanan Temple, Java-Indonesia

Pashupatinath Temple, Kathmandu, Nepal

Umananda Devaloi is dedicated to Shiva located in Peacock Island on river Brahmaputra in Guwahati, Assam.

4) Which of the following is not correct about Hill temple architecture in Kashmir?

- a) There is no Gandhara influence on the temple architecture.
- b) They have influences of Hindu and Buddhist traditions.
- c) The Karkota Empire was the most significant in terms of architecture.
- d) Use of wood can be seen in these temples.

Solution: a)

Hill temple architecture in Kashmir

1) Place of development: hills of Kumaon, Garhwal, Himachal and Kashmir.

2) Influence:

- Kashmir's proximity to prominent Gandhara sites (such as Taxila, Peshawar and the northwest frontier) lent the region a strong Gandhara influence by the 5CE.
- This began to mix with the Gupta and post-Gupta traditions that were brought to it from Sarnath, Mathura and even centres in Gujarat and Bengal.
- Brahmin pundits and Buddhist monks frequently travelled between Kashmir, Garhwal, Kumaon and religious centres in the plains like Banaras, Nalanda and even as far south as Kanchipuram. As a result both Buddhist and Hindu traditions began to intermingle and spread in the hills.
- The hills also had their own tradition of wooden buildings with pitched roofs.
- At several places in the hills, therefore, you will find that while the main garbhagriha and shikhara are made in a rekha-prasada or latina style, the mandapa is of an older form of wooden architecture. Sometimes, the temple itself takes on a pagoda shape.
- The Karkota period of Kashmir is the most significant in terms of architecture. One of the most important temples is Pandrethan, built during the eighth and ninth centuries.

5) Consider the following statements

1. There were no evidence of musical instruments found at the sites of Indus valley civilization.
2. Jaimini Brahmana speaks collectively of dance and music.
3. In Hindustani music, Dhrupad is the pure music without distraction of words.

Which of the above statements is/are correct?

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

Solution: b)

Musical instruments like seven-holed flute and Ravanahatha, have been recovered from the sites of Indus Valley Civilization. The Jaimini Brahmana speaks collectively of dance and music. Dhruvad is pure music without distraction of words.

6) Which of the following are the major Buddhist pilgrimage sites in India.

1. Mahabodhi temple.
2. Shravanabelagola
3. Nagapattinam
4. Sittanavasal Caves

Select the correct answer code:

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

Solution: b)

Sittanavasal Caves in Tamil Nadu and Shravanabelagola in Karnataka are Jain pilgrimage sites in India.

7) Which of the following are the features of Indo-Islamic architecture.

1. Indo-Islamic architecture used human and animal figures.
2. The architecture of this period heavily used the principles of Geometry.
3. An important feature of the architecture during this period was the use of water in the premises of the constructions.

Which of the above statements is/are correct?

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

Solution: c)

The Indo-Islamic architecture avoided the use of human and animal figures. The architecture of this period heavily used the principles of geometry - from decorative pattern to imbuing a sense of symmetry.

An important feature of the architecture during this period was the use of water in the premises of the constructions in the form of courtyard pools, fountains and small drains.

Water was used primarily for three purposes:

- Religious purpose
- Cooling the premises
- Decorative purpose.

8) Which of the following are the features of Trabeate style of architecture.

1. Minars were present on the four corners of the mosques.
2. Stone was the primary component of all constructions.

Select the correct answer code:

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: b)

Minars were absent in the Trabeate style of architecture.

9) Consider the following statements:

1. The national motto of India, 'Satyameva Jayate' inscribed below the Emblem of India is taken from Chandogya Upanishad
2. The Words 'Satyameva Jayate' were originally inscribed on the Lion Capital of Ashoka around 250 BCE.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: d)

- Satyameva Jayate is a mantra from the ancient Indian scripture Mundaka Upanishad. Following the independence of India, it was adopted as the national motto of India in 26 January 1950.
- It is inscribed in script at the base of the national emblem. The emblem and the words "Satyameva Jayate" are inscribed on one side of all Indian currency.
- The emblem is an adaptation of the Lion Capital of Ashoka which was erected around 250 BCE at Sarnath, near Varanasi in the north Indian state of Uttar Pradesh.

10) With reference to the 'Sugam Sangeet', consider the following statements

1. It is the genre of devotional music, which brings classical and folk together.
2. Bhajan, Shabad and Qawwali are different forms of Sugam Sangeet.
3. Tevaram is sung in the praise of Lord Vishnu.

Which of the above statements is/are correct?

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

Solution: b)

Tevaram denotes the first seven volumes of the Tirumurai, the twelve-volume collection of Lord Shiva devotional poetry.

11) Consider the following statements regarding pre-historic painting.

1. In comparison to the Upper Paleolithic period, the size of the paintings became smaller during Mesolithic Period.
2. One of the most common scenes depicted in the paintings during Mesolithic Period is of group hunting, grazing activity and riding scenes.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: c)

Mesolithic Period (10000–4000 BC):

This period mainly saw the use of red colour. In comparison to the Upper Paleolithic period, the size of the paintings also became smaller during this period. One of the most common scenes depicted in these paintings is of group hunting and several other paintings depict grazing activity and riding scenes.

12) Consider the following statements regarding Mural Paintings in India.

