

ForumIAS

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Prelims Marathon

June, 2022

*HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT*

FORUMIAS



Polity

Q1. Which of the following is/are exceptions to **rule of equality** (Article 14)?

1. The President or the Governor is not answerable to any court for the exercise and performance of the powers and duties of his office
2. No criminal proceedings shall be instituted or continued against the President or the Governor in any court during his term of office
3. Article 31-B is an exception to Article 14

Which of the following codes below given is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

ANS: B

Explanation: The rule of equality before law is not absolute and there are constitutional and other exceptions to it. These are mentioned below:

1. The President of India and the Governor of States enjoy the following immunities (Article 361):

- (i) The President or the Governor is not answerable to any court for the exercise and performance of the powers and duties of his office.
- (ii) No criminal proceedings shall be instituted or continued against the President or the Governor in any court during his term of office.
- (iii) No process for the arrest or imprisonment of the President or the Governor shall be issued from any court during his term of office.

2. Article 31-C is an exception to Article 14. It provides that the laws made by the state for implementing the Directive Principles contained in clause (b) or clause (c) of Article 39 cannot be challenged on the ground that they are violative of Article 14. The Supreme Court held that “where Article 31-C comes in, Article 14 goes out”.

Source: ForumIAS

Q2. Which of the following institutions is/are headed (Chairman) by **Prime Minister**?

1. NITI Aayog
2. Inter-state council
3. National water resources council
4. National Integration council

Choose the correct code from below given options:

- A. 1, 2 and 3 only
- B. 1, 3 and 4 only
- C. 2, 3 and 4 only
- D. 1, 2, 3 and 4 only

ANS: D

Explanation: The Prime Minister has various other roles. These are:

1. He is the chairman of the Planning Commission (now NITI Aayog), National Development Council, National Integration Council, Inter-State Council and National Water Resources Council.

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2. He plays a significant role in shaping the foreign policy of the country.
3. He is the chief spokesman of the Union government.
4. He is the crisis manager-in-chief at the political level during emergencies.
5. As a leader of the nation, he meets various sections of people in different states and receives memoranda from them regarding their problems, and so on.
6. He is leader of the party in power.
7. He is political head of the services.

Source: ForumIAS

Q3. Consider the following statements with respect to **“High Court”**:

1. The Constitution of India provides for a high court for each state
 2. 7th Amendment Act authorized the Parliament to establish a common high court for two or more states or for two or more states and a union territory
- Which of the following codes below given is/are **NOT** correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: D

Explanation: The Constitution of India provides for a high court for each state, but the Seventh Amendment Act of 1956 authorized the Parliament to establish a common high court for two or more states or for two or more states and a union territory. The territorial jurisdiction of a high court is co-terminus with the territory of a state. Similarly, the territorial jurisdiction of a common high court is co-terminus with the territories of the concerned states and union territory.

Source: ForumIAS

Q4. Consider the following statements with respect to **Inter-State council**:

1. Article 262 contemplates the establishment of an Inter-State Council to effect coordination between the states and between Centre and states
2. Parliament can establish such a council to serve the public interest

Which of the following codes below given is/are **NOT** correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: C

Explanation: Article 263 contemplates the establishment of an Inter-State Council to effect coordination between the states and between Centre and states. Thus, the President can establish such a council if at any time it appears to him that the public interest would be served by its establishment. He can define the nature of duties to be performed by such a council and its organisation and procedure.

Source: ForumIAS

Q5. Consider the following statements with respect to **National Emergency (Article 352)**:

1. President proclaim a national emergency only after receiving a written recommendation from the cabinet

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2. President can declare a national emergency only on the actual occurrence of war or external aggression

Which of the following above statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: A

Explanation: Under Article 352, the President can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion. It may be noted that the president can declare a national emergency even before the actual occurrence of war or external aggression or armed rebellion, if he is satisfied that there is an imminent danger. The President, however, can proclaim a national emergency only after receiving a written recommendation from the cabinet³. This means that the emergency can be declared only on the concurrence of the cabinet and not merely on the advice of the prime minister. In 1975, the then Prime Minister, Indira Gandhi advised the president to proclaim emergency without consulting her cabinet. The cabinet was informed of the proclamation after it was made, as a fait accompli. The 44th Amendment Act of 1978 introduced this safeguard to eliminate any possibility of the prime minister alone taking a decision in this regard.

Source: ForumIAS

Q6. Consider the following statements with respect to **Joint State Public Service Commission (JSPSC)**:

- 1. The Constitution makes a provision for the establishment of a Joint State Public Service Commission (JSPSC) for two or more states
- 2. JSPSC is a constitutional body

Which of the following codes below given is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: A

Explanation: The Constitution makes a provision for the establishment of a Joint State Public Service Commission (JSPSC) for two or more states. While the UPSC and the SPSC are created directly by the Constitution, a JSPSC can be created by an act of Parliament on the request of the state legislatures concerned. Thus, a JSPSC is a statutory and not a constitutional body. The two states of Punjab and Haryana had a JSPSC for a short period, after the creation of Haryana out of Punjab in 1966.

Source: ForumIAS

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Q7. Consider the following statements with respect to “**Rajya Sabha**”:

1. It is a permanent body and not subject to dissolution.
2. The Constitution has not fixed the term of office of members of the Rajya Sabha.

Which of the following codes below given is/are **NOT** correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: D

Explanation: The Rajya Sabha (first constituted in 1952) is a continuing chamber, that is, it is a permanent body and not subject to dissolution. However, one-third of its members retire every second year. Their seats are filled up by fresh elections and presidential nominations at the beginning of every third year. The retiring members are eligible for re-election and renomination any number of times. The Constitution has not fixed the term of office of members of the Rajya Sabha and left it to the Parliament. Accordingly, the Parliament in the Representation of the People Act (1951) provided that the term of office of a member of the Rajya Sabha shall be six years.

Source: ForumIAS

Q8. In which of the following cases a member has to vacate his seat in the Parliament?

1. If his election is declared void by the court.
2. If he is expelled by the House.
3. If he is appointed to the office of governor of a state.

Choose the correct option from codes below given:

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

ANS: D

Explanation: A member has to vacate his seat in the Parliament:

- (a) if his election is declared void by the court;
- (b) if he is expelled by the House;
- (c) if he is elected to the office of President or Vice-President; and
- (d) if he is appointed to the office of governor of a state.

If a disqualified person is elected to the Parliament, the Constitution lays down no procedure to declare the election void. This matter is dealt by the Representation of the People Act (1951), which enables the high court to declare an election void if a disqualified candidate is elected. The aggrieved party can appeal to the Supreme Court against the order of the high court in this regard.

Source: ForumIAS

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Q9. Consider the following statements with respect to **adjournment motion**:

1. It is introduced in the Parliament for a definite matter of urgent public importance.
2. It needs the support of 50 members to be admitted.
3. Rajya Sabha is also permitted to make use of the adjournment motion

Which of the following codes below given is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

ANS: B

Explanation: Adjournment Motion: It is introduced in the Parliament to draw attention of the House to a definite matter of urgent public importance, and needs the support of 50 members to be admitted. As it interrupts the normal business of the House, it is regarded as an extraordinary device. It involves an element of censure against the government and hence Rajya Sabha is not permitted to make use of this device. The discussion on an adjournment motion should last for not less than two hours and thirty minutes.

Source: ForumIAS

Q10. Consider the following statements with respect to **“Chief Minister”**:

1. The Constitution does not contain specific procedure for the selection and appointment of the Chief Minister.
2. Article 164 only says that the Chief Minister shall be appointed by the governor.

Which of the following below given codes are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: C

Explanation: The Constitution does not contain any specific procedure for the selection and appointment of the Chief Minister. Article 164 only says that the Chief Minister shall be appointed by the governor. However, this does not imply that the governor is free to appoint any one as the Chief Minister. In accordance with the conceptions of the parliamentary system of government, the governor has to appoint the leader of the majority party in the state legislative assembly as the Chief Minister.

Source: ForumIAS

Geography

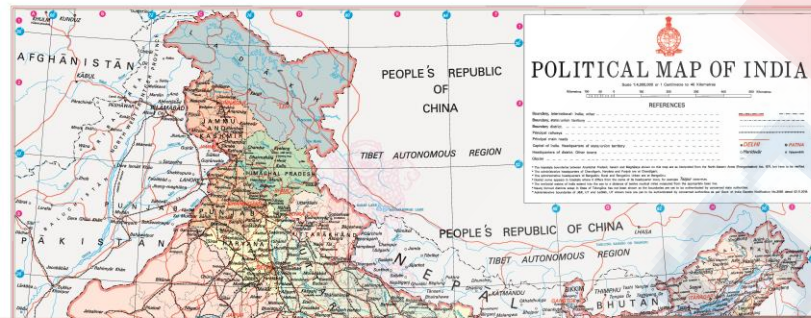
Q1: Which among the following is the Northernmost and southernmost part of India?

- A. Jammu & Kashmir and Tamil Nadu
- B. Jammu & Kashmir and Kerala
- C. Ladakh and Tamil Nadu
- D. Ladakh and Kerala

ANS: C

Explanation:

Union Territory of Ladakh and state of Tamil Nadu forms the northernmost and southernmost parts of India.



Source: ForumIAS

PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE 2022

Q2. "Pichavaram mangrove" forest is located in which of the following state?

- A. West Bengal
- B. Odisha
- C. Andhra Pradesh
- D. Tamil Nadu

ANS: D

Explanation:

1. Pichavaram mangrove is one of the largest mangroves in India, situated at Pichavaram near Chidambaram in Tamil Nadu.
2. Pichavaram ranks among the one of the most exquisite scenic spot in Tamil Nadu and home of many species of Aquatic birds.

Source: ForumIAS

Q3: India has the shortest land frontier with which of the following countries?

- A. Nepal
- B. Bhutan
- C. Myanmar
- D. Afghanistan

ANS: D

Explanation: India has 15,106.7 Km of land border and a coastline of 7,516.6 Km including island territories. The length of our land borders with neighboring countries is as under:

Name of the country	Length of the border (in Km)
Bangladesh	4,096.7
China	3,488
Pakistan	3,323
Nepal	1,751
Myanmar	1,643
Bhutan	699
Afghanistan	106
Total	15,106.7



Source: ForumIAS

Q4. The term "rohi" is related to which of the following?

- a) Fertile tracts
- b) kind of jhum cultivation
- c) Tribal festival
- d) Tea Cultivation

ANS: A

Explanation:

The Rajasthan Bagar region (Bagar refers to the semi-desert area which is west of Aravallis.

1. Bagar has a thin layer of sand. It is drained by Luni in the south whereas the northern section has a number of salt lakes) have a number of short seasonal streams which originate from the Aravallis.
2. These streams support agriculture in some fertile patches called Rohi.

Source: ICSE Total Geography

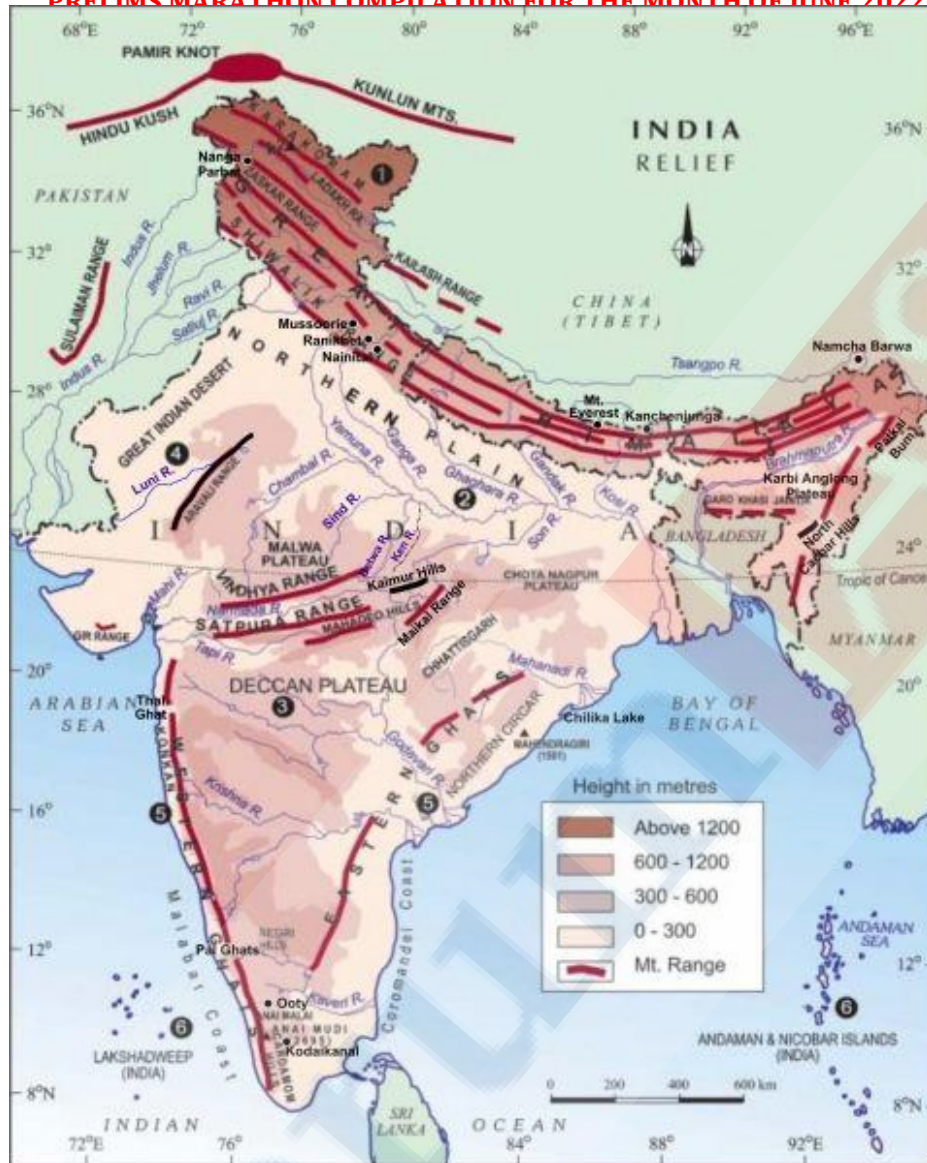
Q5: Consider the following statements about Pamir Knot:

1. It is centered in the Gorno-Badakhshan, an autonomous region of eastern Tajikistan.
2. It is formed by Tian Shan, Karakoram, Kunlun and Sulaiman ranges.

Which of the above given statement is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANS: A



Explanation:

1. The unique orographic feature known as the Pamir Knot takes its name from the mountains on which it is centered, the Pamir. The “knot” refers to the convergence of some of the world's major mountain ranges, including the Tian Shan, Karakorum, Kunlun, Hindu Kush, and Pamir systems.
2. While a number of countries claim to be home to the Pamir Knot, it is actually centered in the Gorno - Badakhshan autonomous region of eastern Tajikistan. Fringe areas extend into Afghanistan, Pakistan, China and Kyrgyzstan.

Source: ForumIAS

PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE 2022

Q6: Match the following Himalayan Passes with their ranges:

Mountain Range	Pass
1. Zaskar Mountains	a. Zoji La
2. Pir Panjal Range	b. Banihal pass
3. Ladakh Range	c. Photu La
4. Great Himalaya	d. Khardung La

Select the correct code:

- A. 1-c, 2-b, 3- d, 4-a
- B. 1-c, 2-a, 3-d, 4-b
- C. 1- d, 2-b, 3-c, 4-a
- D. 1-d, 2-a, 3-c, 4-b

ANS: A

Explanation: Kashmir or Northwestern Himalayas

1. It comprises a series of ranges such as the Karakoram, Ladakh, Zaskar and Pir Panjal. The northeastern part of the Kashmir Himalayas is a cold desert, which lies between the Greater Himalayas and the Karakoram ranges.
2. Between the Great Himalayas and the Pir Panjal range, lies the world famous valley of Kashmir and the famous Dal Lake. Important glaciers of South Asia such as the Baltoro and Siachen are also found in this region.
3. The Kashmir Himalayas are also famous for Karewa formations, which are useful for the cultivation of Zafran, a local variety of saffron. Some of the important passes of the region are Zoji La on the Great Himalayas, Banihal on the Pir Panjal, Photu La on the Zaskar and Khardung La on the Ladakh range.
4. Some of the important fresh lakes such as Dal and Wular and salt water lakes such as Pangong Tso and Tso Moriri are also in this region. This region is drained by the river Indus, and its tributaries such as the Jhelum and the Chenab. The Kashmir and northwestern Himalayas are well-known for their scenic beauty and picturesque landscape.



Source: ForumIAS

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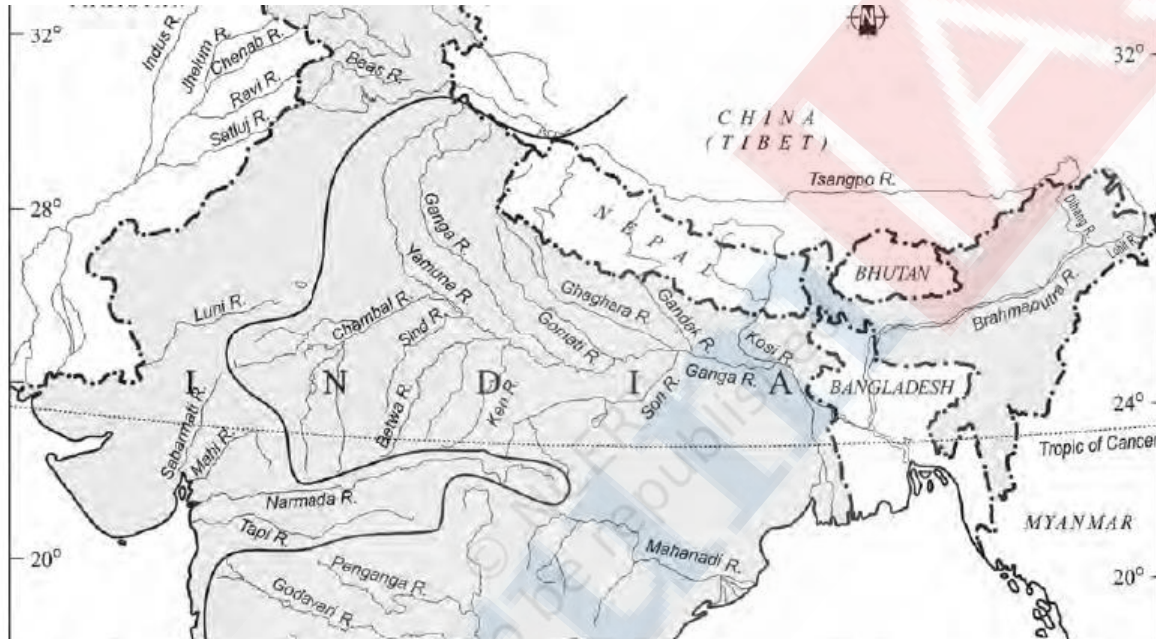
Q7. Which of the following river doesn't flow northwards?

- A. Chambal River
- B. Betwa River
- C. Kosi River
- D. Son River

ANS: C

Explanation:

1. Chambal, Betwa, Ken and Son are the northward flowing rivers. Kosi originates in Tibet and flows southwards to merge in Ganga.



Source: ForumIAS

Q.8. Which of the following sector is an example of tertiary sector?

- a) Coal Fields
- b) Car production
- c) Agriculture extension practices
- d) Tourism

ANS: D

Explanation: Tourism is travel undertaken for purposes of recreation rather than business.

2. It has become the world's single largest tertiary activity in total registered jobs (250 million) and total revenue (40 per cent of the total GDP).
3. Besides, many local persons are employed to provide services like accommodation, meals, transport, entertainment and special shops serving the tourists.

Source: NCERT – XII Fundamental of Human Geography

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Q9: Which of the following pair (s) is/are correctly matched?

- | Dam | : | River |
|------------------------|----------|--------------|
| 1. Krishna Raja Sagara | : | Ganga |
| 2. Hirakud | : | Mahanadi |
| 3. Nagarjuna sagar | : | Krishna |

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

Source: ICSE – Total Geography and NCERT – XI Indian Physical Environment

Q10. Consider the following statements with respect to characteristics of “**Tropical Evergreen Forests**”:

- 1. Tropical Evergreen Forests are located at more than 200cm rainfall.
- 2. It has no dry season.
- 3. Vegetation of all kinds found in these forests.