1. These paintings are generally secular in nature.
2. These paintings can be found in Bagh caves, Sittanavasal caves and Kailasanatha temple in Ellora.

3. All Murals in Ajanta caves belong to the Gupta period.

Which of the above statements is/are correct?

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

Solution: c)

The works on the walls or a solid structure are referred to as Murals. The beauty and the exquisiteness of mural paintings can be seen in places like Ajanta, Armamalai Cave, Ravan Chhaya Rockshelter, Bagh caves, Sittanavasal caves and Kailasanatha temple in Ellora.

One of the oldest surviving murals of Indian subcontinent, Ajanta caves were carved in 4th century AD out of volcanic rocks. It consists of a set of 29 caves, carved in a horse-shoe shape. These caves are quite popular for their exquisite mural paintings that took around four to five centuries to complete under the reign of Mauryan Empire. Murals in cave no. 9 and 10 belong to the Sunga period, while the rest belong to the Gupta period.

13) Consider the following statements.

- 1. Sittanavasal Cave Paintings are known for the paintings in the Jain temples.
- 2. Murals at Badami Cave Temples are one of the earliest surviving Hindu paintings.
- 3. The proponents of the Vajrayana school of Buddhism used and patronised Pala paintings.

Which of the above statements is/are correct?

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

Solution: d)

Sittanavasal Cave (Arivar Koil) Paintings located 16 km northwest of Pudukkottai town in Tamil Nadu, these famous rock-cut caves are known for the paintings in the Jain temples.

Though the Badami cave temples are famous for its sculptures, there are beautiful paintings too. Murals at Badami Caves having lost their original grandeur and charm, still offer a glimpse into the artistic capabilities of people of that era. They are one of the earliest surviving Hindu paintings.

14) Which of the following is NOT a Vedanga?

- a) Chhanda – Prosody
- b) Vyakarana – Grammar
- c) Jyotisha – Astronomy
- d) Virakta – Philosophy

Solution: d)

- Vedangas literally mean the limbs of the Vedas. They are six in number. Just like the limbs of the body, they perform various supportive and augmenting functions in the study, preservation and protection of the Vedas and the Vedic traditions.
- The six Vedangas are Siksha, Chhanda, Vyakarana, Nirukta, Jyotisha and Kalpa.
- These subjects were an integral and essential part of ancient Vedic education system, aimed to promote an all-round development of the students with a better understanding of the Vedas and Vedic practices.
- Of these six subjects, Siksha deals with the study of sounds and pronunciation associated with each syllable; Chhanda with the mastery of rhyme and meter; Vyakarna with the study of word and sentence structure; Nirukta with the meaning of complex words and phrases; Jyotisha with the study of heavenly bodies to find an

auspicious time for the performance of the rituals; and Kalpa with the ethical, moral and procedural percepts associated with the performance of rituals as a way of life.

15) Jugalbandhi is one of the main attractions in

- a) Manipuri
- b) Kathakali
- c) Sattriya
- d) Kathak

Solution: d)

Jugalbandi is the main attraction of kathak recital which shows a competitive play between the dancer and the table player.

16) Consider the following statements regarding pre-historic rock paintings.

- 1. The first discovery of rock paintings was made in India in 1900 by James Princep.
- 2. The largest number of paintings belong to Mesolithic Period.
- 3. Lakhudiyar rock painting were found in Uttarakhand.

Which of the above statements is/are incorrect?

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

Solution: c)

The first discovery of rock paintings was made in India in 1867–68 by an archaeologist, Archibold Carlleyle, twelve years before the discovery of Altamira in Spain.

The largest number of paintings belong to Period II that covers the Mesolithic paintings. Hunting scenes predominate in Mesolithic paintings.

17) Consider the following pairs

- | Painting              | State                     |
|-----------------------|---------------------------|
| 1. Lepakshi Painting  | : Tamil Nadu              |
| 2. Bagh Cave Painting | : Uttar Pradesh           |
| 3. Madhubani Painting | : Mithila region of Bihar |

Which of the above pairs is/are correct?

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

Solution: d)

Lepakshi Painting can be found in Andhra Pradesh. Bagh Cave Painting can be found in Madhya Pradesh.

18) Consider the following statements regarding the people of Indus Valley Civilization.

- 1. Necklaces, fillets, armllets and finger-rings were worn only by women.
- 2. All ornaments were well crafted.
- 3. Spinning of cotton and wool was very common.
- 4. Cinnabar and collyrium were not known to them.

Which of the above statements is/are correct?

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

d) 2, 3, 4

Solution: b)

While necklaces, fillets, armlets and finger-rings were commonly worn by both sexes. All ornaments are well crafted.

It is evident from the discovery of a large number of spindles and spindle whorls in the houses of the Indus Valley that spinning of cotton and wool was very common.

Cinnabar was used as a cosmetic and facepaint, lipstick and collyrium (eyeliner) were also known to them.

19) Consider the following statements regarding Gupta Art and Architecture.

1. Both the Nagara and Dravidian styles of art evolved during this period.
2. There was no influence of Gandhara style.
3. Metallurgy had made a wonderful progress during the Gupta period.

Which of the above statements is/are correct?

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

Solution: d)

Both the Nagara and Dravidian styles of art evolved during this period. But most of the architecture of this period had been lost due to foreign invasions like that of Huns.

The temple at Deogarh near Jhansi and the sculptures in the temple at Garhwas near Allahabad remain important specimen of the Gupta art. There was no influence of Gandhara style. But the beautiful statue of standing Buddha at Mathura reveals a little Greek style.

Metallurgy had also made a wonderful progress during the Gupta period. The craftsmen were efficient in the art of casting metal statues and pillars. The gigantic copper statue of Buddha, originally found at Sultanganj now kept at Birmingham museum, was about seven and a half feet height and nearly a ton weight. The Delhi Iron pillar of the Gupta period is still free from rust though completely exposed to sun and rain for so many centuries.

20) Consider the following statements

1. The amalgamation of the Indian and the Islamic elements led to the emergence of a new style of architecture called the Indo-Islamic Architecture.
2. New elements like Calligraphy, Minar was introduced during Islamic rule in India
3. The Lodis introduced the concept of double domes built one upon the other, leaving some space in between.

Which of the above statements is/are correct?

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

Solution: d)

## 5. History

1) Consider the following statements about the revolt of 1857.

1. It was started from Lucknow.
2. It was started during the reign of Governor General Lord Canning.
3. The revolt also spread to South India.
4. The Government of India Act 1858 was passed as a reaction by the British government to the revolt.

Which of the above statements is/are incorrect?

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

Solution: c)

The revolt of 1857 took place during the reign of Governor General Lord Canning. The immediate cause of the revolt of 1857 was that Mangal Pandey killed two British officers on parade at Barrackpore. The revolt began at Meerut, 58 km from Delhi, on May 10, 1857 and then, gathering force rapidly. This revolt spread in Lucknow, Ambala and Meerut cantonments.

The movement was confined to the Northern and Central India.

2) Which of the following is/are the features of Swadeshi movement?

1. Emphasis on self-reliance
2. Extensive participation of the peasantry
3. Cultural revivalism

Select the correct answer code:

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

Solution: c)

Among the several forms of struggle thrown up by the movement were

1. Boycott of foreign goods: This included boycott and public burning of foreign cloth, boycott of foreign made salt or sugar, refusal by washermen to wash foreign clothes. This form of protest met with great success at the practical and popular level.
2. Public meetings and processions: These emerged as major methods of mass mobilisation and simultaneously as forms of popular expression.
3. Corps of volunteers or 'samitis: Samitis such as the Swadesh Bandhab Samiti of Ashwini Kumar Dutta emerged as a very popular and powerful method of mass mobilisation.
4. Imaginative use of traditional popular festivals and, melas: The idea was to use such occasions as a means of reaching out to the masses and spreading political messages. For instance, Tilak's Ganapati and Shivaji festivals became a medium of swadeshi propaganda not only in western India, but also in Bengal. In, Bengal also, the traditional folk theatre forms were used for this purpose. (Statement 3).
5. Emphasis given to self-reliance or 'atma shakti: This implied reassertion of national dignity, honour and confidence and social and economic regeneration of the villages. (Statement 1).

There was limited participation of peasantry.

3) The Radcliffe Line was

- a) the boundary demarcation line between India and Pakistan
- b) the agreed line on the partition of Bengal
- c) the frontier between East Pakistan and West-Pakistan
- d) the line between Indo-China border as historically demarcated by the British

Solution: a)

The line was published on 17 August 1947 upon the Partition of India. It was named after its architect, Sir Cyril Radcliffe, who, as chairman of the Border Commissions, was charged with equitably dividing 175,000 square miles of territory with 88 million people.

4) Consider the following statements regarding Quit India Movement.

1. The Quit India movement was started by Mahatma Gandhi in 1942.
2. The Congress was declared an unlawful association.
3. The entire movement was violent with raids and setting fire at post offices, government buildings and railway stations.

Which of the above statement was incorrect?

- a) 1, 3
- b) 2, 3
- c) 3 only
- d) none of the above

Solution: c)

- It was in 1942 when the world was going through the havoc caused by World War II. India too was facing the heat and after the Cripps Mission had failed, and on 8 August 1942, Mahatma Gandhi made a Do or Die call through the Quit India movement. Several national leaders like Mahatma Gandhi, Abdul Kalam Azad, Jawaharlal Nehru and Sardar Vallabhbhai Patel were arrested.
- The Congress was declared an unlawful association, leaders were arrested and its offices all over the country were raided and their funds were frozen.
- The first half of the movement was peaceful with demonstrations and processions. The peaceful protest was carried till Mahatma Gandhi's release.
- The second half of the movement was violent with raids and setting fire at post offices, government buildings and railway stations. Lord Linlithgow adopted the policy of violence.

5) Consider the following events.

1. Munda Rebellion
2. Bodo Movement
3. Santhal rebellion
4. Kuki Uprising

Arrange the above in the chronological order and select the correct answer codes:

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

Solution: d)

The Santhal rebellion (June 30, 1855 to January 3, 1856): Also known as the Santhal Hool, it was a native rebellion in eastern India against both the British colonial authority and zamindari system by the Santhal people.

The Munda Rebellion: Birsa Munda led the movement in the region south of Ranchi in 1899-1900, seeking the establishment of Munda Raj and independence after the system of khuntkattidar was corroded by the jagirdars and thikadars who came as moneylenders and as traders.

1917-1919 Kuki Uprising in Manipur against British colonialism under the leadership of their chieftains called haosa.