Which of the following codes below given is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

ANS: C

Explanation:

- 1. Tropical Evergreen forests are restricted to heavy rainfall areas of the Western Ghats and the island groups of Lakshadweep, Andaman and Nicobar, upper parts of Assam and Tamil Nadu coast.
- 2. They are at their best in areas having more than 200 cm of rainfall with a short dry season. The trees reach great heights up to 60 metres or even above.
- 3. Since the region is warm and wet throughout the year, it has a luxuriant vegetation of all kinds — trees, shrubs and creepers giving it a multilayered structure.
- 4. There is no definite time for trees to shed their leaves. As such, these forests appear green all the year round.

Source: ForumIAS

Environment

PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE 2022

Q1. Consider the following statements about ecology:

1. Ecotone is a junction or boundary between two or more diverse ecosystems.
2. The term ecosystem can be described as the flora and fauna of a geographical area.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

What is an Ecosystem?

1. "Ecosystem" term was first coined by A.G. Tansely, in the year 1935. In simple terms, it is a community of living and non-living things that work together.
2. The living and non-living things continuously exchange materials and energy between them. It forms the structural and functional unit of the biosphere (sphere of life).
3. Ecosystem varies greatly in size. It can be as small as a pond or as large as a forest or sea.

Important Associated Concepts:

Habitat: The environment in which a particular organism lives is called its habitat.

1. All the populations living in the same place at the same time interact, forming a community. Such community also interacts with the non-living world around it, thus forming an ecosystem. Therefore, habitat is a part of the ecosystem.

Ecological Niche: The role and functional position of an organism within an ecosystem is called Ecological niche. Ecological Niche is species specific- No two species can have exact same niche.

2. A niche includes: the role the species plays (e.g. A pollinator, a decomposer), the food it eats, where it lives, where it reproduces and its interactions with other species.

Ecotone: Ecotone is a junction or boundary between two or more diverse ecosystems. For example, where the land (terrestrial system) meets sea (aquatic system), and there is a wetland having mangroves. They are ecotones.

Source: ForumIAS

Q2. With respect to ecology, which of the following statement is/are **not** correct?

1. A Plagioclimax community is an area or habitat in which the influences of humans have prevented the ecosystem from developing further.
2. Deflected succession is when the natural succession would continue if the arresting factors are removed.
3. If interferences are removed and succession to the original climax community is no longer possible is termed as arrested succession.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

Plagioclimax Vegetation:

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3. A Plagioclimax community is an area or habitat in which the influences of humans have prevented the ecosystem from developing further.
4. The ecosystem may have been stopped from reaching its full climatic climax or deflected towards a different climax by activities (arresting factors) such as: jhuming cultivation, large scale afforestation, overgrazing, etc.
5. In each case, human activity has led to a community that is not the climax community expected in such an area.

It is of two types:

6. Arrested succession: The natural succession would continue if the arresting factors are removed. Ex. If cultivation is stopped in Gangetic plains and Great Plains of USA, normal sere of vegetation succession will start.
7. Deflected succession: Even if the interferences are removed, succession to the original climax community is no longer possible. Ex. Shola forest (Nilgiris), Sahara Desert, Thar Desert, etc.

Source: ForumIAS

Q3. Consider the following statements with respect to National Environmental Engineering Research Institute (NEERI):

1. Its research focuses only water and sewage supply
2. NEERI falls under Ministry of Environment, Forests and Climate change.

Which of the following codes below given is/are correct?

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

ANS: D

Explanation:

1. The CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) is a research institute created and funded by Government of India.
2. It was established in Nagpur in 1958 with focus on water supply, sewage disposal, and communicable diseases and to some extent on industrial pollution and occupational diseases found common in post-independent India.
3. NEERI is a pioneer laboratory in the field of environmental science and engineering and part of Council of Scientific and Industrial Research (CSIR). NEERI has five zonal laboratories at Chennai, Delhi, Hyderabad, Kolkata and Mumbai.
4. NEERI falls under the Ministry of Science and Technology (India) of central government. The NEERI is an important partner organization in India's POPs national implementation plan (NIP).

Source: ForumIAS

Q4. Valmiki National Park is located in which of the following state?

- a) Uttar Pradesh
- b) Jharkhand
- c) Bihar
- d) Chhattisgarh

ANS: C

Explanation: **About Valmiki Tiger Reserve:**

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1. Valmiki National Park, Tiger Reserve and Wildlife Sanctuary is located at the India-Nepal border in the West Champaran district of Bihar on the bank of river Gandak.
2. It is the only National park and Tiger Reserve of Bihar.

Source: ForumIAS

Q5. Consider the following statements about Dachigam National Park:

1. It is one of the most important protected area in the Union Territory of Ladakh.
2. It is in the Zaskar mountain range of the Northwest Himalayan biogeographic zone.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: **Dachigam National Park:**

1. It is one of the most important protected area in Jammu and Kashmir because it is home to the world's last viable Hangul population.
2. It also serves as a natural habitat for several threatened and endangered species.
3. Dachigam is a mountainous region with crystalline rocks. The Dachigam National Park is roughly rectangular, 22.5 km long and 8 km wide, and covers nearly half of Dal Lake's catchment area.
4. Dachigam is close to Srinagar, the summer capital of Jammu and Kashmir, and it attracts many tourists in the summer due to its natural beauty.
5. Ecosystem services such as water purification, soil conservation, and landscape stability provide additional economic benefits.

Location: Area of 141 sq. kms

1. Dachigam is located 22 km away from Srinagar – jammu kashmir.
2. Located high in its interiors is the Marsar lake from which flows the river Dagwan.
3. The park encompasses nearly half of the catchment zone of the famous Dal Lake and is home to a surplus of threatened species.
4. It is located between the coordinates 34° 05'N – 34° 11'N and 74° 54'E -7S 09', and falls under the civil jurisdiction of Srinagar (jammu kashmir).
5. It is in the Zaskar mountain range of the Northwest Himalayan biogeographic zone.

Source: ForumIAS

Q6. Consider the following statements about wetlands:

1. Wetlands are often referred to as “Lungs of the Earth”.
2. Wetlands help in carbon sequestration and act as carbon sinks.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: **Why are wetlands important?**

1. Wetlands are amongst the most productive ecosystems. They provide a wide range of ecosystem services. The importance of wetlands can be understood from the following services they provide:

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2. Firstly, wetlands help in flood control by acting as natural sponges. They temporarily storing and gradually releasing stormwater. Also, roots of wetland vegetation hold soils in place, thus stabilizing the banks of rivers and streams.
3. Secondly, wetlands play an important role in maintaining the quality of water in deep-water ecosystems. Wetlands trap the sediments suspended in water- a process called sediment trapping. They also remove phosphorus and nitrogen and help prevent eutrophication of lakes and ponds. For this function, wetlands are often referred to as “Kidneys of the Earth”.
4. Thirdly, wetlands host of a large number of species of microbes, plants, insects, amphibians, reptiles, birds, fish and mammals.
5. Fourthly, wetlands help in carbon sequestration. They act as carbon sinks and wetland soil contains a high amount of carbon.
6. Fifthly, wetlands help in natural groundwater recharge and discharge. They store water that replenishes the groundwater. Further, they discharge groundwater into lakes, rivers, and streams during dry periods.
7. Sixthly, wetlands help in regulating local climatic conditions particularly temperature and climate.
8. Finally, wetlands provide a large number of economic benefits. These include water supply; fisheries; timber and other building materials; energy resources, such as peat and plant matter; wildlife resources; medicinal plants, recreational and tourism opportunities.

Source: ForumIAS

Q7. Consider the following statements about Central Ground Water Authority (CGWA):

1. CGWA was constituted under Water (Prevention and control of pollution) Act, 1974.
2. It is a statutory body.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: **Central Ground Water Authority (CGWA):**

1. CGWA was constituted under Environment (Protection) Act, 1986. However, it is not a statutory body. CGWA has the mandate of regulating groundwater development and management in the country.
2. India is the largest user of groundwater in the world which in turn has led to overexploitation. Hence, CGWA has notified guidelines for groundwater extraction:
 1. For industries
 1. Introduction of Water Conservation Fee (WCF).
 2. Mandatory requirement of digital flow meter, piezometers.
 3. Mandatory water audit by specified industries extracting groundwater.
 4. Mandatory roof top rainwater harvesting except for specified industries.
1. Exemptions from requirement of NOC have been granted to sectors like agricultural users, users employing non-energized means to extract water, individual households using less than 1 inch diameter delivery pipe and armed forces during operational deployment.

Source: ForumIAS

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Q8. Consider the following statements about National Biodiversity Authority:

1. NBA checks biopiracy and protects the indigenous and traditional genetic resources.
2. National Biodiversity Authority (NBA) was established in 2010 to implement India's Biological Diversity Act (BDA).

Which of the statements given above is/are correct?

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

ANS: A

Explanation: **National Biodiversity Authority:**

2. National Biodiversity Authority (NBA) was established in 2003 to implement India's Biological Diversity Act (BDA). It is a statutory, autonomous body and it performs regulatory and advisory functions for the Government of India on issues of conservation, sustainable use of biological resources and fair and equitable sharing of benefits arising out of the use of biological resources.
3. NBA checks biopiracy and protects the indigenous and traditional genetic resources. Anybody seeking any kind of IPR (Intellectual Property Rights) on a research based upon biological resource or knowledge obtained from India requires prior approval of NBA.
4. No person who has been granted approval, shall transfer any biological resource or knowledge associated to others except with the prior permission of the NBA. The State Biodiversity Boards (SSBs) also regulate, by granting approvals or otherwise requests for commercial utilization or bio-survey and bio-utilization of any biological resource by Indians.

Source: ForumIAS

Q9. Brundtland Commission Report is related to which of the following?

- a) Sustainable Development Goals.
- b) Millennium Development Goals
- c) UNEP
- d) World Bank

ANS: A

Explanation: **Sustainable Development:**

1. The Brundtland Commission Report, also known as "Our Common Future", was published in 1987 by the United Nations through the Oxford University Press.
2. The report developed the most widely used definition of sustainable development as "development which meets the needs of current generations without compromising the ability of future generations to meet their own needs".
3. Accordingly, 17 Sustainable Development Goals (SDGs) were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. They are included in a UN Resolution called the Agenda 2030.

Source: ForumIAS

Q10. Which of the following statement about Cartagena Protocol is/are correct?

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1. It addresses technology development and transfer, benefit-sharing and biosafety issues.
2. It seeks to protect biological diversity from the potential risks posed by “Living Modified Organisms (LMOs)” resulting from modern biotechnology.

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

1. **Cartagena Protocol on Biosafety:** CBD covers the rapidly expanding field of biotechnology through its “Cartagena Protocol on Biosafety”. It addresses technology development and transfer, benefit-sharing and biosafety issues.
2. The biosafety protocol seeks to protect biological diversity from the potential risks posed by “Living Modified Organisms (LMOs)” resulting from modern biotechnology.
3. There are two main sets of procedures under the Protocol, one for LMOs intended for direct introduction into the environment, known as “Advance Informed Agreement (AIA)” procedure and another for LMOs intended for direct use as food or feed, or for processing (LMOs-FFP).
4. **AIA:** Under AIA procedure, a country intending to export LMO for intentional release into the environment must notify in writing the Party of import before the first processed export takes place.
5. **LMOs-FFP:** Under the procedure for LMOs-FFP, Parties that decide to approve and place such LMOs on the market are required to make their decision and relevant information, including risk assessment reports, publicly available through the Biosafety Clearing House (BCH).
6. Nagoya Kuala Lumpur Supplementary Protocol on Liability and Redress: It reinforces the Cartagena Protocol.
7. The Supplementary Protocol specifies response measures which must be taken in the case of damage to biodiversity resulting from Living Modified Organisms.

Source: ForumIAS

Science and Technology

Q1. Consider the following statements about New Shephard Rocket System:

1. New Shephard is a reusable rocket system that has been designed to take astronauts and research payloads past the Karman line.
2. The rocket system has been built by NASA.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: **About New Shephard Rocket System:**

1. New Shephard is a reusable rocket system that has been designed to take astronauts and research payloads past the Karman line – the internationally recognized boundary of space.

Built by: The rocket system has been built by Blue Origin, space company of Amazon founder Jeff Bezos.

Named after: The rocket system has been named after astronaut Alan Shephard – the first American to go to space.

Significance of this New Shephard rocket system:

2. The idea behind New Shephard is to provide easier and more cost-effective access to space. This is meant for purposes such as academic research, corporate technology development and entrepreneurial ventures among others.
3. Moreover, apart from academic and research-oriented goals, the rocket will also allow space tourists to experience microgravity by taking them 100 km above the Earth.
4. Microgravity is the condition in which people or objects appear to be weightless. The effects of microgravity can be seen when astronauts and objects float in space.

Source: ForumIAS

Q2. Which of the following statement about Karman Line is/are **not** correct?

1. The line is named after Theodore von Kármán, who first determined the altitude at which the atmosphere becomes too thin to support aeronautical flight.
2. NASA defines the Kármán line as the altitude of 100 kilometres (62 miles) above Earth's mean sea level.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: **What is the Karman Line?**

1. The Karman line is the internationally recognized boundary of space.
2. The line is named after Theodore von Kármán, a Hungarian American engineer and physicist.

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3. He was the first person to determine the altitude at which the atmosphere becomes too thin to support aeronautical flight.
4. The Fédération Aéronautique Internationale (FAI) defines the Kármán line as the altitude of 100 kilometres (62 miles) above Earth's mean sea level.
5. FAI is an international standard-setting and record-keeping body for aeronautics and astronautics.
6. However, not all organizations recognize this definition. The US Air Force and NASA define the boundary as 50 miles (80 km) above sea level. But there is no International law that defines the edge of space or the limit of national airspace.

Source: ForumIAS

Q3. Consider the following statements about National Super Computing Mission (NSM):

1. Its aim is to connect research and academic institutions to a Supercomputing grid all over the country.

2. Under phase III, the mission aims to take the computing speed to around 100 Petaflops.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

About National Super Computing Mission (NSM):

1. Firstly, the government launched the National Super Computing Mission in 2015.
2. Secondly, the aim is to connect research and academic institutions to a Supercomputing grid all over the country. The grid consists of more than 70 high-performance computing facilities. It will increase the research capacities and capabilities in the country.
3. Thirdly, these supercomputers will also be networked on the National Supercomputing grid over the National Knowledge Network (NKN). The NKN is another program of the government. NKN connects academic institutions and R&D labs over a high-speed network.
4. **Implementing Agency:** Department of Science and Technology and Department of Electronics and Information Technology (DeitY) through the Centre for Development of Advanced Computing (C-DAC) and Indian Institute of Science (IISc), Bengaluru.

Phases under the mission:

Phase I: Under this phase, 30% of the value addition of Supercomputers is done in India.

1. Param Shivay was the first supercomputer assembled indigenously, installed in IIT(BHU).
2. Param Shakti and Param Brahma supercomputer installed at IIT-Kharagpur and IISER, Pune respectively.
3. Thereafter, supercomputing facilities were set up in two more institutions and one more is being set up with a computing speed to 6.6 Petaflops (PF).

Phase II: Under this phase, 40% of the value addition of Supercomputers is done in India.

1. 8 institutions are being equipped with supercomputing facilities by April 2021 with a total of 10 PF compute capacity.
2. MoUs have also been signed with a total of 14 premier institutions of India for establishing Supercomputing Infrastructure with Assembly and Manufacturing in India.
3. This phase will complete by September 2021. After completion, it will take the country's computing power to 16 Petaflops (PF).

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Phase III:

1. This phase will take the computing speed to around 45 Petaflops. This will include three systems of 3 PF each and one system of 20PF as a national facility.

Indigenous Development: India has developed an Indigenous server named Rudra which can meet the High-Performance Computing (HPC) requirements of all governments and PSUs.

Source: ForumIAS

Q4. Consider the following statements about Nuclear Command Authority:

1. Nuclear Command Authority that includes a Political Council and an Executive Council.
2. Home Minister of India chairs the Executive Council.
3. Prime Minister of India chairs the political Council.

Which of the above given statement is/are correct?

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

ANS: C

Explanation: On January 4, 2003, the Cabinet Committee on Security (CCS) constituted the Nuclear Command Authority (NCA).

2. NCA has two councils: Executive Council and Political Council.
3. The Executive Council is chaired by the National Security Advisor (NSA) while Political Council is chaired by the Prime Minister.
4. National Security Advisor gives the inputs to the Political Council, which authorises a nuclear attack when deemed necessary.
5. This mechanism of Political Council being advised by Executive Council and letting the “nuclear button remain with PM” was implemented to ensure that Indian nukes remain firmly in civilian control and that there exists a sophisticated Command and Control (C2) mechanism to prevent their accidental or un-authorised use.

Source: ForumIAS

Q5. Consider the following statements about NetSCoFAN:

1. It stands for Network for Scientific Co-operation for Food Safety and Applied Nutrition.
2. It is launched by Ministry of Science and Technology.
3. It is a network of research & academic institutions working in the area of food & nutrition.

Which of the statements given above is/are **not** correct?

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

ANS: B

Explanation: Ministry of Health and Family Welfare has launched NetSCoFAN (Network for Scientific Co-operation for Food Safety and Applied Nutrition)

NetSCoFAN: It is a network of research & academic institutions working in the area of food & nutrition. It would comprise of eight groups of institutions working in different areas. These areas are:

1. biological,
2. chemical,
3. nutrition & labelling,

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4. food of animal origin,
5. food of plant origin,
6. water & beverages,
7. food testing, and
8. Safer & sustainable packaging.

Function: To identify research gaps in respective areas and collect, collate and develop database on food safety issues for risk assessment activities.

Source: ForumIAS

Q6. Consider the following pairs:

Disease	Causative organism
1. Hepatitis	Virus
2. Small Pox	Protozoa
3. Tetanus	Bacteria

Which of the above given pair is/are correctly matched?

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

ANS: D

Explanation: **Hepatitis** refers to an inflammatory condition of the liver. It's commonly caused by a viral infection, but there are other possible causes of hepatitis. These include autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins, and alcohol. Autoimmune hepatitis is a disease that occurs when your body makes antibodies against your liver tissue.

Small Pox: Smallpox is an acute contagious disease caused by the variola virus, a member of the orthopoxvirus family. It was one of the most devastating diseases known to humanity and caused millions of deaths before it was eradicated. It is believed to have existed for at least 3000 years.

The smallpox vaccine, created by Edward Jenner in 1796, was the first successful vaccine to be developed. He observed that milkmaids who previously had caught cowpox did not catch smallpox and showed that a similar inoculation could be used to prevent smallpox in other people.

Tetanus, also called lockjaw, is a serious infection caused by *Clostridium tetani*. This bacterium produces a toxin that affects the brain and nervous system, leading to stiffness in the muscles. If *Clostridium tetani* spores are deposited in a wound, the neurotoxin interferes with nerves that control muscle movement. The infection can cause severe muscle spasms, serious breathing difficulties, and can ultimately be fatal. Although tetanus treatment exists, it is not uniformly effective. The best way to protect against tetanus is to take the vaccine.

Source: ForumIAS

Q7. Consider the following statements about e-Chhawani portal:

1. The portal aims to provide online municipal services to citizens across 62 Cantonment Boards.

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2. The portal developed solely by National Informatics Centre (NIC).

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

About the e-Chhawani Portal:

- 1. The portal aims to provide online municipal services to more than 20 lakh citizens across 62 Cantonment Boards.
- 2. Developed by: The portal developed jointly by eGov Foundation, Bharat Electronics Limited (BEL), Directorate General Defence Estates(DGDE) and National Informatics Centre(NIC).
- 3. Features: Through the portal, the residents of cantonment areas will be able to avail basic services such as; the renewal of leases, application for birth & death certificates, water & sewerage connections, trade licences, mobile toilet locators and payment of different types of taxes and fees.

Source: ForumIAS

Q8. World Health Organization (WHO) launched Global Technical Strategy to contain which of the following Disease?

- A. Tuberculosis
- B. Covid-19
- C. Monkey Pox
- D. Malaria

ANS: D

Explanation: The Global Technical Strategy for Malaria 2016–2030 was adopted by the World Health Assembly in May 2015. It provides a comprehensive framework to guide countries in their efforts to accelerate progress towards malaria elimination. The strategy sets the target of reducing global malaria incidence and mortality rates by at least 90% by 2030. It emphasizes the need for universal coverage of core malaria interventions for all populations at risk and highlights the importance of using high-quality surveillance data for decision-making. It also identifies areas where innovative solutions will be essential for attaining the goals, and summarizes the estimated global costs of implementation.