The Bodo Movement: The official movement of the Bodos for an independent state of Bodoland started under the leadership of Upendranath Brahma of All Bodo Students' Union (ABSU) on March 2, 1987.

6) Consider the following statements regarding Buddhism.

1. Buddha laid great emphasis on the law of karma.
2. Buddha rejected the existence of god and emphasized on Ahimsa.
3. Buddhism was more a religious revolution than social revolution.

Which of the above statements is/are correct?

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

Solution: d)

Buddha neither accepts god nor rejects the existence of god. He laid great emphasis on the law of karma. He argued that the condition of man in this life depends upon his own deeds. He taught that the soul does not exist. However, he emphasized Ahimsa.

Buddhism was more a social than religious revolution. It taught the code of practical ethics and laid down the principle of social equality.

7) Consider the following statements regarding Buddhism.

1. The membership for Sangha was open to all persons without any caste restrictions.
2. Buddhism made rapid progress in North India only after the death of Buddha.
3. Asoka spread Buddhism into West Asia and Ceylon.

Which of the above statements is/are correct?

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

Solution: b)

Buddha had two kinds of disciples – monks (bhikshus) and lay worshippers (upasikas). The monks were organized into the Sangha for the purpose of spreading his teachings. The membership was open to all persons, male or female and without any caste restrictions.

Owing to the organised efforts made by the Sangha, Buddhism made rapid progress in North India even during Buddha's lifetime. Magadha, Kosala, Kausambi and several republican states of North India embraced this religion. About two hundred years after the death of Buddha, the famous Mauryan Emperor Asoka embraced Buddhism. Through his missionary effort Asoka spread Buddhism into West Asia and Ceylon.

8) Which of the following statements are correct regarding civil rebellions and tribal uprisings from 1757 to 1900.

1. These uprisings drew a large number of participants but were localised and isolated.
2. They mostly arose out of national grievances.
3. The leadership was semi-feudal in character, backward-looking and traditional in outlook.

Which of the above statements is/are correct?

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

Solution: c)

Weaknesses of People's Uprisings

- These uprisings drew a large number of participants but were, in fact, localised and occurred at different times in different regions.
- They mostly arose out of local grievances.
- The leadership was semi-feudal in character, backward looking, traditional in outlook and their resistance did not offer alternatives to the existing social set-up.
- If many of these revolts seemed similar to one another in wanting to oust the alien rule, it was not because of some 'national' impulse or common effort, but because they were protesting against conditions that were common to them.
- These rebellions were centuries-old in form and ideological / cultural content.
- Those who were not so uncooperative or obstinate were pacified through concessions by the authorities.
- The methods and arms used by the fighters in these uprisings were practically obsolete compared to the weapons and strategy—as well as deception and chicanery—employed by their opponents.

9) Kuka Revolt of Punjab is aimed at

- a) Achieve justice for the martyrs of Punjab in the 1857 Revolt
- b) Freeing the Gurdwaras (Sikh temples) from the control of ignorant and corrupt Mahants
- c) Making Sikh land independent from British control
- d) Reforming the Sikh religion by removing all the abuses, superstitions and ill-practices

Solution: d)

The Kuka Movement was founded in 1840 by Bhagat Jawahar Mal (also called Sian Saheb) in western Punjab. A major leader of the movement after him was Baba Ram Singh. (He founded the Namdhari Sikh sect.) After the British took Punjab, the movement got transformed from a religious purification campaign to a political campaign. Its basic tenets were abolition of caste and similar discriminations among Sikhs, discouraging the consumption of meat and alcohol and drugs, permission for intermarriages, widow remarriage, and encouraging women to step out of seclusion.

10) Who among the following suggested the winding up of the Indian National Congress after India attained independence?

- a) C. Rajagopalachari
- b) Acharya Kripalani
- c) Mahatma Gandhi
- d) Jayaprakash Narain

Solution: c)

Mahatma Gandhi suggested the winding up of the Indian National Congress after India attained Independence.

11) Which of the following are the causes for the decline of Buddhism in India.

1. Revival of Brahmanism and the rise of Bhagavatism.
2. The use of Pali was given up and Buddhists began to adopt Sanskrit.
3. The attack of the Huns in 5th and 6th centuries and the Turkish invaders in 12th century destroyed the Buddhist monasteries.

Which of the above statements is/are correct?

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

Solution: d)

The revival of Brahmanism and the rise of Bhagavatism led to the fall of popularity of Buddhism. The use of Pali, the language of the masses as the language of Buddhism was given up from the 1<sup>st</sup> century A.D. The Buddhists began to adopt Sanskrit, the language of the elite. After the birth of Mahayana Buddhism, the practice of idol worship and

making offerings led to the deterioration of moral standards. Moreover, the attack of the Huns in 5th and 6th centuries and the Turkish invaders in 12th century destroyed the monasteries. All these factors contributed to the decline of Buddhism in India.

12) Consider the following statements.

1. The Buddhist literature Anguttara Nikaya gives a list of sixteen great kingdoms called 'Sixteen Mahajanapadas'.
2. Jain texts do not contain references to the existence of sixteen kingdoms.
3. Bimbisara was a contemporary of both Vardhamana Mahavira and Gautama Buddha.

Which of the above statements is/are correct?

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

Solution: a)

The Buddhist literature Anguttara Nikaya gives a list of sixteen great kingdoms called 'Sixteen Mahajanapadas'. They were Anga, Magadha, Kasi, Kosala, Vajji, Malla, Chedi, Vatsa, Kuru, Panchala, Matsya, Surasena, Asmaka, Avanti, Gandhara and Kambhoja. The Jain texts also contain references to the existence of sixteen kingdoms. In course of time, the small and weak kingdoms either submitted to the stronger rulers or gradually got eliminated. Finally in the mid 6th century B.C., only four kingdoms – Vatsa, Avanti, Kosala and Magadha survived.

Bimbisara was a contemporary of both Vardhamana Mahavira and Gautama Buddha. However, both religions claim him as their supporter and devotee.

13) During Colonial period, impoverishment of the Indian peasantry was a direct result of the transformation of the agrarian structure due to

1. ruin of the handicrafts leading to overcrowding of Land
2. colonial economic policies
3. the new land revenue system.

Which of the above statements is/are correct?

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

Solution: d)

The impoverishment of the Indian peasantry was a direct result of the transformation of the agrarian structure due to—

- colonial economic policies,
- ruin of the handicrafts leading to overcrowding of land,
- the new land revenue system,
- colonial administrative and judicial system.

14) Consider the following statements

1. He described Sati system as a "murder according to every shastra".
2. He defended the basic and universal principles of all religions.
3. He wrote Gift to Monotheists (1809)

The above statements are associated with:

- a) Debendranath Tagore
- b) Raja Rammohan Roy
- c) Radhakant Deb

d) Ishwar Chandra Vidyasagar

Solution: b)

Raja Rammohan Roy described Sati system as a “murder according to every shastra”. He considered different religions as national embodiments of universal theism. He defended the basic and universal principles of all religions—such as the monotheism of the Vedas and unitarianism of Christianity—while attacking the polytheism of Hinduism and trinitarianism of Christianity. Rammohan Roy believed in the modern scientific approach and principles of human dignity and social equality.

He wrote Gift to Monotheists (1809) and translated into Bengali the Vedas and the five Upanishads to prove his conviction that ancient Hindu texts support monotheism.

15) Consider the following events during India’s freedom struggle

1. Chauri-Chaura Outrage
2. Minto-Morley Reforms
3. Dandi March
4. Montagu-Chelmsford Reforms

Which one of the following is the correct chronological order of the events above?

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

Solution: b)

- Minto–Morley Reforms-1909;
- Montagu – Chelmsford Reforms–1918
- Chauri–Chaura–Feb 1922;
- Dandi March – 1930;

16) Consider the following statements.

1. Bimbisara was instrumental in convening the First Buddhist Council at Rajagriha soon after the death of the Buddha.

2. The Hathigumpha inscription of Kharavela of Kalinga refers to the conquest of Kalinga by the Nandas.

3. Chandragupta Maurya and Kautilya initiated a popular movement against the Nanda rule and it was during this time that Alexander invaded India.

Which of the above statements is/are correct?

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

Solution: c)

Buddhists and Jains both claim that Ajatasatru was a follower of their religion. But it is generally believed that in the beginning he was a follower of Jainism and subsequently embraced Buddhism. He is said to have met Gautama Buddha. This scene is also depicted in the sculptures of Barhut. According to the Mahavamsa, he constructed several chaityas and viharas. He was also instrumental in convening the First Buddhist Council at Rajagriha soon after the death of the Buddha.

Mahapadma Nanda was a powerful ruler of the Nanda dynasty. He uprooted the kshatriya dynasties in north India and assumed the title ekarat. The Puranas speak of the extensive conquests made by Mahapadma. The Hathigumpha inscription of Kharavela of Kalinga refers to the conquest of Kalinga by the Nandas.

The oppressive way of tax collection by Dhana Nanda was resented by the people. Taking advantage of this, Chandragupta Maurya and Kautilya initiated a popular movement against the Nanda rule. It was during this time that Alexander invaded India.

17) Which of the following are the effects of the Persian Invasion.

1. The use of the Kharoshti script became unpopular in India.
2. There was influence of Persian art on the art of the Mauryas, particularly the monolithic pillars of Asoka and the sculptures found on them.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: b)

The Persian invasion provided an impetus to the growth of Indo-Iranian commerce. Also, it prepared the ground for Alexander's invasion. The use of the Kharoshti script, a form of Iranian writing became popular in north-western India and some of Asoka's edicts were written in that script. We are able to see the influence of Persian art on the art of the Mauryas, particularly the monolithic pillars of Asoka and the sculptures found on them. The very idea of issuing edicts by Asoka and the wording used in the edicts are traced to Iranian influence. In short, the Iranian connection with India proved more fruitful than the short-lived Indo-Macedonian contact.

18) Consider the following statements about Asoka's Dhamma.

1. It contained the ideal of a 'welfare state'.
2. It banned punishment of offenders and their imprisonment.
3. It advocated tolerance among all the religious sects.
4. Animal sacrifices were practiced.

Which of the above statements is/are incorrect.

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

Solution: b)

Efficient organization of administration in the direction of social welfare and maintenance of constant contact with people through the system of Dhammayatras (tours) was an important feature of Ashoka's dhamma.

The Dhamma Mahamatras were asked by Asoka to take steps against unjust imprisonment. Remission of sentences is also mentioned in Asoka's inscriptions. But, he did not advocate non-punishment.