Source: ForumIAS

Q9. Consider the following statements with respect to Defense Acquisition Council (DAC):

- 1. It clears all acquisitions including imported equipment and those produced indigenously or under a foreign license.

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2. The council was formed in 2001 and headed by Defense Minister.

Which of the statements given above is/are **not** correct?

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

ANS: D

Explanation: Defense Acquisition Council (DAC) is the highest decision-making body for military procurement. It functions under the Ministry of Defense. The council was formed in 2001. It is headed by the Defense minister. The objective of the DAC is to ensure expeditious procurement of the approved requirements of the Armed Forces in terms of capabilities sought and time frame prescribed by optimally utilizing the allocated budgetary resources. The council also gives policy guidelines to acquisitions based on long-term procurement plans. It also clears all acquisitions including imported equipment and those produced indigenously or under a foreign license.

Source: ForumIAS

Q10. Consider the following statements about Poly-metallic Nodules:

- 1. These are commonly called calcium nodules.
- 2. These are most abundant on continental shelf.

Which of the statements given above is/are **not** correct?

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

ANS: C

Explanation: Of all the mineral resources considered as potential targets for deep-sea mining, poly-metallic nodules (also commonly called manganese nodules) are probably the most likely commodity to be developed into a commercial operation. Poly-metallic nodules are rounded accretions of manganese and iron hydroxides that cover vast areas of the seafloor, but are most abundant on abyssal plains at water depths of 4000-6500 metres. They form through the aggregation of layers of iron and manganese hydroxides around a central particle (such as a shell or small rock fragment), and range in size from a few millimeters to tens of centimeters. The composition of nodules varies with their environment of formation, but in addition to manganese and iron, they can contain nickel, copper and cobalt in commercially attractive concentrations as well as traces of other valuable metals such as molybdenum, zirconium and Rare Earth Elements.

Source: ForumIAS

Economy

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Q1. Consider the following statements:

1. The Reserve Bank of India manages and services Government of India Securities but not any State Government Securities.
2. Treasury bills are issued by the Government of India and there are no treasury bills issued by the state Governments.
3. Treasury bills offer are issued at a discount from the par value.

Which of the statements given above is/are correct?

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

ANS: C

Explanation:

The Reserve Bank of India manages public debt and issues Indian currency denominated loans on behalf of the central and the state governments under the powers derived from the Reserve Bank of India Act. The RBI is the debt manager for both the Central Government and the State Governments. RBI manages the debt of state governments on the basis of separate agreements. Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day. Treasury bills are zero coupon securities and pay no interest. They are issued at a discount and redeemed at the face value at maturity. For example, a 91 day Treasury bill of 100/- (face value) may be issued at say 98.20, that is, at a discount of say, 1.80 and would be redeemed at the face value of 100/-. The return to the investors is the difference between the maturity value or the face value (that is 100).

Source: CSP 2018

Q2. Consider the following statements about e-RUPI:

1. e-RUPI is a cashless and contactless instrument for digital payment.
2. It ensures that the payment to the service provider is made only after the transaction is completed.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: **About e-RUPI:** e-RUPI is a cashless and contactless instrument for digital payment. It is founded on the Unified Payment Interface (UPI) platform.

Purpose: It is designed to be a person and purpose-specific digital payment solution. It seeks to ensure that government schemes reach intended beneficiaries in a targeted and leak-proof manner, with limited touch points between the government and the beneficiary.

Developed by: National Payments Corporation of India (NPCI) in collaboration with the Department of Financial Services (DFS), the Union Health Ministry, and the National Health Authority (NHA).

Features of e-RUPI:

1. Firstly, e-RUPI connects the sponsors of the services with the beneficiaries and service providers in a digital manner without any physical interface.

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2. Secondly, it ensures that the payment to the service provider is made only after the transaction is completed.
3. Thirdly, being pre-paid in nature, it assures timely payment to the service provider without the involvement of any intermediary.

Source: ForumIAS

Q3. Which of the following is/are **not** correctly matched?

Committee/Panel : Significance

1. RangaRajanCommittee : Balance of Payments
2. Abid Hussain Committee : Committee on Capital Account Convertibility
3. Vijay KelkarCommittee : Goods & Service Tax
4. TaraporeCommittee : Committee on Trade policy

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Besides, economic reforms in various sectors, various Committees were setup from time to time (by the Government of India and by RBI) to discuss policy issues related to international trade and balance of payments.

Some of the important Committees were –

1. Committee on Export – Import Policies & Procedures (Alexander Committee, 1978),
2. Committee on Trade policy (Abid Hussain Committee, 1984),
3. High – level Committee on Balance of Payments (Rangarajan Committee 1993), and
4. Committee on Capital Account Convertibility (Tarapore Committee I 1997 & Tarapore Committee II 2006).

In 2003, the Vajpayee government forms a task force under Vijay Kelkar to recommend tax reforms. In 2004, Vijay Kelkar, then advisor to the Finance Ministry, recommends GST to replace the existing tax regime.

Source: TMH Ramesh Singh

Q4. Consider the following statements regarding International Development Agency (IDA):

1. It provides long term lending for the development of economic services.
2. The credits are extended mainly to economies with less than \$400 per capita income.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: The International Development Agency (IDA) which is also known as the soft window of the WB was set up in 1960 with the basic aim of developing infrastructural support among the member nations, long-term lending for the development of economic services.

Its loans, known as credits are extended mainly to economies with less than \$895 per capita income.

The credits are for a period of 35–40 years, interest-free, except for a small charge to cover administrative costs.

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Repayment begins after a 10-year grace period. There was no human angle to its lending. But now there remain no hard and fast differences between the purposes for the IBRD and IDA lending.

Every year developing nations make enough diplomatic attempts to carve out maximum loan disbursement for them.

India had been the biggest beneficiary of the IDA support. The total support (IBRD + IDA) for India had been \$ 91.81 billion till date.

Source: TMH Ramesh Singh

Q5. Which of the following statements is/are correct about “India Infrastructure Finance Company Ltd (IIFCL)”?

1. It is jointly owned by Public sector and Private sector.
2. It provides short-term financial assistance to viable infrastructure projects.

Select the correct answer using the codes given below:

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

ANS: D

Explanation: IIFCL is a wholly-owned Government of India Company set up in 2006 to provide long-term financial assistance to viable infrastructure projects through the Scheme for Financing Viable Infrastructure Projects through a Special Purpose Vehicle called India Infrastructure Finance Company Ltd (IIFCL), broadly referred to as SIFTI.

1. The sectors eligible for financial assistance from IIFCL are as per the Harmonized list of Infrastructure Sub-Sectors as approved by the Government and as amended from time to time.
2. These broadly include transportation, energy, water, and sanitation, and communication, social and commercial infrastructure.

Source: TMH Ramesh Singh

Q6. Consider the following statements with respect to “Mixed Economy” characteristics:

1. Co-existence of private and public sector
2. Private property is also allowed
3. Price Mechanism and Controlled Price

Which of the following codes given below is/are correct?

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

ANS: D

Explanation: Mixed economy is a golden mixture of capitalism and socialism. Under this system there is freedom of economic activities and government interferences for the social welfare. Hence it is a blend of both the economies. The concept of mixed economy is of recent origin. The developing countries like India have adopted mixed economy to accelerate the pace of economic development. Even the developed countries like UK, USA, etc. have also adopted ‘Mixed Capitalist System’. Mixed economy has following main features:

- (i) Co-existence of Private and Public Sector
- ii) Personal Freedom

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- (iii) Private Property is allowed
- (iv) Economic Planning
- (v) Price Mechanism and Controlled Price
- (vi) Profit Motive and Social Welfare

Source: ForumIAS

Q7. Consider the following statements about Pravasi Kaushal Vikas Yojana (PKVY):

1. PKVY is a skill development initiative by the Ministry of Skill Development and Entrepreneurship (MSDE).
2. The Pravasi Kaushal Vikas Yojana (PKVY) is aimed at skilling Indians seeking employment abroad.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: PKVY is a skill development initiative by the Ministry of External Affairs. The MEA and the Ministry of Skill Development and Entrepreneurship (MSDE) had signed a Memorandum of Understanding (MoU) for its implementation. The scheme will be implemented by National Skill Development Corporation (NSDC) through its training partners in consultation with MEA and MSDE. PKVY is a skill development initiative of the MEA in partnership with the MSDE and is aimed at training and certification of Indian workforce keen on overseas employment in select sectors and job roles, in line with international standards, to facilitate overseas employment opportunities.

Source: ForumIAS

Q8. Which one among the following items has minimum weight in wholesale price index (WPI) in India?

- a) Raw materials
- b) Fuel and electricity
- c) Manufactured product
- d) Food items

ANS: B

Explanation: Wholesale Price Index (WPI) measures the average change in the prices of commodities for bulk sale at the level of early stage of transactions. The index basket of the WPI covers commodities falling under the three major groups namely Primary Articles, Fuel and Power and Manufactured products. (The index basket of the present 2011-12 series has a total of 697 items including 117 items for Primary Articles, 16 items for Fuel & Power and 564 items for Manufactured Products.)

Source: ForumIAS

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Q9. Which of the following statements with respect to Twin Balance Sheet problem is/are correct?

1. High Non Performing Assets (NPA's) of Public sector banks
2. Low stressed balance sheet of the private corporate sector

Select the correct answer using the codes given below:

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

ANS: A

Explanation: Though, India has today one of the fastest growth rates in the world, for the past few years, certain financial issues have been worsening. In the aftermath of the global financial crisis (GFC) of 2007, India has been trying to come to grips with the 'twin balance sheet' (TBS) problem—

- (i) High NPAs of the PSBs; and
- (ii) Highly stressed balance sheet of the private corporate sector.

India has taken several steps by now to recover and control the bad loans of the banks. But they have not been very effective and banks are even today under high stress. On the other hand, India has been waiting for a recovery in the corporate sector for their balance sheet to come in good health but to no avail.

Source: ForumIAS

Q10. Consider the following statements about The Land Port Authority of India:

1. The Land Port Authority of India is a statutory body.
2. It functions under Ministry of Home Affairs.
3. The Authority works to provide secure and efficient systems of cargo and passenger movements across international borders.
4. Kartarpur Sahib Corridor is constructed by Land Port Authority of India.

Which of the above given statement is/are correct?

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

ANS: D

Explanation: The Land Port Authority of India is a statutory body. It was established under Land Ports Authority of India Act, 2010. Under the act, it has powers to undertake joint ventures to discharge its functions. It functions under Ministry of Home Affairs.

The Land Port Authority of India is responsible for managing border infrastructure. It creates, upgrades and maintains the integrated check posts and also border infrastructure.

The Authority works to provide secure and efficient systems of cargo and passenger movements across international borders. It also works to reduce the dwell time and trade transaction time and costs. It promotes people-to-people contact.

The Inland Custom Ports and Kartarpur Sahib Corridor were also constructed by Land Port Authority of India.

Source: ForumIAS

Schemes and Programmes

Q1. Consider the following statements about MSME Sustainable(ZED) Certification Scheme:

1. It aims to create awareness amongst MSMEs about Zero Defect Zero Effect (ZED) practices and motivate and incentivise them for ZED Certification.
2. The first phase will focus on MSMEs in services sector and the second phase would be aimed at the MSMEs in the manufacturing sector.
3. MSMEs will get subsidies on the cost of ZED certification: Micro Enterprises will get 80%, Small Enterprises 60% and Medium Enterprises 50%.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: **What is the MSME Sustainable(ZED) Certification Scheme?**

Nodal Ministry: Ministry of MSME.

Aim: To create awareness amongst MSMEs about Zero Defect Zero Effect (ZED) practices and motivate and incentivise them for ZED Certification while also encouraging them to become MSME Champions.

Phases under the scheme: The first phase will focus on manufacturing MSMEs and the second phase would be aimed at the MSMEs in the services sector.

Benefits and Subsidies: MSMEs will get subsidies on the cost of ZED certification as per the following: Micro Enterprises: 80%, Small Enterprises: 60% and Medium Enterprises: 50%.

1. There will be an additional subsidy of 10% for the MSMEs owned by Women/SC/ST Entrepreneurs or MSMEs in NER/Himalayan/LWE/Island territories/aspirational districts.
2. In addition to the above, there will be an additional subsidy of 5% for MSMEs which are part of the SFURTI or Micro & Small Enterprises – Cluster Development Programme (MSE-CDP) of the Ministry.
3. A limited purpose joining reward of Rs 10,000 will also be offered to each MSME once they take the ZED Pledge.
4. A provision of up to Rs. 5 lakh(per MSME) will also be made available for handholding and consultancy support for MSMEs for assisting them to move towards Zero Defect Zero Effect solutions.
5. ZED-certified MSME players will also be offered subsidies in stall charges, airfares, concession in banks' processing fees and rate of interest along with preference in lending.

Significance of the Scheme: Through the ZED Certification, MSMEs can reduce wastage substantially, increase productivity, enhance environmental consciousness, save energy, optimally use natural resources, and expand their markets amongst others.

Source: ForumIAS

Q2. Consider the following statements about Bharatiya Prakritik Krishi Paddhati(BPKP) Scheme:

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1. It is a sub-mission under the centrally sponsored scheme– Paramparagat Krishi Vikas Yojana(PKVY).
2. The scheme mainly focuses on the exclusion of all synthetic chemical inputs.
3. The scheme has been launched by ministry of Chemicals and fertilisers.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

What is Bharatiya Prakritik Krishi Paddhati(BPKP) Scheme?

Launched by: Ministry of Agriculture & Farmers Welfare during 2020-21

Parent Scheme: It is a sub-mission under the centrally sponsored scheme– Paramparagat Krishi Vikas Yojana(PKVY).

Aim: To promote traditional indigenous practices which give freedom to farmers from externally purchased inputs.

Main Focus of the Scheme: The scheme mainly focuses on the exclusion of all synthetic chemical inputs and promotes on-farm biomass recycling with major stress on biomass mulching, use of cow dung-urine formulations and other plant-based preparations.

Financial Assistance: Under BPKP, financial assistance of Rs. 12200/ha for 3 years is provided for cluster formation, capacity building and continuous handholding by trained personnel, certification and residue analysis.

Source: ForumIAS

Q3. Who among the following are beneficiary of "Pre- and Post-Matric scheme"?

- a) Differently abled person
- b) Student from ST Community
- c) Covid-19 orphans
- d) Girls from EWS community

ANS: B

Explanation:

Pre- and Post-Matric scheme: It is a demand-based scheme. Under this, every ST student whose family income is up to Rs 2.5 lakhs is entitled to a scholarship for pursuing education from class IX to Post Doctorate across India.

1. The states send the proposal to the Center for the estimated expenditure during the financial year based on the expenditure incurred in previous years and advance up to 50% of Central share is released to the States.
2. After the State has disbursed the scholarship to the students, the balance amount is released to the State, provided the State has contributed its share.

Source: ForumIAS

Q4. Which of the following statement about Nav Bharat(New India) Literacy Programme is/are correct?

1. It is a Centrally Sponsored Scheme of Ministry of education.

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2. It aims to support the States and Union Territories in promoting literacy among non-literates in the age group of 15 and above across the country.

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

What is the Nav Bharat(New India) Literacy Programme?

Nodal Ministry: Ministry of Education

Type: Centrally Sponsored Scheme

Aim: To support the States and Union Territories in promoting literacy among non-literates in the age group of 15 and above across the country.

Target: The scheme aims to cover 5 crore non-literates during the implementation period from 2022-23 to 2026-27.

Components: The scheme has five components namely

- 1. Foundational Literacy and Numeracy,
- 2. Critical Life Skills
- 3. Vocational Skills Development,
- 4. Basic Education and
- 5. Continuing Education.

Salient Features of the Scheme

- 1. Involvement of school students, pre-service students of Higher Education Institutions (HEIs), school teachers, Anganwadi and ASHA workers,
- 2. School to be unit for implementation of the scheme,
- 3. Use of ICT and online implementation of the scheme through 'Online Teaching Learning and Assessment System' (OTLAS),
- 4. Providing material and resources through digital modes, viz, TV, radio, cell phone-based free/open-source Apps/portals, etc,
- 5. Assessment tests to be conducted in schools by State/UTs and evaluation of learners by NIOS/SIOS,
- 6. Sample achievement survey and Online Management Information Systems (MIS).

Source: ForumIAS

Q5. Which of the following statement about PM-Daksh Yojana is/are not correct?

- a) It is a National Action Plan for skilling marginalized persons covering SCs, OBCs, EBCs, DNTs, Sanitation workers including waste pickers.
- b) It aims to increase the skill levels of the target youth.
- c) Beneficiaries between the age of 18-30 years are considered for Skill Development Training.
- d) The nodal ministry is Ministry of Social Justice & Empowerment.

ANS: C

Explanation: **What is PM-Daksh Yojana?**

Nodal Ministry: Ministry of Social Justice & Empowerment

Full Form: Pradhan Mantri-Dakshta Aur Kushalta Sampann Hitgrahi Yojana (PM-DAKSH)

Purpose: It is a National Action Plan for skilling marginalized persons covering SCs, OBCs, EBCs, DNTs, Sanitation workers including waste pickers.

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Aim: To increase the skill levels of the target youth by providing them short term and long term skills, followed by assistance in wage/self-employment.

Implementation: It is being implemented through 3 Corporations: National Scheduled Castes Finance and Development Corporation(NSFDC), National Backward Classes Finance & Development Corporation(NBCFDC) and National Safai Karamcharis Finance & Development Corporation(NSKFDC).

Salient Features of PM-Daksh

Training Institutions: The training is provided through Government Sector training institutions and reputed institutions enabling them to take up suitable job/self-employment opportunities.

1. Age of the candidates for undergoing skill training: Beneficiaries between the age of 18-45 years are considered for Skill Development Training.
2. Stipend to the trainees: Stipend is provided to the eligible candidates based on their attendance through DBT.

Source: ForumIAS

Q6. Consider the following statements about SMILE Scheme:

1. It is a Central Sponsored Scheme of Ministry of Social Justice and Empowerment.
2. It aims to provide welfare and rehabilitation to the Transgender community and the people engaged in the act of begging.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

What is a SMILE Scheme?

SMILE stands for Support for Marginalised Individuals for Livelihood and Enterprise.

Type: It is a Central Sector Scheme.

Aim: To provide welfare and rehabilitation to the Transgender community and the people engaged in the act of begging.

Sub-Schemes of SMILE Scheme

The two sub-schemes of SMILE are:

Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons

It provides for:

1. Scholarships for Transgender Students studying in IX and till post-graduation to enable them to complete their education.
2. Skill Development and Livelihood under the PM-DAKSH scheme.
3. Composite Medical Health and Housing facility in the form of 'Garima Greh'
4. Provision of Transgender Protection Cell in each state will monitor cases of offences and ensure timely registration, investigation and prosecution of offences.
5. Creating a National Portal & Helpline

Comprehensive Rehabilitation of persons engaged in the act of Begging

It provides for

1. Survey and Identification of beneficiaries shall be carried out by the Implementing Agencies.

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2. Outreach work will be done to mobilise the persons engaged in begging to avail the services available in the Shelter Homes.
3. The shelter homes will facilitate education for children engaged in the act of Begging.

Source: ForumIAS

Q7. Consider the following statements about National Hydrology Project (NHP):

1. It was launched by the Ministry of Jal Shakti.
2. It is a Central Sector scheme that aims to improve the extent and accessibility of water resources information.
3. It gets the financial aid from Asian Development Bank.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: **About NHP –Bhuvan Portal:**

1. The National Hydrology Project or NHP-Bhuvan Portal is a repository of information on the initiatives undertaken by NRSC under NHP (National Hydrology Project).
2. The portal also has a facility to download the reports and knowledge products being developed by NRSC.

About National Hydrology Project(NHP):

1. National Hydrology Project (NHP) is a Central Sector scheme. It was launched by the Department of Water Resources, River Development, and Ganga Rejuvenation, Ministry of Jal Shakti with the financial aid of the World Bank.
2. Objective: To improve the extent and accessibility of water resources information and strengthen institutional capacity to enable improved water resources planning and management across India.

Components: The project comprises four broad components:

1. Improving In Situ Monitoring System (IMS)
2. Improving Spatial Information System (SIS)
3. Promoting Water Resources Operation and Management Applications(WROMA)
4. Strengthening Water Resources Institutions and Capacity Building.
5. Implementing Agency: National Remote Sensing Centre (NRSC)

Source: ForumIAS

Q8. Consider the following statements about Sustainable Cities India Program:

1. World Economic Forum (WEF) and the National Institute of Urban Affairs (NIUA) have signed a MoU to collaborate on a jointly designed 'Sustainable Cities India program'.
2. It aims to enable cities to decarbonize in a sustainable way.