Other features were:

- Service to father and mother, practice of ahimsa, love of truth, reverence to teachers and good treatment of relatives.
- Prohibition of animal sacrifices and festive gatherings and avoiding expensive and meaningless ceremonies and rituals.
- Humane treatment of servants by masters and prisoners by government officials.
- Consideration and non-violence to animals and courtesy to relations and liberality to Brahmins.

19) The Brahmadeya and Devadhana lands under the Pallava Kingdom were those lands that were

- a) Maintained by the village assembly
- b) Declared of divine origin
- c) Exempted from tax
- d) Granted to the marginalized and extremely poor

Solution: c)

The Pallavas had a well-organized administrative system. The King provided land-grants to the temples known as Devadhana and also to the Brahmans known as Brahmadeya.

Land tax was the primary source of the government revenue. The Brahmadeya and Devadhana lands were exempted from tax.

Traders and artisans such as carpenters, goldsmiths, washermen, oil-pressers and weavers paid taxes to the government.

20) Which of the following act for the first time explicitly defined the constitutional position of the British territories in India.

- a) Pitt's India Act of 1784
- b) Charter act of 1813
- c) Charter act of 1833
- d) Charter act of 1853

Solution: b)

The charter act of 1813, for the first time explicitly defined the constitutional position of the British territories in India.

## 6. Environment

1) Consider the following statements.

1. Primary productivity depends on the plant species inhabiting a particular area and it varies in different types of ecosystems.
2. Since oceans occupy about 70 percent of the surface, the productivity of the oceans is more compared to the productivity on the land.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: a)

Primary production is defined as the amount of biomass or organic matter produced per unit area over a time period by plants during photosynthesis.

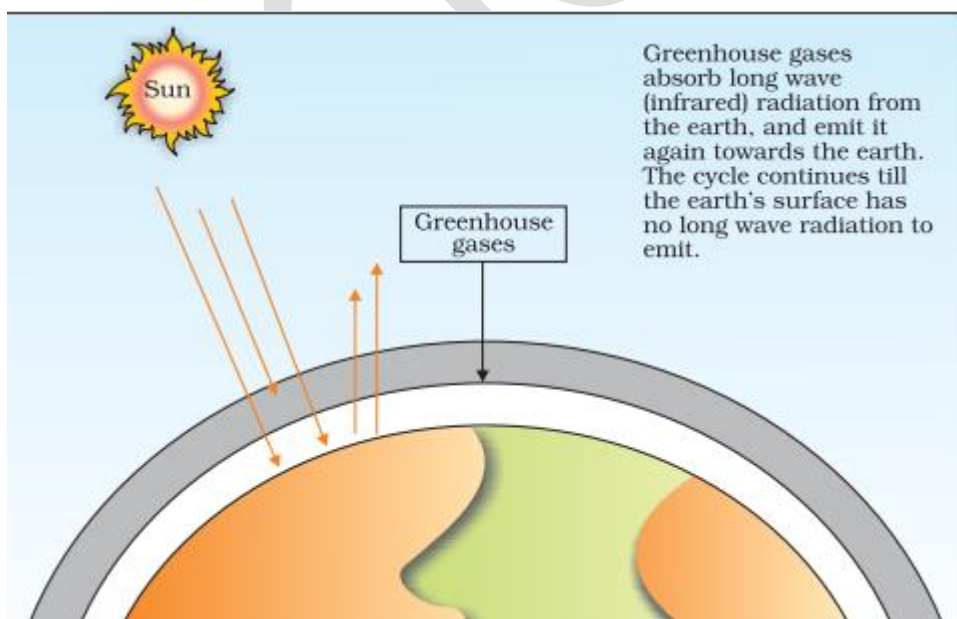
Primary productivity depends on the plant species inhabiting a particular area. It also depends on a variety of environmental factors, availability of nutrients and photosynthetic capacity of plants. Therefore, it varies in different types of ecosystems. The annual net primary productivity of the whole biosphere is approximately 170 billion tons (dry weight) of organic matter. Of this, despite occupying about 70 percent of the surface, the productivity of the oceans are only 55 billion tons.

Rest of course, is on land.

2) The increasing amount of carbon dioxide in the air is slowly raising the temperature of the atmosphere, because it absorbs

- a) the water vapour of the air and retains its heat
- b) Infrared part of solar radiation
- c) the ultraviolet part of the solar radiation
- d) all the solar radiations

Solution: b)



3) With reference to ecosystem service, which of the following are the examples of regulating services?

1. Carbon sequestration

2. Hydrological cycle
3. Ensuring genetic diversity
4. Provision of natural medicines

Select the correct answer code:

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

Solution: a)

Provision of natural medicines doesn't constitute regulating services of ecosystem.

Regulating services are defined as the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.

Provisioning services are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.

4) Consider the following statements.

1. Microplastics are small pieces of plastic, less than 5 mm in length, that occur in the environment as a consequence of plastic pollution.
2. Microplastics are present in cosmetics, synthetic clothing, plastic bags and bottles.
3. Normal Plastic is not biodegradable, whereas Microplastics are biodegradable.

Which of the above statements is/are correct?

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

Solution: a)

Microplastics, small pieces of plastic, less than 5 mm (0.2 inch) in length, that occur in the environment as a consequence of plastic pollution. Microplastics are present in a variety of products, from cosmetics to synthetic clothing to plastic bags and bottles. Many of these products readily enter the environment in wastes.

Microplastics are not biodegradable. Thus, once in the environment, primary and secondary microplastics accumulate and persist.

Source

5) Consider the following statements about Ethanol.

1. In India, ethanol is produced from sugarcane only.
2. It allows the engine to more completely combust the fuel.
3. Ethanol is considered as non-renewable fuel.

Which of the above statements is/are correct?

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

Solution: b)

Ethanol, an anhydrous ethyl alcohol having chemical formula of  $C_2H_5OH$ , can be produced from sugarcane, maize, wheat, etc which are having high starch content. In India, ethanol is mainly produced from sugarcane molasses by

fermentation process. Ethanol can be mixed with gasoline to form different blends. As the ethanol molecule contains oxygen, it allows the engine to more completely combust the fuel, resulting in fewer emissions and thereby reducing the occurrence of environmental pollution. Since ethanol is produced from plants that harness the power of the sun, ethanol is also considered as renewable fuel.

Source

6) Which of the following adaptations is/are found in desert animals?

1. Long legs for avoiding excessive heat from sand
2. Nocturnal in habit
3. Aestivation during summer months.

Select the correct answer code:

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

Solution: b)

All the above are the adaptations of desert animals.

7) Which of the following Ramsar site is manmade?

- a) DeeporBeel
- b) Harike Wetland
- c) Bhoj Wetland
- d) Loktak Lake

Solution: c)

The Bhoj Wetland consists of two lakes located in the city of Bhopal. The two lakes are the Bhojtal and the Lower Lake. It is a manmade reservoir. Bhoj Wetland was recognized as a wetland of international importance under the Ramsar Convention of 1971 in 2002.

8) Consider the following statements regarding Great Indian Bustard.

1. Great Indian Bustard is considered the flagship grassland species, representing the health of the grassland ecology.
2. It is one of the heaviest flying birds.
3. In India, Gujarat is home to a greater number of Great Indian Bustard.

Which of the above statements is/are correct?

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

Solution: b)

Rajasthan, home to one of the last remaining populations of the Great Indian Bustard, has charted out a plan to recover the population of the critically endangered bird. The state announced Project Great Indian Bustard.

The Great Indian Bustard, one of the heaviest flying birds, can weigh up to 15 kg and grow up to one metre in height. It is considered the flagship grassland species, representing the health of the grassland ecology. Less than 200 birds are left now, of which about 100 are in Rajasthan.

Source

9) Consider the following statements regarding Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

1. It is an International agreement between governments, that is administered by the United Nations Environment Programme (UNEP).
2. CITES is legally binding on state parties to the convention, which are obliged to adopt their own domestic legislation to implement its goals.
3. CITES was drafted as a result of a resolution adopted at a meeting of members of IUCN.

Which of the above statements is/are correct?

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

Solution: d)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an International agreement to regulate worldwide commercial trade in wild animal and plant species.

- It restricts trade in items made from such plants and animals, such as food, clothing, medicine, and souvenirs.
- It was signed on March 3, 1973 (Hence world wildlife day is celebrated on march 3).
- It is administered by the United Nations Environment Programme (UNEP).
- Secretariat — Geneva (Switzerland).
- CITES is legally binding on state parties to the convention, which are obliged to adopt their own domestic legislation to implement its goals.

Source

10) Consider the following statements.

1. It is located on the north bank of the Brahmaputra River.
2. It is the only stronghold of rhinoceros on the north bank of the Brahmaputra river.
3. It is also known as 'Mini Kaziranga National Park'.

The above statements refer to.

- a) Manas National Park
- b) Nameri National Park
- c) Orang National Park
- d) Dibru-Saikhowa National Park

Solution: c)

The Orang National Park is located on the north bank of the Brahmaputra River in the Darrang and Sonitpur districts of Assam.

The park has a rich flora and fauna, including great Indian one-horned rhinoceros, pygmy hog, elephants, wild buffalo and tigers. It is the only stronghold of rhinoceros on the north bank of the Brahmaputra river.

The Orang National Park is popularly known as the "mini Kaziranga." The reason behind this is that both the parks have the same kind of climate and ecology.

11) Consider the following statements regarding Decomposition.

1. Fragmentation: Bacterial and fungal enzymes degrading detritus into simpler inorganic substances.
2. Mineralisation: Humus is degraded by some microbes and release of inorganic nutrients
3. Catabolism: Earthworm breaking down detritus into smaller particles.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2 only

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

Solution: b)

Detritivores (e.g., earthworm) break down detritus into smaller particles. This process is called fragmentation. By the process of leaching, water-soluble inorganic nutrients go down into the soil horizon and get precipitated as unavailable salts. Bacterial and fungal enzymes degrade detritus into simpler inorganic substances. This process is called as catabolism.

Humification and mineralisation occur during decomposition in the soil. Humification leads to accumulation of a dark coloured amorphous substance called humus that is highly resistant to microbial action and undergoes decomposition at an extremely slow rate. Being colloidal in nature it serves as a reservoir of nutrients. The humus is further degraded by some microbes and release of inorganic nutrients occur by the process known as mineralisation.

12) Consider the following statements.

1. Decomposition is largely an anaerobic process.
2. The rate of decomposition is controlled by chemical composition of detritus and climatic factors.
3. Decomposition rate is faster if detritus is rich in lignin and chitin.

Which of the above statements is/are incorrect?