Which of the statements given above is/are **not** correct?

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

ANS: D

Explanation: **About Sustainable Cities India Program:**

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1. The World Economic Forum (WEF) and the National Institute of Urban Affairs (NIUA) have signed an MoU to collaborate on a jointly designed 'Sustainable Cities India program'.
2. The aim is to enable cities to decarbonize in a systematic and sustainable way that will reduce emissions and deliver resilient and equitable urban ecosystems.
3. The NIUA will adapt the WEF's City Sprint process and Toolbox of Solutions for decarbonization in the context of five to seven Indian cities across two years.

Source: ForumIAS

Q9. Consider the following statement about REWARD Project:

1. It aims to help national and state institutions adopt improved watershed management practices.
2. World Bank will implement the project in state of Gujarat and Rajasthan.

Which of the statement given above is/are correct?

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

ANS: A

Explanation:

About REWARD Project:

1. The Government of India, State Governments of Karnataka and Odisha and the World Bank have signed a \$115 million REWARD Project.
2. REWARD stands for Rejuvenating Watersheds for Agricultural Resilience through Innovative Development Programme.
3. Its aim is to help national and state institutions adopt improved watershed management practices to help increase farmers' resilience to climate change, promote higher productivity and better incomes.
4. The Government of India has committed to restoring 26 million hectares of degraded land by 2030.

Source: ForumIAS

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Q10. Consider the following statements about PM 15 Point Programme for the welfare of Minority Communities:

1. One of the objectives is the prevention and control of communal disharmony and violence among communities.
2. Ministry of Minority Affairs is implementing this programme.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: **About PM 15 Point Programme for the welfare of Minority Communities:**

1. It is an overarching programme covering various schemes/initiatives of the participating Ministries/Departments and is implemented throughout the country.
2. Aim of the Programme: To ensure that the underprivileged and weaker sections of six centrally notified minority communities have equal opportunities for availing of the various Government welfare Schemes.
3. To ensure that wherever possible, 15% of targets and outlays under various schemes should be earmarked for minorities.
4. However, the schemes of the Ministry of Minority Affairs are exclusively meant for notified minorities.

Objectives of the Programme: The programme has the following broad objectives:

1. Enhancing opportunities for education,
2. Ensuring an equitable share for minorities in economic activities and employment,
3. Improving the conditions of living of minorities by ensuring an appropriate share for them in infrastructure development schemes and
4. Prevention and control of communal disharmony and violence.

Source: ForumIAS

Previous Year questions

Q1. With reference to the famous Sattriya dance, consider the following statements:

1. Sattriya is a combination of music, dance and drama.
2. It is a centuries-old living tradition of Vaishnavites of Assam.
3. It is based on classical Ragas and Talas of devotional songs composed by Tulsidas, Kabir and Mirabai.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: **Sattriya Dance:**

1. Sattriya originated in Sattri, monastery, as a part of neo-Vaishnavite movement started by Srimanta Sankardev in the 15th Century.
2. He propagated the “ek sharan naama dharma” (chanting the name of one God devotedly).
3. “Sattriya dances are devotional in nature as they were intended for propagation of neo-Vaishnavism. Its highlights are intense emotional fervour, and in its solo avatar now dramatic abhinaya is prominent in contrast to nritta, pure dance”.
4. Dr. Sunil Kothari was recently bestowed the prestigious Madhabdev Award by the Government of Assam for his work in making Sattriya popular in India and abroad.
5. Though long recognised as a traditional dance form, Sattriya was given the status of a classical dance in the year 2000 by the Sangeet Natak Akademi.
6. Highlighting on how it differs from other forms, Kothari says, “In its basic stance for male and female known as Purush Pak and Prakriti Pak, Sattriya dances differ from other dance forms.
7. They have special mnemonic bols, typical Assamese music known as Borgeet, musical instruments like large cymbals, drums, colourful costumes which stand out from other dance styles, besides complicated choreographic patterns using various talas for each stanza sung by the vocalist.
8. Dance-dramas are distinct living tradition and use vachikabhinaya, dialogues. Special masks are also used in dance-dramas.”

Source: CSP 2014

Q2. With reference to the cultural history of India, the memorizing of chronicles, dynastic histories and epic tales was the profession of who of the following?

- a) Shramana
- b) Parivraajaka
- c) Agrahaarika
- d) Maagadha

ANS: D

Explanation: During Gupta period, the memorizing of chronicles, dynastic histories or epic tales was the work of a different group of people, the sutas and magadhas.

Source: CSP, 2016

PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE 2022

Q3. Which one of the following pairs of islands is separated from each other by the 'Ten Degree Channel'?

- (a) Andman and Nicobar
- (b) Nicobar and Sumatra
- (c) Maldives and Lakshadweep
- (d) Sumatra and Java

ANS: A

Explanation:

The entire group of island is divided into two broad categories – the Andaman in the north and the Nicobar in the south. They are separated by a water body which is called the Ten degree channel.

Source: CSP 2014

Q4. With reference to the Union Government, consider the following statements:

1. The Department of Revenue is responsible for the preparation of Union Budget that is presented to the Parliament.
2. No amount can be withdrawn from the Consolidated Fund of India without the authorization from the Parliament of India.
3. All the disbursements made from Public Account also need the authorization from the Parliament of India.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Department of Economic Affairs prepares the Budget. Public Accounts includes provident fund deposits, judicial deposits, savings bank deposits, departmental deposits, remittances and so on. This account is operated by executive action, that is, the payments from this account can be made without parliamentary appropriation. Such payments are mostly in the nature of banking transactions. So only second statement is correct.

Source: CSP 2015

Q5. Kalamkari painting refers to

- a) A hand-painted cotton textile in South India
- b) A handmade drawing on bamboo handicrafts in North- East India
- c) A block-painted woolen cloth in Western Himalayan region of India
- d) A hand-painted decorative silk cloth in North-Western India

ANS: A

Explanation:

Kalamkari painting is a painting done by Kalam (Pen) in Andhra Pradesh it is done on cotton garments, bad covers etc.

Source: CSP, 2015

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Q6. Which one of the following movements has contributed to a split in the Indian National Congress resulting in the emergence of 'moderates' and 'extremists'?

- (a) Swadeshi Movement
- (b) Quit India Movement
- (c) Non-Cooperation Movement
- (d) Civil Disobedience Movement

ANS: A

Explanation: Surat split of 1907 was the result of differences from Bengal partition protest strategy. People protested against the Bengal partition and came together in Swadeshi movement.

Source: CSP 2015

Q7. With reference to 'LiFi', recently in the news, which of the following statements is/are correct?

- 1. It uses light as the medium for high-speed data transmission.
- 2. It is a wireless technology and is several times faster than 'WiFi'.

Select the correct answer using the code given below.

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

ANS: C

Explanation: Using light to deliver wireless internet will also allow connectivity in environments that do not currently readily support Wi-Fi, such as aircraft cabins, hospitals and hazardous environments. Light is already used for data transmission in fibre-optic cables and for point to point links, but Li-Fi is a special and novel combination of technologies that allow it to be universally adopted for mobile ultra high speed internet communications. Using the visible light spectrum, Li-Fi technology can transmit data and unlock capacity which is 10,000 times greater than that available within the radio spectrum.

Source: CSP 2016

Q8. Regarding the taxation system of Krishna Deva, the ruler of Vijayanagar, consider the following statements:

- 1. The tax rate on land was fixed depending on the quality of the land.
- 2. Private owners of workshops paid an industries tax. Which of the statements given above is/are correct?

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

ANS: C

Explanation: Vijayanagara rulers followed an oppressive taxation policy. The prosperity of the empire can be explained through their taxation principles in the following lines. They collected variety of taxes ranging on the nature of lands. The villages were classified into eight types for tax purpose.

They were: 1) The brahmadeya villages 2) The devadana villages 3) The mathapura villages 4) The sarvamanya villages 5) The kodagi lands 6) Rakta-kodagal lands 7) Guttagi lands 8) The rest of the villages or lands.

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The first four types prevailed prior to the Vijayanagar times. Private owners also paid industries taxes. Merchant guilds were empowered to levy taxes on goods manufactured, sold or transported
Source: CSP 2016

Q9. With reference to 'Organisation for the Prohibition of Chemical Weapons (OPCW)', consider the following statements:

1. It is an organization of European Union in working relation with NATO and WHO.
2. It monitors chemical industry to prevent new weapons from emerging.
3. It provides assistance and protection to States (Parties) against chemical weapons threats.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: OPCW is the Hague-based autonomous body, which works within the framework of the United Nations, was established in 1997 by the Chemical Weapons Convention to carry out its mandate. OBJECTIVES: OPCW Member States share the collective goal of preventing chemistry from ever again being used for warfare, thereby strengthening international security. To this end, the Convention contains four key provisions: destroying all existing chemical weapons under international verification by the OPCW monitoring chemical industry to prevent new weapons from re-emerging; providing assistance and protection to States Parties against chemical threats; and fostering international cooperation to strengthen implementation of the Convention and promote the peaceful use of chemistry.

Source: CSP 2016

Q10. Consider the following statements:

1. In the first Lok Sabha, the single largest party in the opposition was the Swatantra Party.
2. In the Lok Sabha, a "Leader of the Opposition" was recognised for the first time in 1969.
3. In the Lok Sabha, if a party does not have a minimum of 75 members, its leader cannot be recognised as the Leader of the Opposition.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

Statement 1 is not correct: The Congress party won 364 of the 489 seats in the first Lok Sabha and finished way ahead of any other challenger. The Communist Party of India that came next in terms of seats won only 16 seats.

Statement 2 is correct: In 1969, an official leader of opposition was recognised for the first time. However, it was given statutory recognition in 1977.

Statement 3 is not correct: The leader of the largest Opposition party having not less than onetenth seats of the total strength of the House is recognised as the leader of Opposition in that House.

Source: CSP 2018

Previous Year questions

Q.1) When reference to carbon nanotubes, consider the following statements:

1. They can be used as carriers of drugs and antigens in the human body.
2. They can be made into artificial blood capillaries for an injured part of human body.
3. They can be used in biochemical sensors.
4. Carbon nanotubes are biodegradable.

Which of the statements given above are correct?

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

ANS: D

Explanation:

- Carbon nanotubes (CNTs) are cylindrical large molecules consisting of a hexagonal arrangement of hybridized carbon atoms, which may be formed by rolling up a single sheet of graphene (single-walled carbon nanotubes, SWCNTs) or by rolling up multiple sheets of graphene (multiwalled carbon nanotubes, MWCNTs).
- Hence structurally, carbon nanotubes (CNTs) can be viewed as wrapped from graphene sheets. Carbon nanotubes were once considered to be resistant to chemical damage due to their rigid and perfect chemical structure, which rendered them immune to biodegradation.
- However, enzymes like peroxidase were found to play an important role in the process of biodegradation of carbon nanotubes. Hence option 4 is correct. NASA has demonstrated the use of carbon nanotube arrays as biosensors. Hence option 3 is correct.
- Carbon nanotubes (CNTs) are characterized by unique chemical and biological properties. CNTs have a large surface area that allows them to attach a wide range of biological substances. In addition, CNTs are able to penetrate through cell membranes, capillaries, and accumulated in cells and tissues.
- It is expected that enabling technology would facilitate the making of nanodevices using these blood-compatible nanomaterials as building blocks for biomedical applications such as artificial implants, including structural tissue replacements, that is, artificial blood vessels, or functional devices such as drug delivery matrixes. Hence statements 1 and 2 are correct.

Source: CSP2020

Q.2) The experiment will employ a trio of spacecraft flying in formation in the shape of an equilateral triangle that has sides one million kilometers long, with lasers shining between the craft." The experiment in question refers to

- a) Voyager - 2
- b) New Horizons
- c) LISA Pathfinder
- d) Evolved LISA

ANS: D

Explanation:

- The experimental research on black holes using gravitational waves expanded following the second detection of gravitational waves by the LIGO detector.
- After the success of the LISA Pathfinder experiment, the evolved Laser Interferometer Space Antenna (eLISA) project is a plan of setting into space three spacecraft, a mother and two daughter spacecraft, which will fly in a triangular formation, trailing the earth in its orbit around the sun at a distance of over 50 million km.
- Each arm of the imaginary triangle, from the mother to each daughter spacecraft, will measure about a million km. Inside these spacecraft will float "freely falling" test masses – cubes with sides measuring about 46 mm.
- Laser interferometers will accurately measure changes in the distance between these cubes. If they should be affected by a gravitational wave, the minute changes in this distance are measured by the interferometer.
- Hence option (d) is the correct answer.

Source: CSP2020

Q.3) Which of the following statements are correct regarding the general difference between plant and animal cells?

1. Plant cells have cellulose cell walls whilst animal cells do not.
2. Plant cells do not have plasma membrane unlike animal cells which do.
3. Mature plant cell has one large vacuole whilst animal cell has many small vacuoles.

Select the correct answer using the code given below:

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

ANS: C

Explanation:

- The most important difference between a plant cell and an animal cell is that the former has a cell wall. A cell wall gives mechanical support to a plant cell. Animal cells do not have cell walls.
- Plants have both a cell wall that is made up of cell membrane (plasma membrane) and cellulose. The cell wall is, a rigid membrane matrix found on the surface of all plant cells whose primary role is to protect the cell and its content.
- Hence statement 1 is correct and statement 2 is not correct.
- Plant cells have a large central vacuole that can occupy up to 90% of the cell's volume. Animal cells may have many small vacuoles, a lot smaller than the plant cell.
- Hence statement 3 is correct.

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Source: CSP2020

Q.4) With the print state of development, Artificial Intelligence can effectively do which of the following?

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text -to -Speech Conversion
5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

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

ANS: D

Explanation:

- Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.
- Artificial Intelligence has various applications in today's society. in multiple industries, such as Healthcare, entertainment, finance, education, etc.
- AI has been used in disease diagnosis, creating songs like 'I am AI' and 'Daddy's Car' and creating short stories and fictions. AI has been used in Text -to -speech conversion, e.g. Cerewave AI.
- Artificial Intelligence has also found use in power industry, e.g. Machine -learning assisted power transfer (based on AI) using magnetic resonance and AI used for energy efficiency. Hence all the options are correct.

Source: CSP2020

Q.6) With reference to furnace oil, consider the following statements:

1. It is a product of oil refineries.
2. Some industries use it to generate power.
3. Its use causes sulphur emissions into environment.

Which of the statements given above are correct?

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

ANS: D

Explanation:

- Fuel oil (also known as heavy oil, marine fuel, bunker, furnace oil, or gasoil) is a fraction obtained from petroleum distillation.
- Hence, statement 1 is correct.
- Diesel-based power plants may use Diesel, Furnace Oil, Heavy Fuel Oil (HFO), Low Sulfur Fuel Oil (LSFO) or Low Sulfur Heavy Stock (LSHS). The Basin Bridge Diesel Generator Power Plant (DGPP) in Tamil Nadu was one such example.
- Hence, statement 2 is correct.

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- The oxides of sulphur (SO_x; SO₂ + SO₃) emissions are a direct result of the sulphur content of the fuel oil. During the combustion process this fuel-bound sulphur is rapidly oxidised to sulphur dioxide (SO₂). A small fraction of the SO₂, some 3-5% may be further oxidised to sulphur trioxide (SO₃) within the combustion chamber and exhaust duct.
- Hence, statement 3 is correct.

Source: CSP2021

Q.7) Which one of the following is used in preparing a natural mosquito repellent?

- a) Congress grass
- b) Elephant grass
- c) Lemongrass
- d) Nut grass

ANS: C

Explanation:

- Citronella the essential oil found in Lemongrass is registered with the FDA. It is the most widely used natural mosquito repellent found in candles, sprays, and lotions.
- To help deter mosquitoes with its strong fragrance, plant lemongrass along walkways and in locations close to seating areas.
- Hence, option (c) is the correct answer.

Source: CSP2021

Q.8) Which one of the following is a filter feeder?

- a) Catfish
- b) Octopus
- c) Oyster
- d) Pelican

ANS: C

Explanation:

- Filter Feeder is an animal (such as a clam or baleen whale) that obtains its food by filtering organic matter or minute organisms from a current of water that passes through some part of its system.
- Oysters are natural filter feeders. This means they feed by pumping water through their gills, trapping particles of food as well as nutrients, suspended sediments and chemical contaminants.
- Hence, option (c) is the correct answer.

Source: CSP2021

Q.9) Which of the following have species that can establish symbiotic relationship with other organisms?

1. Cnidarians
2. Fungi
3. Protozoa

Select the correct answer using the code given below.

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

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

ANS: D

Explanation:

Cnidarian, also called coelenterate are mostly marine animals. They include the corals, hydras, jellyfish, Portuguese men-of-war, sea anemones, sea pens, sea whips, and sea fans.

The relationship between cnidarians and dinoflagellate algae is termed as "symbiotic", because both the animal host and the algae are benefiting from the association.

It is a mutualistic interaction. Fungi have several mutualistic relationships with other organisms. In mutualism, both organisms benefit from the relationship. Two common mutualistic relationships involving fungi are mycorrhiza and lichen.

Termites have a mutualistic relationship with protozoa that live in the insect's gut. The termite benefits from the ability of bacterial symbionts within the protozoa to digest cellulose. Hence option (d) is the correct answer

Source: CSP2021

Q.10) According to Portuguese writer Nuniz, the women in Vijayanagara Empire were expert in which of the following areas?

1. Wrestling
2. Astrology
3. Accounting
4. Soothsaying

Select the correct answer using the code given below.

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

ANS: D

Explanation:

- Fernao Nuniz, Portuguese traveller, visited the empire during the reign of Achyuta Deva Raya. According to Nuniz, a large number of women were employed in royal palaces as dancers, domestic servants and palanquin bearers.
- There were also wrestlers, astrologers and soothsayers among them. Some women were also appointed as accountants, judges, bailiffs, and watch women.

Source: CSP2021

Revision

Q.1) Which of the following atmospheric elements are measured as part of National Ambient Air Quality Standards?

1. Carbon Dioxide
2. Benzene
3. Arsenic

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4. Nickel
5. Helium

Select the correct answer using the code given below:

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

ANS: D

Explanation: National Ambient Air Quality Standards:

- Recently World Health Organisation (WHO) updated its 2005 global air pollution standards.
- The overall objective of the updated global guidelines is to offer quantitative health-based recommendations for air quality management, expressed as long or short-term concentrations for a number of key air pollutants.
- In India, Central Pollution Control Board (CPCB) initiated National Ambient Air Quality Monitoring (NAAQM) programme in the year 1984 with 7 stations at Agra and Anpara for pollution measurement.
- Subsequently the programme was renamed as National Air Quality Monitoring Programme (NAMP). The network currently consists of 804 operating stations covering 344 cities/towns in 28 states and 6 Union Territories of the country.
- The monitoring is being carried out with the help of Central Pollution Control Board; State Pollution Control Boards; Pollution Control Committees; National Environmental Engineering Research Institute (NEERI), Nagpur.
- CPCB co-ordinates with these agencies to ensure the uniformity, consistency of air quality data and provides technical and financial support to them for operating the monitoring stations.
- CPCB air quality standards in form of NAAQS (National Ambient Air Quality Standards) have notified for 12 parameters.
- These include carbon monoxide (CO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), particulate matter (PM) of less than 2.5 microns size (PM_{2.5}), PM of less than 10 microns size (PM₁₀), Ozone (O₃), Lead (Pb), Ammonia (NH₃), Benzo(a)Pyrene (BaP), Benzene (C₆H₆), Arsenic (As), and Nickel (Ni).

Source: ForumIAS

Q.2) Which of the following statements is/are correct regarding the polity during Sangam Era?

1. Similar to some of the mahajanapada period states, republic was the form of government during Sangam period.
2. Land revenue was the chief source of state's income as there is no reference about any tax being imposed on goods in the Sangam texts.

Select the correct answer from the code given below:

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

ANS: B

Explanation: Sangam Era:

- Hereditary Monarchy was the form of government during the Sangam period.
- Each of the Sangam dynasties had a royal emblem- carp for the Pandyas, tiger for the Cholas and bow for the Cheras.
- The military administration was also efficiently organized during the Sangam age.
- Each ruler had a regular army and their respective Kodimaram.
- Land revenue was the chief source of state's income while custom duty was also imposed on foreign trade.
- Booty captured in wars was also a major income to the royal treasury.

Source: ForumIAS

Q.3) Consider the following statements regarding the minorities in India.

1. The term 'minority' is clearly defined in the Indian Constitution.
2. The religious and linguistic minorities can be determined state-wise and not nationally.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Article 30:

- As mentioned in Article 30 of the constitution, the State shall not, in granting aid to educational institutions, discriminate against any educational institution on the ground that it is under the management of a minority, whether based on religion or language.
- Though the Constitution of India does not define the word 'Minority' and only refers to 'Minorities' and speaks of those 'based on religion or language', the rights of the minorities have been spelt out in the Constitution in detail.
- In the case T.M.A.Pai Foundation v. State of Karnataka (2002) the Supreme Court laid down the guidelines related to Article 29 and 30 of the Constitution. The religious and linguistic minorities shall be determined state-wise and not nationally.

Source: ForumIAS

Q.4) Which of the two water bodies are connected with Strait of Gibraltar?

- a) Mediterranean Sea and Black Sea
- b) Red Sea and Arabian Sea
- c) North Sea and Atlantic Ocean
- d) Atlantic Ocean and Mediterranean Sea

ANS: D

Explanation: Strait of Gibraltar:

- Strait of Gibraltar connects Atlantic Ocean and Mediterranean Sea.
- It connects two water bodies Mediterranean Sea and separates two continents (countries) Europe (Spain) and Africa (Morocco).



Source: ForumIAS

Q.5) Which one of the following layers of atmosphere has high concentration of ions?

- a) Stratosphere
- b) Exosphere
- c) Troposphere
- d) Thermosphere

ANS: D

Explanation: Thermosphere:

- This layer is located between 80 and 400 km above the mesopause.
- It contains electrically charged particles known as ions, and hence, it is known as the ionosphere.
- Radio waves transmitted from the earth are reflected back to the earth by this layer and due to this, radio broadcasting has become possible.
- The temperature here starts increasing with heights.

Source: ForumIAS

Q.6) The Central Vigilance Commission was set up on the recommendation of which one of the following?

- a) First administrative reform commission
- b) Gorwal committee
- c) Kirpalani committee
- d) Santhanam committee

ANS: D

Explanation:

- The Central Vigilance Commission was set up by the Government in February, 1964 on the recommendations of the Committee on Prevention of Corruption, headed by Shri K. Santhanam, to advise and guide Central Government agencies in the field of vigilance.

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- CVC are conceived to be the apex vigilance institution, free of control from any executive authority, monitoring all vigilance activity under the Central Government and advising various authorities in Central Government organizations in planning, executing, reviewing and reforming their vigilant work.
- Consequent upon promulgation of an Ordinance by the President, the Central Vigilance Commission has been made a multi member Commission with "statutory status" with effect from 25th August, 1998.

Source: ForumIAS

Q.7) Who among the following leaders is associated with the concept of party less democracy?

- a) J B Kripalani
- b) Jayprakash Narayan
- c) Acharya Narendra Dev
- d) Vinoba Bhave

ANS: B

Explanation:

- Jayaprakash Narayan proposed partyless democracy in India.
- Jayaprakash Narayan, commonly referred to as JP or Lok Nayak, was an Indian independence activist, theorist, socialist and political leader.
- Jayaprakash Narayan led his socialist group out of the Congress party in 1948 and later merged it with a Gandhian-oriented party to form the People's Socialist Party.
- Narayan never held a formal position in the government.
- Jayaprakash Narayan also known as the 'Hero of Quit India Movement'.
- He was awarded Bharat Ratna Award, highest civilian award of India in 1999. He was also the recipient of the Magsaysay Award.
- Jayaprakash Narayan was born on 11th October 1902 in present-day Bihar and died on 8th October 1979.
- He called for a peaceful total revolution in 1974.

Source: ForumIAS

Q.8) Which one of the following artificial sweeteners in modified sugar?

- a) Aspartame
- b) Saccharin
- c) Sucralose
- d) Alitame

ANS: C

Explanation:

Sucralose is an artificial sweetener and sugar substitute. The majority of ingested sucralose is not broken down by the body, so it is noncaloric.

Source: ForumIAS

Q.9) Leakage which one of the gases has caused bhopal gas tragedy in the year 1984?

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- a) Methyl Isocyanate
- b) Hexamethylene Diisocyanate
- c) Isophorone Diisocyanate
- d) Isothiocyanate

ANS: A

Explanation:

- In the early hours of December 3, 1984, **methylisocyanate (MIC) gas leaked** from a plant operated by Union Carbide India Limited (UCIL) at Bhopal (Madhya Pradesh).
- The gas drifted over the **densely populated neighbourhoods** around the plant, **killing thousands of people immediately** and creating a panic as tens of thousands of others attempted to flee Bhopal.
- The final death toll was estimated to be between **15,000 and 20,000**.
 - Some half a million **survivors suffered respiratory problems, eye irritation or blindness, muscular dystrophy and other maladies** resulting from exposure to the toxic gas.
- The study found out that babies born to women exposed to gas were significantly more likely to have **“congenital malformations”** than those born to women unexposed to gas.

Source: ForumIAS

Q.10) Bronze is an alloy of copper and?

- a) nickel
- b) iron
- c) tin
- d) aluminium

ANS: C

Explanation:

Alloys

- The various properties of metals can be improved by mixing other metals in it.
- The homogeneous mixture of two or more metals is called an alloy.
- Brass is a mixture of Cu and Zn.
- Bronze is a mixture of Cu and Tin. It is tough, resistant to corrosion, used to make statues, coins, medals, utensils.

Source: ForumIAS

General Science

Q.1) Natural gas is a mixture of gases and contains mainly?

- a) methane and higher hydro- carbons
- b) butane and isobutene
- c) methane only
- d) methane, hydrogen and carbon monoxide

ANS: A

Explanation:

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Natural gas is a hydrocarbon mixture consisting primarily of saturated light paraffins such as methane and ethane, both of which are gaseous under atmospheric conditions. The mixture also may contain other hydrocarbons, such as propane, butane, pentane, and hexane. In natural gas reservoirs even the heavier hydrocarbons occur for the most part in gaseous form because of the higher pressures.

Source: ForumIAS

Q.2) Leaves of lotus and water lily are not easily wet because the leaves?

- a) have surface uneven in micro scale and water cannot come into contact with the depressed areas due to high surface tension
- b) contain an oily substance
- c) contain a greasy substance
- d) have surface too smooth to attract water

ANS: A

Explanation:

Lotus leaf self-cleaning ability is due to the roughness of its surface at micro and nano level. The micro relief of plant surfaces, mainly caused by epicuticular wax crystalloids forming bumps, serves different purposes and often causes effective water repellency.

Each lotus leaf surface is covered with an array of tiny bumps. This uneven surface is itself covered with waxy hydrophobic crystals. The two-tier roughness on leaf's surface minimises the contact between the solid surface and waterdrops.

Source: ForumIAS

Q.3) The Formation of colours in soap bubbles is due to the phenomenon of?

- a) Dispersion of light
- b) Interference of Light
- c) Diffraction of light
- d) Polarization of light

ANS: B

Explanation:

Waves travel in the form of wavefronts, therefore there is division of wavefronts when the light waves come out of the soap bubble which is why the soap bubble appears to be coloured. Therefore, soap bubble appears coloured due to the phenomenon of interference by division of wavefront.

Source: Lucent

Q.4) Plants capable of performing photosynthesis belong to which one of the following types of organisms?

- a) Heterotrophs
- b) Saprotrophs
- c) Autotrophs
- d) Chemoheterotrophs

ANS: C

Explanation:

An autotroph is an organism that can produce its own food using light, water, carbon dioxide, or other chemicals. Because autotrophs produce their own food, they are sometimes called producers.

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A heterotroph is an organism that eats other plants or animals for energy and nutrients. The term stems from the Greek words hetero for “other” and trophs for “nourishment.”

Saprotroph, also called saprophyte or saprobe, organism that feeds on nonliving organic matter known as detritus at a microscopic level.

Chemoheterotrophs: microbes that use organic chemical substances as sources of energy and organic compounds as the main source of carbon.

Source: Lucent

Q.5) Which of the following ions is present in low concentration in drinking water is essential for normal growth of teeth but harmful to teeth at high concentration?

- a) Aluminium
- b) Calcium
- c) Fluoride
- d) Chloride

ANS: C

Explanation: Fluoride’s actions on bone cells predominate as anabolic effects both in vitro and in vivo.

- Fluorosis is a disease that led to the accumulation of fluorides in the hard and soft tissues of the body.
- It results in dental fluorosis, skeletal fluorosis, and nonskeletal fluorosis.
- According to WHO, the fluoride concentration in drinking water should not exceed 1.5mg/l.
- The government launched the National Water Quality Sub Mission on Arsenic and Fluoride.
- It was launched to provide safe drinking water to about 28000 affected habitations in the country by March 21 with a corpus of Rs. 25000 crore.
- Rajasthan suffers from the presence of fluoride in drinking water in Nagour and Jaipur districts.

Source: Lucent

Q.6) Which of the following lamps contains a poisonous gas and therefore should be disposed safely?

- a) Compact fluorescent lamps
- b) Lighting emitting diode
- c) Neon lamp
- d) Helogen lamp

ANS: A

Explanation:

The full form of CFL is Compact fluorescent lamps. CFL is an energy-saving bulb that consumes much less energy than the conventional incandescent lamps. It is made of a glass tube, along with two electrodes. The glass tube contains a mixture of argon gas & mercury vapour and is filled with phosphorus on the inner surface.

Working principle of CFL

CFL has various illumination generating pathways than that of the incandescent lamps. An electric current in a bright light travels via a wire filament. It heats the thread to create a light, as well as the filament glows—the current in CFL transfers via the tube that contains the blend of argon gas & mercury vapour. The current activates the mercury vapour that generates UV light.

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Source: Lucent

Q.7) Animal cell wall is essentially made of?

- a) Protein
- b) Carbohydrate
- c) Lipid bilayer
- d) Cellulose

ANS: C

Explanation:

The lipid bilayer is a biological membrane consisting of two lipid molecules. Each lipid molecule is made up of a hydrophilic head and a hydrophobic tail.

Source: Lucent

Q.8) Which one of the following statement reading baking powder is not correct?

- a) It is a mixture
- b) It forms bubbles in wet mixture
- c) It can be used instead of using yeast
- d) It does not contain sodium bicarbonate

ANS: D

Explanation:

Baking Powder - It is a dry chemical leavening agent, a mixture of a carbonate or bicarbonate, and a weak acid.

These baking acids are tartrate, phosphate, and sodium aluminium sulfate used alone or in combination.

It contains sodium bicarbonate. Hence, Option 4 is not correct.

It is used to increase the volume and lighten the texture of baked goods.

It works by releasing carbon dioxide gas into a batter or dough through an acid-base reaction, causing bubbles in the wet mixture to expand and thus leavening the mixture.

Source: Lucent

Q.9) Hemocyanin is an oxygen-transport metalloprotein present in some invertebrate animals. This protein contains:

- a) One copper atom
- b) Two copper atoms
- c) One iron atom
- d) One magnesium atom

ANS: B

Explanation:

Hemocyanins are respiratory pigments which are proteins that transport oxygen throughout the bodies of some invertebrate animals.

Hemocyanins are found only in the Mollusca and Arthropoda.

These metalloproteins contain two copper atoms that reversibly bind a single oxygen molecule (O₂).

Source: Lucent

Q.10) It is reported that there is an ongoing decrease in the pH value of ocean water because of global warming. It happen due to:

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- a) larger uptake of CO₂ by ocean water
- b) lesser uptake of CO₂ by ocean water
- c) larger uptake of atmospheric nitrogen by ocean water
- d) lesser uptake of atmospheric nitrogen by ocean water

ANS: D

Explanation: Ocean acidification

As carbon dioxide (CO₂) dissolves in sea water, it forms carbonic acid, decreasing the ocean's pH, a process collectively known as ocean acidification.

- Present ocean acidification occurs approximately ten times faster than anything experienced during the last 300 million years, jeopardising the ability of ocean systems to adapt to changes in ocean chemistry due to CO₂.
- Ocean acidification has the potential to change marine ecosystems and impact many ocean-related benefits to society such as coastal protection or provision of food and income.
- Increased ocean temperatures and oxygen loss act concurrently with ocean acidification and constitute the 'deadly trio' of climate change pressures on the marine environment.
- To combat the worst effects of the deadly trio, CO₂ emissions need to be cut significantly and immediately at the source.
- Sustainable management, conservation, restoration and strong, permanent protection of at least 30% of the ocean are urgently needed.

Source: Lucent

Indian Polity

Q.1) Consider the following statements:

1. Company's territories in India were for the first time called the 'British possessions in India'.
2. Establishment of a system of double government.

For which of the following Act, the above two statements are correct?

- a) Regulating Act of 1773
- b) Pitt's India Act of 1784
- c) Charter Act of 1833
- d) Charter Act of 1853

ANS: B

Explanation:

Pitt's India Act of 1784

In a bid to rectify the defects of the Regulating Act of 1773, the British Parliament passed the Amending Act of 1781, also known as the Act of Settlement. The next important act was the Pitt's India Act of 1784.

Features of the Act

1. It distinguished between the commercial and political functions of the Company.

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2. It allowed the Court of Directors to manage the commercial affairs but created a new body called Board of Control to manage the political affairs. Thus, it established a system of double government.
3. It empowered the Board of Control to supervise and direct all operations of the civil and military government or revenues of the British possessions in India.

Thus, the act was significant for two reasons: first, the Company's territories in India were for the first time called the 'British possessions in India'; and second, the British Government was given the supreme control over Company's affairs and its administration in India.

Source: Indian Polity by Laxmikanth

Q.2) Consider the following statements about Charter Act of 1853:

1. It abolished the East India Company.
2. It introduced an open competition system of selection and recruitment of civil servants.

Which of the above given statements is/are not correct?

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

ANS: A

Explanation:

Charter Act of 1853

This was the last of the series of Charter Acts passed by the British Parliament between 1793 and 1853. It was a significant constitutional landmark.

Features of the Act

1. It separated, for the first time, the legislative and executive functions of the Governor-General's council. It provided for addition of six new members called legislative councillors to the council. In other words, it established a separate Governor-General's legislative council which came to be known as the Indian (Central) Legislative Council. This legislative wing of the council functioned as a mini-Parliament, adopting the same procedures as the British Parliament. Thus, legislation, for the first time, was treated as a special function of the government, requiring special machinery and special process.
2. It introduced an open competition system of selection and recruitment of civil servants. The covenanted civil service³ was thus thrown open to the Indians also. Accordingly, the Macaulay Committee (the Committee on the Indian Civil Service) was appointed in 1854.
3. It extended the Company's rule and allowed it to retain the possession of Indian territories on trust for the British Crown. But, it did not specify any particular period, unlike the previous Charters. This was a clear indication that the Company's rule could be terminated at any time the Parliament liked.
4. It introduced, for the first time, local representation in the Indian (Central) Legislative Council. Of the six new legislative members of the governor general's council, four members were appointed by the local (provincial) governments of Madras, Bombay, Bengal and Agra.

Government of India Act of 1858

This significant Act was enacted in the wake of the Revolt of 1857—also known as the First War of Independence or the 'sepoy mutiny'. The act known as the Act for the Good Government of India, abolished the East India Company, and transferred the powers of government, territories and revenues to the British Crown.

Source: Indian Polity by Laxmikanth

Q.3) Dr Sachchidanand Sinha, the oldest member, was elected as the temporary President of the Assembly, following practice of which of the following country?

- a) Canada
- b) France
- c) South Africa
- d) Germany

ANS: B

Explanation: The Constituent Assembly held its first meeting on December 9, 1946. The Muslim League boycotted the meeting and insisted on a separate state of Pakistan. The meeting was thus attended by only 211 members. Dr Sachchidanand Sinha, the oldest member, was elected as the temporary President of the Assembly, following the French practice.

Later, Dr. Rajendra Prasad was elected as the President of the Assembly. Similarly, both H.C. Mukherjee and V.T. Krishnamachari were elected as the Vice-Presidents of the Assembly. In other words, the Assembly had two Vice-Presidents.

Source: Indian Polity by Laxmikanth

Q.4) Consider the following pairs:

Person	Description of Indian federation
1. K C Wheare	Quasi-federal
2. Granville Austin	Co-operative federalism
3. Morris Jones	Federation with a centralising tendency
4. Ivor Jennings	Bargaining federalism

Which of the pairs given above is/are not correctly matched?

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

ANS: B

Explanation:

Federal System with Unitary Bias The Constitution of India establishes a federal system of government. It contains all the usual features of a federation, viz., two government, division of powers, written Constitution, supremacy of Constitution, rigidity of Constitution, independent judiciary and bicameralism.

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

Moreover, the term 'Federation' has nowhere been used in the Constitution. Article 1, on the other hand, describes India as a 'Union of States' which implies two things: one, Indian Federation is not the result of an agreement by the states; and two, no state has the right to secede from the federation.

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Hence, the Indian Constitution has been variously described as 'federal in form but unitary in spirit', 'quasi-federal' by K C Wheare, 'bargaining federalism' by Morris Jones, 'co-operative federalism' by Granville Austin, 'federation with a centralising tendenc' by Ivor Jennings, and so on.

Source: Indian Polity by Laxmikanth

Q.5) Consider the following pairs:

Feature

Source

- | | |
|---|-----------------------|
| 1. Directive Principles of State Policy | Irish Constitution |
| 2. Cabinet system | British Constitution |
| 3. Concurrent List | Canadian Constitution |

Which of the above given pairs is/are correctly matched?

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

ANS: A

Explanation:

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Sources	Features Borrowed
1. Government of India Act of 1935	Federal Scheme, Office of governor, Judiciary, Public Service Commissions, Emergency provisions and administrative details.
2. British Constitution	Parliamentary government, Rule of Law, legislative procedure, single citizenship, cabinet system, prerogative writs, parliamentary privileges and bicameralism.
3. US Constitution	Fundamental rights, independence of judiciary, judicial review, impeachment of the president, removal of Supreme Court and high court judges and post of vice-president.
4. Irish Constitution	Directive Principles of State Policy, nomination of members to Rajya Sabha and method of election of president.
5. Canadian Constitution	Federation with a strong Centre, vesting of residuary powers in the Centre, appointment of state governors by the Centre, and advisory jurisdiction of the Supreme Court.
6. Australian Constitution	Concurrent List, freedom of trade, commerce and intercourse, and joint sitting of the two Houses of Parliament.
7. Weimar Constitution of Germany	Suspension of Fundamental Rights during Emergency.
8. Soviet Constitution (USSR, now Russia)	Fundamental duties and the ideal of justice (social, economic and political) in the Preamble.
9. French Constitution	Republic and the ideals of liberty, equality and fraternity in the Preamble.
10. South African Constitution	Procedure for amendment of the Constitution and election of members of Rajya Sabha.
11. Japanese Constitution	Procedure established by Law.

Source: Indian Polity by Laxmikanth

Q.6) Which of the following country was the first one to begin with preamble?

- a) Britain
- b) France
- c) America
- d) India

ANS: C

Explanation: The American Constitution was the first to begin with a Preamble. Many countries, including India, followed this practice. The term 'preamble' refers to the introduction or preface to the Constitution. It contains the summary or essence of the Constitution. N A Palkhivala, an

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eminent jurist and constitutional expert, called the Preamble as the ‘identity card of the Constitution.’

The Preamble to the Indian Constitution is based on the ‘Objectives Resolution’, drafted and moved by Pandit Nehru, and adopted by the Constituent Assembly¹. It has been amended by the 42nd Constitutional Amendment Act (1976), which added three new words —socialist, secular and integrity.

Source: Indian Polity by Laxmikanth

Q.7) Which among the following denotes distributive justice?

- a) Economic Justice only
- b) Social and Political justice
- c) Political and Economic justice
- d) Social and Economic justice

ANS: D

Explanation:

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

Social justice denotes the equal treatment of all citizens without any social distinction based on caste, colour, race, religion, sex and so on. It means absence of privileges being extended to any particular section of the society, and improvement in the conditions of backward classes (SCs, STs and OBCs) and women.

Economic justice denotes the non-discrimination between people on the basis of economic factors. It involves the elimination of glaring inequalities in wealth, income and property. A combination of social justice and economic justice denotes what is known as ‘distributive justice’. Political justice implies that all citizens should have equal political rights, equal access to all political offices and equal voice in the government. The ideal of justice—social, economic and political—has been taken from the Russian Revolution (1917).