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

Solution: c)

Decomposition is largely an oxygen-requiring process. The rate of decomposition is controlled by chemical composition of detritus and climatic factors. In a particular climatic condition, decomposition rate is slower if detritus is rich in lignin and chitin, and quicker, if detritus is rich in nitrogen and water-soluble substances like sugars. Temperature and soil moisture are the most important climatic factors that regulate decomposition through their effects on the activities of soil microbes. Warm and moist environment favour decomposition whereas low temperature and anaerobiosis inhibit decomposition resulting in build up of organic materials.

13) With reference to food chains in ecosystems, consider the following statements:

1. A food chain illustrates the order in which a chain of organisms feed upon each other.
2. Food chains are found within the population of a species.
3. A food chain illustrates the numbers of each organism which are eaten by others.

Which of the above statements is/are correct?

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

Solution: a)

A food chain describes how energy and nutrients move through an ecosystem. At the basic level there are plants that produce the energy, then it moves up to higher-level organisms like herbivores. After that when carnivores eat the herbivores, energy is transferred from one to the other.

In the food chain, energy is transferred from one living organism through another in the form of food. There are primary producers, primary consumers, secondary consumers and decomposers- all part of the food chain.

14) Consider the following statements regarding National Biodiversity Authority.

1. It was set up to implement the Wildlife Protection Act, 1972.
2. It has been conferred the status of an autonomous body.

3. It performs facilitative, regulatory and advisory function for Government of India on issues pertaining biodiversity and its conservation.

Which of the above statements is/are correct?

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

Solution: b)

- It was setup to implement National Biodiversity Act, 2002.

15) Consider the following statements regarding UN-REDD Programme

1. It is a collaborative programme of the Food and Agriculture Organization (FAO) of the United Nations, UNDP and UNEP.
2. The incentives received from REDD to developing countries would be passed on to the local communities involved in the protection and management of the forest.
3. It includes incentives for positive elements of conservation and sustainable management of forest.

Which of the above statements is/are correct?

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

Solution: d)

16) Consider the following statements.

1. Sun is the only source of energy for all ecosystems on Earth.
2. Of the incident solar radiation more than 90 per cent of it is photosynthetically active radiation (PAR).
3. Plants capture only 2-10 per cent of the photosynthetically active radiation (PAR) and this energy

sustains the entire living world.

Which of the above statements is/are correct?

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

Solution: c)

Except for the deep sea hydro-thermal ecosystem, sun is the only source of energy for all ecosystems on Earth. Of the incident solar radiation less than 50 per cent of it is photosynthetically active radiation (PAR). We know that plants and photosynthetic bacteria (autotrophs), fix Sun's radiant energy to make food from simple inorganic materials. Plants capture only 2-10 per cent of the PAR and this small amount of energy sustains the entire living world.

17) Consider the following statements.

1. In nature, the energy flow is bidirectional.
2. No energy that is trapped into an organism remains in it forever.
3. Death of organism is the end of the detritus food chain/web.

Which of the above statements is/are incorrect?

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

Solution: c)

Unidirectional flow of energy from the sun to producers and then to consumers.

No energy that is trapped into an organism remains in it forever. The energy trapped by the producer, hence, is either passed onto a consumer or the organism dies. Death of organism is the beginning of the detritus food chain/web.

18) Consider the following statements.

1. In a terrestrial ecosystem, a much larger fraction of energy flows through the detritus food chain than through the grazing food chain (GFC).
2. The amount of energy decreases at successive trophic levels in an ecosystem.
3. Organisms at each trophic level depend on those at the lower trophic level for their energy demands.

Which of the above statements is/are correct?

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

Solution: d)

In an aquatic ecosystem, grazing food chain (GFC) is the major conduit for energy flow. As against this, in a terrestrial ecosystem, a much larger fraction of energy flows through the detritus food chain than through the grazing food chain (GFC).

The important point to note is that the amount of energy decreases at successive trophic levels. When any organism dies it is converted to detritus or dead biomass that serves as an energy source for decomposers. Organisms at each trophic level depend on those at the lower trophic level for their energy demands.

19) The composting process is dependent on which of the following micro-organisms?

1. Bacteria
2. Fungi
3. Virus
4. Actinobacteria

Select the correct code:

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

Solution: c)

With the proper mixture of water, oxygen, carbon, and nitrogen, micro-organisms are able to break down organic matter to produce compost. The composting process is dependent on micro-organisms to break down organic matter into compost. There are many types of microorganisms found in active compost of which the most common are:

- Bacteria- The most numerous of all the microorganisms found in compost. Depending on the phase of composting, mesophilic or thermophilic bacteria may predominate.
- Actinobacteria- Necessary for breaking down paper products such as newspaper, bark, etc.
- Fungi- molds and yeast help break down materials that bacteria cannot, especially lignin in woody material.
- Protozoa- Help consume bacteria, fungi and micro organic particulates.
- Rotifers- Rotifers help control populations of bacteria and small protozoans.

In addition, earthworms not only ingest partly composted material, but also continually re-create aeration and drainage tunnels as they move through the compost.

20) Consider the following statements regarding protected areas.

1. No alteration of boundaries of a sanctuary/national park shall be made except on recommendation of Union cabinet.
2. Activities like agriculture, mining is prohibited in national park.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Solution: b)

Alteration of National park boundaries is decided by National Wildlife Board not Union Cabinet.