Source: Indian Polity by Laxmikanth

Q.8) In which of the following case, Supreme Court established that “Preamble is an integral part of the Constitution”?

- a) Berubari Union case
- b) Kesavananda Bharati case
- c) LIC of India case
- d) Minerva Mills Case

ANS: C

Explanation:

One of the controversies about the Preamble is as to whether it is a part of the Constitution or not.

In the Berubari Union¹⁶ case (1960), the Supreme Court said that the Preamble shows the general purposes behind the several provisions in the Constitution, and is thus a key to the minds of the makers of the Constitution.

Further, where the terms used in any article are ambiguous or capable of more than one meaning, some assistance at interpretation may be taken from the objectives enshrined in the Preamble. Despite this recognition of the significance of the Preamble, the Supreme Court specifically opined that Preamble is not a part of the Constitution.

In the Kesavananda Bharati case¹⁷ (1973), the Supreme Court rejected the earlier opinion and held that Preamble is a part of the Constitution. It observed that the Preamble is of extreme

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importance and the Constitution should be read and interpreted in the light of the grand and noble vision expressed in the Preamble. In the LIC of India case¹⁸ (1995) also, the Supreme Court again held that the Preamble is an integral part of the Constitution.

Source: Indian Polity by Laxmikanth

Q.9) Which of the following statement is not correct?

- a) 'Union of India' is a wider expression than the 'Territory of India'
- b) Article 3 authorizes the Parliament to diminish the area of any state.
- c) Indian territory can be ceded to a foreign state only by amending the Constitution under Article 368.
- d) None of the above

ANS: A

Explanation:

The 'Territory of India' is a wider expression than the 'Union of India' because the latter includes only states while the former includes not only the states but also union territories and territories that may be acquired by the Government of India at any future time. The states are the members of the federal system and share a distribution of powers with the Centre. The union territories and the acquired territories, on the other hand, are directly administered by the Central government.

Article 3 authorises the Parliament to:

- a) form a new state by separation of territory from any state or by uniting two or more states or parts of states or by uniting any territory to a part of any state,
- b) increase the area of any state,
- c) diminish the area of any state,
- d) alter the boundaries of any state, and
- e) alter the name of any state.

Source: Indian Polity by Laxmikanth

Q.10) Which part of the Indian Constitution is described as the Magna Carta of India?

- a) Part II
- b) Part III
- c) Part IV
- d) Part V

ANS: B

Explanation: The Fundamental Rights are enshrined in Part III of the Constitution from Articles 12 to 35. In this regard, the framers of the Constitution derived inspiration from the Constitution of USA (i.e., Bill of Rights). Part III of the Constitution is rightly described as the Magna Carta of India. It contains a very long and comprehensive list of 'justiciable' Fundamental Rights. In fact, the Fundamental Rights in our Constitution are more elaborate than those found in the Constitution of any other country in the world, including the USA.

The Fundamental Rights are guaranteed by the Constitution to all persons without any discrimination. They uphold the equality of all individuals, the dignity of the individual, the larger public interest and unity of the nation.

Source: Indian Polity by Laxmikanth

Indian Geography

Q.1) On which of the following hill range, the 'Guru Shikhar' Peak situated?

- a) Aravali Range
- b) Garo hills

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- c) Satmala Hills
- d) Mahadeo hills

ANS: A

Explanation:

Guru Shikhar, a peak in the Arvuda Mountains of Rajasthan, is the highest point of the Aravalli Range. It rises to an altitude of 5,676 feet (1722 meters). It is 15 km from Mount Abu and a road from there leads almost to the top of the mountain. A cave at the summit contains a temple of Dattatreya, an incarnation of Lord Vishnu.

Source: NCERT- Indian Physical Geography

Q.2) Consider the following pairs:

Hills	State
1. Dafla Hills	Meghalaya
2. Ramgarh Hills	Chattisgarh
3. Cardamom hills	Kerala
4. Mahadeo Hills	Telangana

Which of the above given pairs is/are correctly matched?

- a) One pair only
- b) Two pair only
- c) Three pair only
- d) All the four pairs

ANS: B

Explanation:



Source: NCERT- Indian Physical Geography

Q.3) As majuli is island in brahmaputra river, srirangapatna is an island in which river?

- a) Krishna
- b) Godawari
- c) Mahanadi
- d) Kaveri

ANS: D

Explanation:

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- Srirangapatna is actually an island surrounded by river Cauvery from all sides. This egg shaped island is named after Sri Ranganatha, the presiding deity of the Sri Ranganatha Swamy temple which is the chief attraction in the city.
- The island measures approximately 5 kilometers east to west and 1.5 kilometers south to north. The island has an area of about 7.2 square kilometers. Near this town, river Cauvery divides into two branches called North and South Cauvery creating the central land mass as an Island.
- This Island is called Srirangapattana after the presiding deity of the place Sriranganatha.

Source: NCERT- Indian Physical Geography

Q.4) Consider the following areas:-

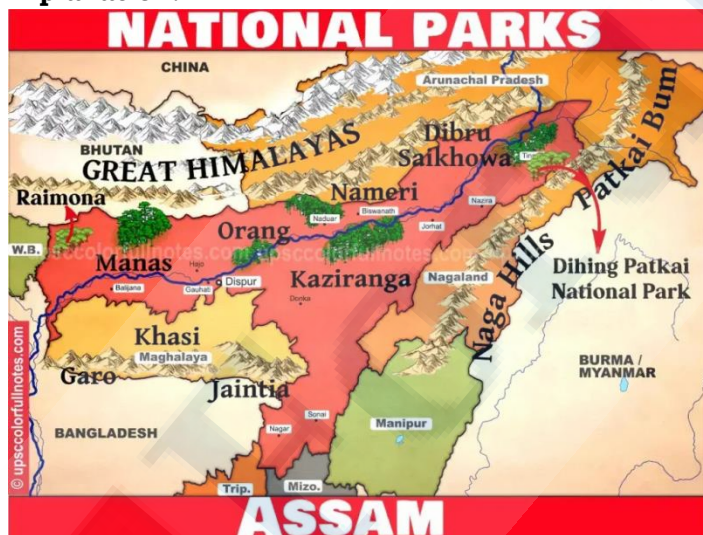
1. Manas
2. Namdaha
3. Kaziranga
4. Nokrek

Which of the above are along Brahmaputra?

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

ANS: B

Explanation:



Source: NCERT- Indian Physical Geography

Q.5) Which of the following is easternmost pass in Himalayas?

- a) Nathu la pass
- b) Dipu Pass
- c) Bum la pass
- d) Chang la pass

ANS: B

Explanation:

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Major Passes in India

Geography4u.com



Major Passes in India

Geography4u.com

Source: NCERT- Indian Physical Geography

Q.6) Duncan Passage separates which two bodies?

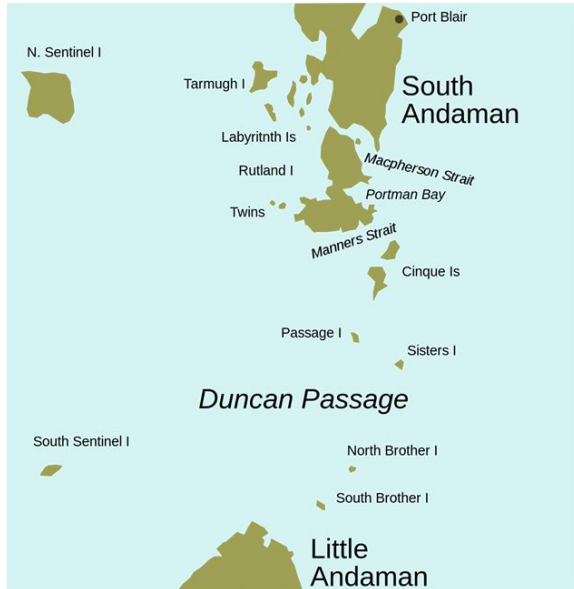
- a) Andaman and nicobar
- b) South Andaman and little Andaman
- c) Car nicobar from rest of nicobar
- d) Little nicobar and great nicobar

ANS: B

Explanation:

Duncan Passage is a strait in the Bay of Bengal. It is about 48 km wide; it separates Rutland Island to the north and Little Andaman to the south. West of Duncan Passage is the Bay of Bengal; east is the Andaman Sea.

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Source: NCERT- Indian Physical Geography

Q.7) Which of the following pairs is/are correctly matched?

- | | |
|-------------|---------------------|
| 1. Karewas | Arunachal Himalayas |
| 2. Barchans | Indian Desert |
| 3. Kayals | Coromandal Coast |

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

- Karewas are lacustrine deposits [deposits in lakes] in the Valley of Kashmir and in Bhadarwah Valley of the Jammu Division. The Karewa Formation is a Plio-Pleistocene glaciofluvial-lacustrine and aeolian loess. It is critical for agricultural and horticultural practices.
- A barchan or barkhan dune is a crescent-shaped dune. The term was introduced in 1881 by Russian naturalist Alexander von Middendorf, for crescent-shaped sand dunes in Turkestan and other inland desert regions. Barchans face the wind, appearing convex and are produced by wind action predominantly from one direction.
- Kayals are defined as the shallow lagoons or inlets of sea that are parallel to the coastlines. The lagoon lakes in Kerala are known as Kayal. Word Kayal means backwater. Kerala backwaters are a network of brackish lagoons and lakes.

Source: NCERT- Indian Physical Geography

Q.8) Which of the following river doesn't flows through Punjab before entering Pakistan?

- a) satluj
- b) ravi
- c) Chenab

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d) beas

ANS: C

Explanation:



Source: NCERT- Indian Physical Geography

Q.9) Consider the following statements:

1. Chenab is also known as Chandrabhaga.
2. Kosi is known as 'Sorrow of Bengal.'

Which of the above given statements is/are correct?

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

ANS: A

Explanation:

- The Chenab River is a major river that flows in India and Pakistan, and is one of the 5 major rivers of the Punjab region. It is formed by the union of two headwaters, Chandra and Bhaga, which rise in the upper Himalayas in the Lahaul and Spiti district of Himachal Pradesh, India. Chenab flows through the Jammu region of Jammu and Kashmir, India into the plains of Punjab, Pakistan, before ultimately flowing into the Indus River.
- Damodar River is known as the 'River of Sorrows'. It is called so because it used to flood many areas of Bardhaman, Hooghly, Howrah and Medinipur districts.

Source: NCERT- Indian Physical Geography

Q.10) Arrange the alluvium deposits from north to south:

1. Tarai
2. Khadar
3. Bhnagar
4. Bhabar

Select the correct answer using the codes given below:

- a) 2, 3, 4, 1

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

ANS: B

Explanation:

- The northern plains are formed by the alluvial deposits brought by the rivers – the Indus, the Ganga and the Brahmaputra.
- These plains extend approximately 3,200 km from the east to the west. The average width of these plains varies between 150-300 km.
- The maximum depth of alluvium deposits varies between 1,000-2,000 m. From the north to the south, these can be divided into three major zones: the Bhabar, the Tarai and the alluvial plains. The alluvial plains can be further divided into the Khadar and the Bhangar.
- Bhabar is a narrow belt ranging between 8-10 km parallel to the Shiwalik foothills at the break-up of the slope. As a result of this, the streams and rivers coming from the mountains deposit heavy materials of rocks and boulders, and at times, disappear in this zone. South of the Bhabar is the Tarai belt, with an approximate width of 10-20 km where most of the streams and rivers re-emerge without having any properly demarcated channel, thereby, creating marshy and swampy conditions known as the Tarai.
- This has a luxurious growth of natural vegetation and houses a varied wildlife. The south of Tarai is a belt consisting of old and new alluvial deposits known as the Bhangar and Khadar respectively.

Source: NCERT- Indian Physical Geography

Environment

Q.1) Consider the following statements:

1. Environmental information system (ENVIS) Established in 1982.
2. The focus of ENVIS is protection of environment and flora and fauna.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

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

ANS: A

Explanation: Realizing the importance of Environmental Information, the Government of India, in December, 1982, established an Environmental Information System (ENVIS) as a plan program. The focus of ENVIS since inception has been on providing environmental information to decision makers, policy planners, scientists and engineers, research workers, etc. all over the country.

Objective of Environmental Information System:

Long-term objectives:

- To build up a repository and dissemination centre in Environmental Science and Engineering.
- To gear up the modern technologies of acquisition, processing, storage, retrieval and dissemination of information of environmental nature; and .
- To support and promote research, development and innovation in environmental information technology.

Short-term objectives:

- To provide national environmental information service relevant to present needs and capable of development to meet the future needs of users, originator, processors and disseminators of information;
- To build up storage, retrieval and dissemination capabilities with the ultimate objectives of disseminating information speedily to the users;
- To promote, national and international cooperation and liaison for exchange of environment related information;
- To promote, support and assist education and personnel training programmes designed to enhance environmental information processing and utilization capabilities.

Source: Environment by Shankar IAS

Q.2) Consider the following pairs:

Country

1. South Africa
2. Hungary
3. Argentina
4. Australia

Temperate Grassland

- Veldts
- Pampas
- Steppes
- Pustza

Select the correct answer using the codes given below about correctly matched pairs:

- a) One pair only
- b) Two pair only
- c) Three pair only
- d) All four pairs

ANS: A

Explanation: Grasslands are located on every continent with the exception of Antarctica. Some locations of temperate grasslands include:

- Argentina – pampas
- Australia-downs
- Central North America-plains and prairies
- Hungary-pustza
- New Zealand-downs
- Russia-steppes
- South Africa-veldts

Source: Environment by Shankar IAS

Q.3) Which of the following given below are results of Eutrophication?

1. Harmful algal blooms
2. Dead zones
3. Fish kills

Select the correct answer using the codes given below:

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

ANS: D

Explanation: Eutrophication is a big word that describes a big problem in the nation's estuaries. Harmful algal blooms, dead zones, and fish kills are the results of a process called eutrophication—which begins with the increased load of nutrients to estuaries and coastal waters. The primary culprits in eutrophication appear to be excess nitrogen and phosphorus—from sources including fertilizer runoff and septic system effluent to atmospheric fallout from burning fossil fuels—which enter water bodies and fuel the overgrowth of algae, which, in turn, reduces water quality and degrades estuarine and coastal ecosystems. Eutrophication can also produce carbon dioxide, which lowers the PH of seawater (ocean acidification). This slows the growth of fish and shellfish, may prevent shell formation in bivalve mollusks, and reduces the catch of commercial and recreational fisheries, leading to smaller harvests and more expensive seafood.

Source: Environment by Shankar IAS

Q.4) “It is a transitional area of vegetation between two different plant communities, such as forest and grassland. It has some of the characteristics of each bordering biological community and often contains species not found in the overlapping communities.”

The above statement defines which of the following?

- a) Ecotone
- b) Ecotype
- c) Ecocline
- d) Ecological Niche

ANS: A

Explanation:

Ecotone, a transitional area of vegetation between two different plant communities, such as forest and grassland. It has some of the characteristics of each bordering biological community and often contains species not found in the overlapping communities. An ecotone may exist along a broad belt or in a small pocket, such as a forest clearing, where two local

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communities blend together. The influence of the two bordering communities on each other is known as the edge effect. An ecotonal area often has a higher density of organisms of one species and a greater number of species than are found in either flanking community. Some organisms need a transitional area for activities such as courtship, nesting, or foraging for food.

Ecotype: A locally adapted population of a widespread species. Such populations show minor changes of morphology and/or physiology, which are related to habitat and are genetically induced. Nevertheless they can still reproduce with other ecotypes of the same species. Heavy-metal-tolerant ecotypes of common grasses such as *Agrostis tenuis* are an example.

Ecological Niche: All of the interactions of a species with the other members of its community, including competition, predation, parasitism, and mutualism. A variety of abiotic factors, such as soil type and climate, also define a species' niche.

Ecocline (ecological gradient): A gradation from one ecosystem to another when there is no sharp boundary between the two. It is the joint expression of associated community and complex environmental gradients.

Source: Environment by Shankar IAS

Q.5) The cyclic movement of chemical elements of the biosphere between organism and the environment is referred to as:

5. Carbon Cycle
6. Biogeochemical Cycle
7. Sedimentary Cycle
8. Water Cycle

ANS: B

Explanation: Life on earth consists of a great variety of living organisms. These living organisms exist and survive in a diversity of associations. Such survival involves the presence of systemic flows such as flows of energy, water and nutrients. These flows show variations in different parts of the world, in different seasons of the year and under varying local circumstances. Studies have shown that for the last one billion years, the atmosphere and hydrosphere have been composed of approximately the same balance of chemical components. This balance of the chemical elements is maintained by a cyclic passage through the tissues of plants and animals. The cycle starts by absorbing the chemical elements by the organism and is returned to the air, water and soil through decomposition. These cycles are largely energised by solar insolation. These cyclic movements of chemical elements of the biosphere between the organism and the environment are referred to as biogeochemical cycles. Bio refers to living organisms and geo to rocks, soil, air and water of the earth.

There are two types of biogeochemical cycles: the gaseous and the sedimentary cycle. In the gaseous cycle, the main reservoir of nutrients is the atmosphere and the ocean. In the sedimentary cycle, the main reservoir is the soil and the sedimentary and other rocks of the earth's crust.

Source: Environment by Shankar IAS

Q.6) Consider the following pairs of international days:

International Day	Date
1. Ozone day	16 September
2. Water day	2 February
3. Environment day	5 June
4. Wetland day	22 March

Select the answer using the codes given below for correctly matched pairs?

- a) One pair only

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- b) Two pair only
- c) Three pair only
- d) All four pairs

ANS: B

Explanation: International days are occasions to educate the public on issues of concern, to mobilize political will and resources to address global problems, and to celebrate and reinforce achievements of humanity.

In 1994, the United Nations General Assembly proclaimed 16 September the International Day for the Preservation of the Ozone Layer, commemorating the date of the signing, in 1987, of the Montreal Protocol on Substances that Deplete the Ozone Layer. It celebrates the progress in protecting the ozone layer and moves to phase out ozone depleting chemicals which are also potent greenhouse gases.

World Environment Day is the United Nations day for encouraging worldwide awareness and action to protect our environment. Every World Environment Day has a different host country, where the official celebrations take place. The focus on the host country helps highlight the environmental challenges it faces and supports worldwide efforts to address them.

World Wetlands Day is celebrated internationally each year on 2 February. It marks the anniversary of the signing of the Convention on Wetlands of International Importance (Ramsar Convention) in Ramsar, Iran, on 2 February 1971.

Source: Environment by Shankar IAS

Q.7) Consider the following statements with respect to stages of Nitrogen Cycle:

1. Nitrification
2. Assimilation
3. Ammonification
4. Denitrification

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The nitrogen cycle contains several stages:

Nitrogen fixation

Atmospheric nitrogen occurs primarily in an inert form (N_2) that few organisms can use; therefore it must be converted to an organic – or fixed – form in a process called nitrogen fixation. Most atmospheric nitrogen is ‘fixed’ through biological processes.

Nitrification

While ammonia can be used by some plants, most of the nitrogen taken up by plants is converted by bacteria from ammonia – which is highly toxic to many organisms – into nitrite (NO_2^-), and

then into nitrate (NO_3^-). This process is called nitrification, and these bacteria are known as nitrifying bacteria.

Assimilation

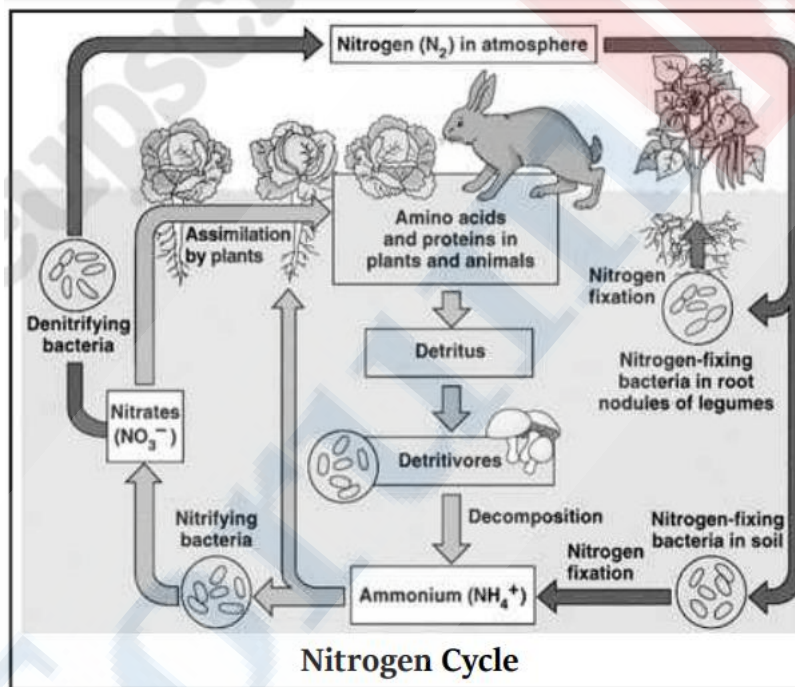
Nitrogen compounds in various forms, such as nitrate, nitrite, ammonia, and ammonium are taken up from soils by plants which are then used in the formation of plant and animal proteins.

Ammonification

when plants and animals die, or when animals emit wastes, the nitrogen in the organic matter reenters the soil where it is broken down by other microorganisms, known as decomposers. This decomposition produces ammonia which is then available for other biological processes.

Denitrification

Nitrogen makes its way back into the atmosphere through a process called denitrification, in which nitrate (NO_3^-) is converted back to gaseous nitrogen (N_2). Denitrification occurs primarily in wet soils where the water makes it difficult for microorganisms to get oxygen. Under these conditions, certain organisms – known as denitrifying bacteria – will process nitrate to gain oxygen, leaving free nitrogen gas as a byproduct.



Source: Environment by Shankar IAS

Q.8) Consider the following statements with respect to “Keystone Species”:

1. It can be any organism, from animals and plants to bacteria and fungi
2. Keystone species maintain the local biodiversity of an ecosystem, influencing the abundance and type of other species in a habitat

Which of the statements given above is/are correct?

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

ANS: C

Explanation: A keystone species—which can be any organism, from animals and plants to bacteria and fungi—is the glue that holds a habitat together. It may not be the largest or most

plentiful species in an ecological community, but if a keystone is removed, it sets off a chain of events that turns the structure and biodiversity of its habitat into something very different. Although all an ecosystem's many components are intricately linked, these are the living things that play a pivotal role in how their ecosystem functions. Keystone species maintain the local biodiversity of an ecosystem, influencing the abundance and type of other species in a habitat. They are nearly always a critical component of the local food web. One of the defining characteristics of a keystone species is that it fills a critical ecological role that no other species can. Without its keystone species, an entire ecosystem would radically change—or cease to exist altogether. It's important to note that a species' role can change from one ecosystem to the next, and a species that is considered a keystone in one environment may not be considered the same in another.

Source: Environment by Shankar IAS

Q.9) “Dobson Unit” measurement related to which of the following?

- a) Global Warming
- b) Ozone Concentration
- c) Acid Rain
- d) Ocean Acidification

ANS: B

Explanation:

The Dobson Unit is the most common unit for measuring ozone concentration. One Dobson Unit is the number of molecules of ozone that would be required to create a layer of pure ozone 0.01 millimeters thick at a temperature of 0 degrees Celsius and a pressure of 1 atmosphere (the air pressure at the surface of the Earth). Expressed another way, a column of air with an ozone concentration of 1 Dobson Unit would contain about 2.69×10^{16} ozone molecules for every square centimeter of area at the base of the column. Over the Earth's surface, the ozone layer's average thickness is about 300 Dobson Units or a layer that is 3 millimeters thick.

Source: Environment by Shankar IAS

Q.10) Yellow Stone National Park is located in which of the following country?

- a) North America
- b) Australia
- c) New Zealand
- d) South Africa

ANS: A

Explanation: Yellowstone National Park is an American national park located in Wyoming, Montana, and Idaho. It was established by the U.S. Congress and signed into law by President Ulysses S. Grant on March 1, 1872. Yellowstone was the first national park in the U.S. and is also widely held to be the first national park in the world. The park is known for its wildlife and its many geothermal features, especially Old Faithful geyser, one of its most popular features. It has many types of ecosystems, but the subalpine forest is the most abundant. It is part of the South Central Rockies forests eco-region.

Source: ForumIAS

Indian History

Q.1) Consider the following statements:

1. Zamindars were responsible for paying revenue to the company.
2. Jotedars gave out loans to Ryots.

Which of the statement given above is/are correct?

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

ANS: C

Explanation:

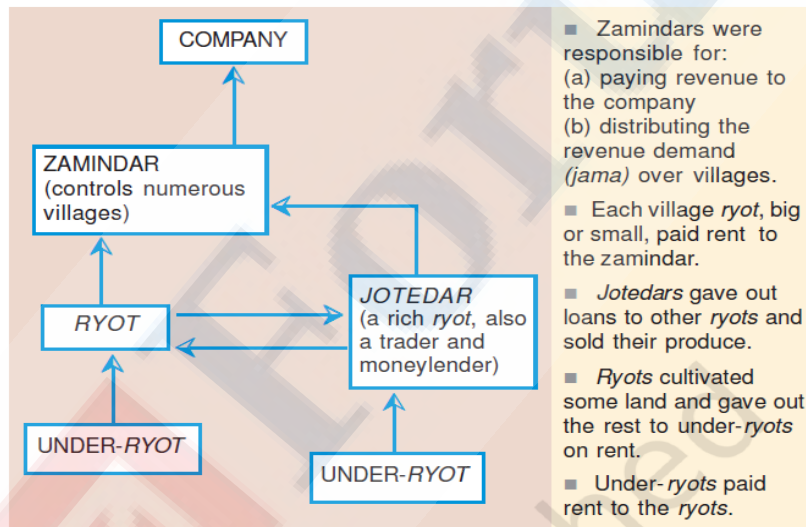


Fig.10.5
Power in rural Bengal

Source: Themes in Indian History – Part III

Q.2) With respect to modern history, the term “Damin-i-koh” is related to which of the following?

- a) Sanyasi Revolt
- b) Santhals

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- c) Munda Rebellion
- d) Revolt of 1857

ANS: B

Explanation:

- The Santhals were given land and persuaded to settle in the foothills of Rajmahal. By 1832 a large area of land was demarcated as Damin-i-Koh. This was declared to be the land of the Santhals.
- They were to live within it, practise plough agriculture, and become settled peasants. The land grant to the Santhals stipulated that at least one-tenth of the area was to be cleared and cultivated within the first ten years. The territory was surveyed and mapped.
- Enclosed with boundary pillars, it was separated from both the world of the settled agriculturists of the plains and the Paharias of the hills.
- After the demarcation of Damin-i-Koh, Santhal settlements expanded rapidly.

Source: Themes in Indian History – Part III

Q.3) Limitation law 1859 is related to which of the following?

- a) Vernacular Press
- b) Arms
- c) Loan Bonds
- d) Indigo Cultivation

ANS: C

Explanation

- The ryots came to see the moneylender as devious and deceitful. They complained of moneylenders manipulating laws and forging accounts.
- In 1859 the British passed a Limitation Law that stated that the loan bonds signed between moneylenders and ryots would have validity for only three years.
- This law was meant to check the accumulation of interest over time.

Source: Source: Themes in Indian History – Part III

Q.4) To which of the following Decan Riots are related?

- a) Agrarian distress
- b) Hindu vs Muslim
- c) Against lowering the age for civil services
- d) Salt production

ANS: A

Explanation:

Deccan Riot of 1875 – Background

- In 1875, peasants in the Bombay Presidency rose in rebellion against the agrarian crisis that faced them.
- In the Bombay Deccan region, the British had introduced the Ryotwari settlement as the system of land revenue.
- Under this system, the revenue of land was fixed on a yearly basis.
- In the Ryotwari system, the agreement was between the government and the ryot (cultivator) directly.

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- The revenue was fixed according to the soil-type and the paying capacity of the farmer. However, the revenues were so high that farmers found it extremely difficult to pay their dues. Any failure in the rains would deteriorate the situation.
- To pay their revenues farmers generally took loans from moneylenders. Once the loans were taken, the farmers found it impossible to repay them since the interest rates were steep.
- Peasant indebtedness became a serious problem in the rural areas.
- In 1861, civil war broke out in the USA. USA was the largest supplier of cotton to Britain. Once the civil war broke out, the demand for cotton from India became high and this led to a surge in cotton cultivation in India and there was a period of 'boom' then.
- However, once the war in America ended, cotton demand sunk and this affected the farmers adversely.
- The moneylenders, who during the time of the civil war were generous with their loans, once again refused the farmers loans.
- This infuriated the farmers because they were completely dependent on the moneylenders, who were insensitive to their plight.

Source: Themes in Indian History – Part III

Q.5) Considering the following statement:

1. The British would be responsible for protecting their ally from external threats only.
2. The ally would have to provide the resources for maintaining this contingent.
3. The ally could engage in warfare only with the permission of the British.

Which of the statement given above is/are correct?

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

ANS: D

Explanation:

Subsidiary Alliance

Subsidiary Alliance was a system devised by Lord Wellesley in 1798. All those who entered into such an alliance with the British had to accept certain terms and conditions:

- The British would be responsible for protecting their ally from external and internal threats to their power.
- In the territory of the ally, a British armed contingent would be stationed.
- The ally would have to provide the resources for maintaining this contingent.
- The ally could enter into agreements with other rulers or engage in warfare only with the permission of the British.

Source: Source: Themes in Indian History – Part III

Q.6) Under which treaty Portugal could claim and occupy everything east of the imaginary line in Atlantic while Spain could claim everything west of the Atlantic?

- a) Treaty of Paris
- b) Treaty of Lisbon
- c) Treaty of Tordesillas
- d) Treaty of Rome

ANS: C

Explanation:

- In 1497, under the Treaty of Tordesillas (1494), the rulers of Portugal and Spain divided the non-Christian world between them by an imaginary line in the Atlantic, some 1300 miles west of the Cape Verde Islands.
- Under the treaty, Portugal could claim and occupy everything to the east of the line while Spain could claim everything to the west.

Source: Source: Themes in Indian History – Part III

Q.7) Consider the following statements with respect to Revolt of Moamarias:

1. The moamarias were low-caste peasants.
2. The revolt happened present day Bihar.

Which of the statement given above is/are correct?

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

ANS: D

Explanation:

- The revolt of the Moamarias in 1769 was a potent challenge to the authority of Ahom kings of Assam. The Moamarias were low-caste peasants who followed the teachings of Aniruddhadeva (1553-1624), and their rise was similar to that of other low-caste groups in north India.
- Their revolts weakened the Ahoms and opened the doors for others to attack the region, for instance, in 1792, the King of Darrang (Krishnanarayan), assisted by his band of burkandazes (the demobilised soldiers of the Muslim armies and zamindars) revolted.
- To crush these revolts, the Ahom ruler had to request for British help. The Moamarias made Bhatiapar their headquarters. Rangpur (now in Bangladesh) and Jorhat were the most affected region. Although, the Ahom kingdom survived the rebellion, the weakened kingdom fell to a Burmese invasion and finally came under British rule.

Source: Source: Themes in Indian History – Part III

Q.8) Ionic capital, Doric capital, Corinthian capital are the terms related to which of the following?

- a) British Architecture
- b) Chinese Architecture
- c) Ancient Greek Architecture
- d) French Architecture

ANS: C

Explanation:

- *Ionic* was one of the three orders (organisational systems) of Ancient Greek architecture, the other two being Doric, and Corinthian.
- One feature that distinguished each order was the style of the capital at the head of the columns. These forms were re-adapted in the Renaissance and Neo-classical forms of architecture.

Source: Themes in Indian History – Part III

Q.9) Consider the following statements:

1. Colonial land revenue settlements
2. Encroachment on tribal lands
3. Just rule by British
4. Destruction of indigenous manufacturing

Which of the following above factors responsible for people's resentment and uprisings in British India?

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

ANS: C

Explanation:

The major factors responsible for the people's resentment and uprisings against the Company rule are as follows.

- Colonial land revenue settlements, heavy burden of new taxes, eviction of peasants from their lands, and encroachments on tribal lands.
- Exploitation in rural society coupled with the growth of intermediary revenue collectors, tenants and moneylenders.
- Expansion of revenue administration over tribal lands leading to the loss of tribal people's hold over agricultural and forest land.
- Promotion of British manufactured goods, heavy duties on Indian industries, especially export duties, leading to devastation of Indian handloom and handicraft industries.
- Destruction of indigenous industry leading to migration of workers from industry to agriculture, increasing the pressure on land/agriculture.

Source: Source: Themes in Indian History – Part III

Q.10) “England began with depriving the Indian cottons from the European market; it then introduced twist into Hindustan and in the end inundated the very mother country of cotton with cottons.” Which of the following give below personality quoted above statement?

- a) Karl Marx
- b) Jawaharlal Nehru
- c) DR B R Ambedkar
- d) Dadabhai Naoroji

ANS: A

Explanation:

It was the British intruder who broke up the Indian handloom and destroyed the spinning-wheel. England began with depriving the Indian cottons from the European market; it then introduced twist into Hindustan and in the end inundated the very mother country of cotton with cottons.”
-Karl Marx.

Source: Source: Themes in Indian History – Part III

Schemes/ Programmes/ Institutions

Q.1) Consider the following statements about Association of World Election Bodies:

1. The permanent secretariat is located in Washington DC.
2. It was established with the vision of achieving sustainable democracy around the world.

Which of the statement given above is/are correct?

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

ANS: B

Explanation: Association of World Election Bodies

It is the largest association of Election Management Bodies (EMBs) worldwide. It was established in 2013. The permanent secretariat is located in Seoul, South Korea. At present, it has 118 EMBs as Members & 20 Regional Associations/Organisations as Associate Members.

It was established with the vision of achieving sustainable democracy around the world. A-WEB undertakes Election Visitor and Observation Programmes in various countries to study various election management practices and share knowledge with other Member of EMBs.

Source: EPIC May 2022

Q.2) Consider the following statements about National Open Access Registry (NOAR):

1. NOAR is the key to enable the integration of Renewable Energy (RE) resources into the grid.
2. It has been launched by Ministry of New and Renewable Energy.

Which of the statement given above is/are correct?

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

ANS: A

Explanation: National Open Access Registry (NOAR)

It has successfully gone live from 1st May 2022. It has been launched by the Ministry of Power. It is a centralized online platform through which short-term open access to the interstate transmission system is being managed. The platform is accessible to all stakeholders including open access participants, traders, power exchanges, and national/regional/state load despatch centres. NOAR is the key to facilitate faster electricity markets and enable the integration of Renewable Energy (RE) resources into the grid.

Source: EPIC May 2022

Q.3) Consider the following statements about Microprocessor Development Program:

1. Microprocessors named Shakti and Vega have been developed under this program.

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2. It has been launched by Ministry of Science and Technology.

Which of the statement given above is/are NOT correct?

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

ANS: B

Explanation: Digital India RISC-V Microprocessor (DIR-V) Program

It has been launched by the Ministry of Electronics and Information Technology. Its aim is to enable the creation of Microprocessors, and achieve industry-grade silicon and Design wins by December 2023. It will promote partnerships between Start-ups, Academia & Multinationals to make India a supplier of RISC-V SoC (System on Chips) for Servers, Mobile devices, Automotive, IoT & Microcontrollers. IIT Madras and the Center for Development of Advanced Computing (CDAC) have developed two microprocessors named Shakti (32-bit) and Vega (64-bit) respectively under the Microprocessor Development Program.

Source: EPIC May 2022

Q.4) Which of the following statements about National Film Heritage Mission is/are correct?

- 1. Its aim is to preserve, restore and digitize India's cinematic heritage.
- 2. It is launched in 2022 by the Ministry of Information & Broadcasting.
- 3. It is being implemented by the National Film Archives of India (NFAI).

Select the correct answer using the codes given below:

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

ANS: D

Explanation: National Film Heritage Mission (NFHM)

It was launched in 2016 by the Ministry of Information & Broadcasting. Its aim is to preserve, restore and digitize India's cinematic heritage. It is being implemented by the National Film Archives of India (NFAI). It is one of the world's largest film preservation missions. NFAI was setup in 1964 as a media unit of the Ministry of Information & Broadcasting. It is headquartered in Pune, Maharashtra.

Source: EPIC May 2022

Q.5) Which of the following statement about BioNEST Scheme is correct?

- a) BioNEST stands for Bio-Incubators Nurturing Entrepreneurship for Scaling Technologies.
- b) Its aim is to inhibit the biotech innovation ecosystem in the country.
- c) It has been launched by Biotechnology Industry Research Assistance Council (BIRAC).
- d) Both (a) and (c)

ANS: D

Explanation: BioNEST Scheme

BioNEST stands for Bio-Incubators Nurturing Entrepreneurship for Scaling Technologies.

It has been launched by Biotechnology Industry Research Assistance Council (BIRAC).

Its aim is to foster the biotech innovation ecosystem in the country by creating globally competent bio-incubation facilities across the country.

Source: EPIC May 2022

Q.6) Consider the following statements about National Behaviour Change Communication Framework for Garbage Free Cities:

1. It has been launched by the Ministry of Housing and Urban Affairs.
2. The framework focuses on areas of source segregation, collection, transportation, and processing of waste, plastic waste management etc.

Which of the statement given above is/are correct?

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

ANS: C

Explanation: National Behaviour Change Communication Framework for Garbage Free Cities

It has been launched by the Ministry of Housing and Urban Affairs under Swachh Bharat Mission: Urban 2.0. Its aim is to strengthen the ongoing Jan Andolan for 'Garbage Free Cities'. The framework serves as a guiding document and blueprint for States and Cities to undertake large scale multimedia campaigns along with intensive and focused interpersonal communication campaigns. The framework focuses on intensifying messaging around the key focus areas of source segregation, collection, transportation, and processing of waste, plastic waste management etc.

Source: EPIC May 2022

Q.7) Consider the following statements about European Union:

1. European Union is only Economic Union of 27 countries.
2. European Union was established through Treaty of Lisbon.

Which of the statement given above is/are correct?

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

ANS: D

Explanation:

European Union

- **Political and Economic Union** of 27 countries.
- **Area:** 4.2 million sq. km; **Population:** 447 million (5.8% of global).
- Nominal GDP of **US\$ 17.1 trillion** in 2021 (18% of global, 3rd overall).
- Traces its origin to **European Coal and Steel Community** and the **European Economic Community**.
- Established through **Maastricht Treaty** (1993). **Treaty of Lisbon** (2009) amended significant provisions regarding the legal structure of EU.
- **Institutions:**
 - **European Council:** Sets the general political directions and priorities of the EU.
 - **Council of the EU:** Brings together ministers of member Governments'. Its approval is required for any proposal to enter into law.
 - **European Parliament:** 705 directly elected representatives. It shares with the Council of the EU **equal legislative powers** to amend, approve or reject European Commission proposals for most areas of EU legislation.
 - **European Commission:** Only institution **empowered to propose legislation**, serves as the 'Guardian of the Treaties'. It consists of an executive cabinet of public officials. Manages and directs the Commission's permanent civil service.

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Source: EPIC May 2022

Q.8) “Ecowrap Report”, recently seen in news is released by which of the following institutions?

- a) RBI
- b) NITI Aayog
- c) SBI
- d) Ministry of Earth Science

ANS: C

Explanation:

State Bank of India's Economic Research Department has released the Ecowrap Report.

Key Findings of the Ecowrap Report: India's GDP growth is expected to be in the range of 8.2% to 8.5 % in FY22.

States opting for Freebies:

Several states in the country are resorting to offering freebies like farm loan waivers and restoring the old pension system. Telangana has committed 35% of revenue receipts to finance populist schemes. Rajasthan, Chhattisgarh, Andhra Pradesh and others have all committed to spend 5-19% of their revenue receipts on similar schemes. These populist schemes are economically unsustainable and also limit states flexibility to spend on development projects. With the GST compensation from the Center ending in June, the states need to re-prioritise expenditure in accordance with the revenue receipts.

Source: EPIC May 2022

Q.9) Consider the following statements about World Economic Outlook Report:

- 1. It is published by IMF once in two years.

2. The aim is to provide forecasts of economic developments of member countries and highlight risks and uncertainty.

Which of the statement given above is/are correct?

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

ANS: B

Explanation:

About the World Economic Outlook Report

The report is published by the IMF twice a year: in April and October. It also provides updates to these two reports in January and July. The aim of the report is to provide analysis and forecasts of economic developments of member countries and highlight risks and uncertainty.

Source: EPIC May 2022

Q.10) "Pyramid Scheme", recently seen in news is related to which of the following?

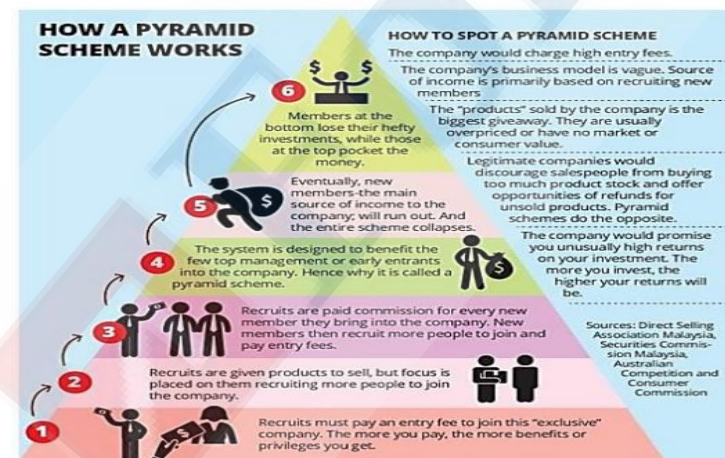
- a) Ecological sustainability
- b) Demographic dividend
- c) Unsustainable business model
- d) Bridging Digital Divide

ANS: C

Explanation:

About the Pyramid Scheme

A pyramid scheme is a sketchy and unsustainable business model where a few top-level members recruit newer members. Those members pay upfront costs up the chain to those who enrolled them. As newer members in turn recruit underlings of their own, a portion of the subsequent fees they receive is also kicked up the chain. In a pyramid scheme, the major profit comes from the recruitment fees rather than the sale of the actual products. Multi-Level Marketing operations (MLMs) are similar to pyramid schemes with one difference: they involve the sale of tangible goods.



Source: EPIC May 2022

Science and Technology

Q.1) Consider the following statements about INS Varghese:

1. It is a type of Scorpene-class submarines.
2. It has been manufactured in collaboration with Israel.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

INS Vagsheer

It is the 6th and last of the Scorpene-class submarines made under Project 75. It can join the Navy fleet within 12-18 months. It has been manufactured by Mazagon Dock Shipbuilders Limited (MDL) in collaboration with Naval Group, France. It has been named after the sandfish, a deep-sea predator.

It is a diesel attack submarine. It can reach a top speed of 11 knots (at surface) and 20 knots (submerged). It is also enabled with Anti-Torpedo Countermeasure system. Its superior stealth features include advanced acoustic absorption techniques and low noise levels.

Source: EPIC May 2022

Q.2) National Cyber Security Incident Response Exercise has been sponsored by which of the following?

- a) NITI Aayog
- b) Ministry of Home Affairs
- c) DRDO
- d) Department of Science and Technology

ANS: C

Explanation:

National Cyber Security Incident Response Exercise:

It is conducted by the National Security Council Secretariat (NSCS) in association with Data Security Council of India (DSCI) as the knowledge partner. The exercise supported by the DRDO. It aims to train senior management and technical personnel of Government/Critical Sector organizations and agencies on contemporary cyber threats and handling cyber incidents and response.

Source: EPIC May 2022

Q.3) SOFIA Telescope is located at which of the following place?

- a) India
- b) China
- c) Russia
- d) None of the above

ANS: D

Explanation: SOFIA Telescope:

SOFIA stands for Stratospheric Observatory for Infrared Astronomy. It is a 2.7-meter infrared telescope sitting inside a Boeing 747SP airplane. The plane flies at an altitude of 38,000-45,000 feet above the surface of earth. It is the world's largest flying telescope. The telescope has made important discoveries like presence of water on Moon in Clavius Crater (2020). It also discovered helium hydride; the first molecule formed in the Universe almost 14 billion years ago. NASA has decided to shut down the SOFIA Telescope.

Source: EPIC May 2022

Q.4) Consider the following statements about InSight Mission:

1. It is a robotic lander designed to study the interior of the moon.
2. It is part of NASA's Discovery Program.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

InSight Mission:

The Interior Exploration using Seismic Investigations, Geodesy, and Heat Transport (InSight) mission is a robotic lander designed to study the interior of the planet Mars. It is part of NASA's Discovery Program. The objective of the Mission is to determine the rate of Martian tectonic activity and meteorite impacts.

Source: EPIC May 2022

Q.5) Consider the following statements about Tomato Flu:

1. The flu recently affected children below the age of 5 in Kerala.
2. Tomato fever is contagious.

Which of the statements given above is/are correct?

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

ANS: C

Explanation:

Tomato Flu:

Tomato Flu got its name from the tomato-shaped blisters it causes on the body. The flu is affecting children below the age of 5 in Kerala. The affected child can get blisters, high fever, body ache, joint swelling and fatigue. Tomato fever is contagious. This flu is a self-limiting and there is no specific drug for this. This means that the symptoms will resolve over time on their own if supportive care is given.

Source: EPIC May 2022

Q.6) India's First pure Green Hydrogen pilot plant has been commissioned at which of the following place?

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- a) Haryana
- b) Maharashtra
- c) Gujarat
- d) Assam

ANS: D

Explanation:

India's First Green Hydrogen Plant:

Oil India Limited (OIL) has commissioned India's First pure Green Hydrogen pilot plant at its Jorhat Pump Station in Assam. The plant produces Green Hydrogen from the electricity generated by the existing 500kW Solar plant using a 100 kW Anion Exchange Membrane (AEM) Electrolyser array. The use of AEM technology is being used for the first time in India.

Source: EPIC May 2022

Q.7) Consider the following statements about Anion Exchange Membrane (AEM) Technology and Electrolysis:

1. Both technologies uses expensive metals like platinum and ruthenium.
2. Both technologies can be used to split water into hydrogen and oxygen.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

Anion Exchange Membrane (AEM) Technology:

Electrolysis is the process of splitting water into hydrogen and oxygen. An electrolyzer is a system that uses electricity to break water into hydrogen and oxygen through electrolysis. Typically, electrolyzers use proton exchange membranes (PEMs) to produce hydrogen. This method needs expensive metals like platinum and ruthenium to remain in an acidic environment. Anion Exchange Membranes (AEMs) is an alternate to this method. It uses alkaline conditions, so there is no need for expensive metals. The materials involved in AEMs are thus some 3,000 times less expensive than PEMs.

Source: EPIC May 2022

Q.8) 'Earendel' Star, the farthest star ever seen to date has been discovered by which of the following?

- a) SOFIA Telescope
- b) Hubble Telescope
- c) James Webb Space Telescope
- d) Advanced Telescope for High Energy Astrophysics.

ANS: B

Explanation:

'Earendel' Star:

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NASA's Hubble Space Telescope has discovered the farthest star ever seen to date. It has been nicknamed as Earendel. It means 'morning star' in Old English. The star is more than 12.9 billion light-years away and likely existed within the first billion years after the beginning of the universe. The star has been discovered by phenomena of 'gravitational lensing'.

Source: EPIC May 2022

Q.9) Which of the following statement about Gravitational Lensing is/are correct?

1. Gravitational Lensing occurs when a huge amount of matter, like a cluster of galaxies, creates a very strong gravitational field.
2. The 'Earendel' Star has been recently discovered by phenomena of 'gravitational lensing'.

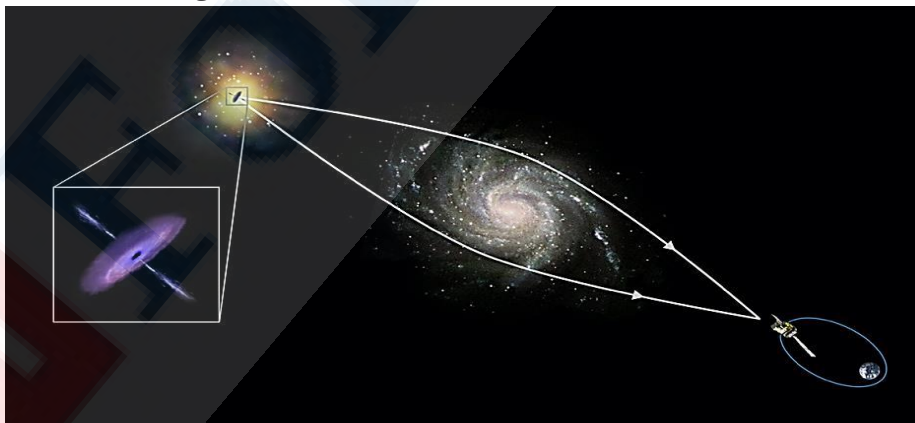
Select the correct answer using the codes given below:

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

ANS: C

Explanation:

- Gravitational Lensing Einstein's General Theory of Relativity predicts that light can be bent by gravity.
- Gravitational Lensing occurs when a huge amount of matter, like a cluster of galaxies, creates a very strong gravitational field.
- This field distorts and magnifies the light from distant galaxies that are behind it but in the same line of sight. The effect is like looking through a giant magnifying glass. This effect allows researchers to study the details of early galaxies too far away to be seen with current technology and telescopes.
- 'Earendel' Star NASA's Hubble Space Telescope has discovered the farthest star ever seen to date. It has been nicknamed as Earendel. It means 'morning star' in Old English. The star is more than 12.9 billion light-years away and likely existed within the first billion years after the beginning of the universe. The star has been discovered by phenomena of 'gravitational lensing'.



Source: EPIC May 2022

Q.10) India Patents Report has been released by which of the following?

- NITI Aayog
- Ministry of Commerce
- NASSCOM

d) Both (a) and (b)

ANS: C

Explanation:

India Patents Report:

The National Association of Software and Services Companies (NASSCOM) has released the India Patents report. Indian companies have filed 1.38 lakh tech patents in India from 2015 to 2021. Start-ups have been key contributors in terms of technology innovation. Over 60% of the technology patents were filed by Indian companies and start-ups while 16.7% of the tech patents were filed by Individual Inventors and Academia/Research. Artificial Intelligence (AI) continues to lead in terms of total patents filed under various emerging technology domains.

Source: EPIC May 2022

Economy

Q.1) If rest of the things remains equal, and a good has more substitutes, its price elasticity of demand is:

- a) Zero
- b) Smaller
- c) Larger
- d) Infinite

ANS: C

Explanation: Factors Determining Price Elasticity of Demand for a Good

- The price elasticity of demand for a good depends on the nature of the good and the availability of close substitutes of the good.
- Consider, for example, necessities like food. Such goods are essential for life and the demands for such goods do not change much in response to changes in their prices. Demand for food does not change much even if food prices go up. On the other hand, the demand for luxuries can be very responsive to price changes. In general, demand for

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necessity is likely to be price inelastic while demand for a luxury good is likely to be price elastic.

- Though the demand for food is inelastic, the demands for specific food items are likely to be more elastic. For example, think of a particular variety of pulses. If the price of this variety of pulses goes up, people can shift to some other variety of pulses which is a close substitute. The demand for a good is likely to be elastic if close substitutes are easily available. On the other hand, if close substitutes are not available easily, the demand for a good is likely to be inelastic.
- Other things equal, if a good has more substitutes, its price elasticity of demand is larger.

Source: NCERT

Q.2) Consider the following statements about “Free Market”:

1. It is a system in which there is a free provision of products.
2. In free market, forces of supply and demand are free from any intervention by a government.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Free market

In economics, a free market is an idealized system in which the prices for goods and services are determined by the open market and by consumers.

In a free market, the laws and forces of supply and demand are free from any intervention by a government, by a price-setting monopoly, or by other authority.

Proponents of the concept of free-market contrast it with a regulated market, in which a government intervenes in supply and demand through various methods — such as tariffs — used to restrict trade and to protect the local economy.

In an idealized free-market economy, prices for goods and services are set freely by the forces of supply and demand and are allowed to reach their point of equilibrium without intervention by government policy.

Although free markets are commonly associated with capitalism within a market economy in contemporary usage and popular culture, free markets have also been advocated by free-market anarchists, market socialists, and some proponents of cooperatives and advocates of profit sharing.

Source: NCERT

Q.3) Which of the following can be described as ‘Factors of Production’?

1. Land
2. Tools & machines
3. Skilled professionals
4. Entrepreneurship

Select the correct answer using the codes given below:

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

ANS: D

Explanation: Factors of Production

- Factors of production describe the inputs that are used in the production of goods or services in order to make an economic profit. The factors of production include land, labor (Skilled Professionals), capital (Tools & Machines), and entrepreneurship.
- In the absence of indirect taxes or subsidies, the total value of the final goods output is distributed among different factors of production – wages to labor, interest to capital, rent to land, etc.

Source: NCERT

Q.4) When demand is perfectly inelastic, an increase in price will result in:

- a) A decrease in total revenue
- b) An increase in total revenue
- c) No change in total revenue
- d) A decrease in quantity demanded

ANS: B

Explanation: How to Price Inelasticity Affects Total Revenue

For price inelastic goods or services, the change in the amount demanded is minimal with respect to the change in price. This can affect demand and total revenue for the business as:

- If the price for an inelastic good is increased and the demand does not change, the total revenue increases due to the higher price and static quantity demanded.
- However, price increases typically do lead to a small decrease in quantity demanded.
- This means that firms that deal with inelastic goods or services can increase prices, selling a little less but making higher revenues.
- Therefore, businesses that deal in goods that are price inelastic are better equipped for profit maximization and are better protected against economic downturns.
- Similarly, If the price for an inelastic good is lowered, the demand for that good does not increase, resulting in less overall revenue due to the lower price and no change in demand.

Source: NCERT

Q.5) Which of the following is correct with respect to Giffen goods?

- a) Good that people buy more as their incomes fall
- b) Good on which people spend a small portion of their income
- c) Good that has a vertical demand curve parallel to the y-axis
- d) Good that people buy more as its price increases

ANS: D

Explanation: Giffen Good

- The good for which the demand increases as its price increases, rather than falls is known as Giffen goods-named after Robert Giffen (1837–1910).
- It is a product that people consume more as the price rises and vice versa violating the basic law of demand in microeconomics.
- It applies to the large proportion of the goods belonging to the household goods (as flour, rice, pulses, salt, onion, potato, etc. in India)—an increase in their prices produces a large negative income effect completely overcoming the normal substitution effect with, people buying more of the goods.
- Examples: Bread, Rice, and Wheat.

Source: NCERT

Q.6) With reference to Harrod - Domar growth model, growth has been defined as which of the following?

- a) Directly related to investments and inversely related to the capital-output ratio
- b) Directly related to the capital-output ratio and inversely related to investments
- c) Indirectly related to investments and the capital-output ratio
- d) Directly related to investments and the capital-output ratio

ANS: A

Explanation: Harrod-Domar Growth Model

Harrod-Domar Growth Model suggests that the economy's rate of growth depends on:

- The level of national saving (S)
- The productivity of capital investment (this is known as the capital-output ratio)
- If the capital-output ratio is low, an economy can produce a lot of output from a little capital. If the capital-output ratio is high then it needs a lot of capital for production, and it will not get as much value of output for the same amount of capital.

As per this model, Rate of growth of GDP = Savings ratio / capital-output ratio

This implies if the savings rate is 10% and the capital-output ratio is 2, then a country would grow at 5% per year. Based on the model, therefore, the rate of growth in an economy can be increased in one of two ways:

- Increased level of savings in the economy (i.e. gross national savings as a % of GDP)
- Reducing the capital-output ratio (i.e. increasing the quality/productivity of capital inputs)

Source: NCERT

Q.7) With respect to Real and Nominal GDP, which of the following statement is/are correct?

1. Real GDP is equal to the economic output adjusted for the effects of inflation whereas Nominal GDP is economic output without the inflation adjustment.
2. Nominal GDP is usually higher than Real GDP.

Select the correct answer using the codes given below:

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

ANS: D

Explanation: Real and Nominal GDP

- GDP stands for Gross Domestic Product (GDP) and is the measure of the total economic output of the goods and services of a country. It is usually expressed on an annual basis but is sometimes expressed on a quarterly basis within a year.
- Real GDP is equal to the economic output adjusted for the effects of inflation. Nominal GDP is an economic output without the inflation adjustment.
- Real GDP is calculated in a way such that the goods and services are evaluated at some constant set of prices (or constant prices).
- When comparing the GDP of two or more years, real GDP is used because, by removing the effects of inflation, the comparison of the different years focuses solely on volume.

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- The year-to-year comparison for real GDP requires what is called a base year.
- The base year is nothing more than the year to which all the other years are adjusted.
- Nominal GDP is simply the value of GDP at the current prevailing prices.
- Nominal GDP is usually higher than real GDP because inflation is typically a positive number.
- Nominal GDP is used when comparing different quarters of output within the same year.

Source: NCERT

Q.8) Which of the following statements about GDP Deflator is/are not correct?

1. It represents the ratio of GDP at current prices to GDP at constant prices.
2. It covers only fixed basket of goods and services.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: GDP Deflator

- It is a tool to measure inflation comprehensively.
- It represents the ratio of GDP at current prices to GDP at constant prices. The GDP deflator is published on a quarterly basis since 1996 with a lag of two months.
- It is because of this very reason that economists prefer the use of the Wholesale Price Index (WPI) or Consumer Price Index (CPI) for deflating nominal price estimates to derive real price estimates.
- $\text{GDP deflator} = (\text{Nominal GDP} / \text{Real GDP}) * 100$ (if calculated in a percentage form).
- Unlike the WPI and the CPI, GDP deflator is not based on a fixed basket of goods and services, it covers the whole economy.
- It does not include the prices of imported goods.
- The weights are constant in CPI, but they differ according to the production level of each good in GDP deflator.

Source: NCERT

Q.9) Which of the following pairs are correctly matched?

Types of Inflation

1. Creeping Inflation
2. Trotting Inflation
3. Core Inflation
4. Disinflation

Meaning

- A kind of mild inflation that boosts demand.
- When inflation rises to 10 percent or more.
- It measures rising prices in food and energy
- It is the opposite of inflation in which prices fall.

Select the correct answer using the codes given below:

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- a) One pair only
- b) Two Pairs only
- c) Three pairs only
- d) All four pairs

ANS: B

Explanation: Inflation

- Inflation means a sustained increase in the general price level. However, this increase in the cost of living can be caused by different factors.
- Creeping or mild inflation is when prices rise 3 percent a year or less.
- Trotting Inflation is when inflation rises to 10 percent or more.
- Core inflation is a measure of inflation that excludes certain items that face volatile price movements (like food and energy) because in finding out the legitimate long-run inflation, short-term price volatility and transitory changes in price must be removed. Core inflation reflects the long-term trend at a particular price level.
- Disinflation is a decrease in the rate of inflation – a slowdown in the rate of increase of the general price level of goods and services in a nation's gross domestic product over time. It is the opposite of reflation. Disinflation occurs when the increase in the "consumer price level" slows down from the previous period when the prices were rising.

Source: NCERT

Q.10) Consider the following statements about the effect of inflation:

1. Inflation redistributes wealth from creditors to debtors.
2. Rising inflation indicates rising aggregate demand.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Effect of Inflation

- There are multi-dimensional effects of inflation on an economy both at the micro and macro levels.
- It redistributes income, distorts relative prices, destabilises employment, tax, saving and investment policies, and finally, it may bring in recession and depression in an economy.

On Creditors and Debtors

- Inflation redistributes wealth from creditors to debtors, i.e., lenders suffer and borrowers benefit out of inflation. The opposite effect takes place when inflation falls (i.e., deflation).

On lending

- With the rise in inflation, lending institutions feel the pressure of higher lending. Institutions don't revise the nominal rate of interest as the 'real cost of borrowing' (i.e., the nominal rate of interest minus inflation) falls by the same percentage with which inflation rises.

On Aggregate Demand

- Rising inflation indicates rising aggregate demand and indicates a comparatively lower supply and higher purchasing capacity among the consumers. Usually, higher inflation

suggests the producers increase their production level as it is generally considered as an indication of higher demand in the economy.

Source: NCERT

Indian Polity

Q.1) Consider the following statements about Montagu-Chelmsford Reforms:

1. Montagu-Chelmsford Reforms came into force in 1921.
2. Chelmsford was the Secretary of State for India and Lord Montagu was the Viceroy of India.

Which of the above given statements is/are correct?

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

ANS: A

Explanation:

Government of India Act of 1919

On August 20, 1917, the British Government declared, for the first time, that its objective was the gradual introduction of responsible government in India.

The Government of India Act of 1919 was thus enacted, which came into force in 1921. This Act is also known as Montagu-Chelmsford Reforms (Montagu was the Secretary of State for India and Lord Chelmsford was the Viceroy of India).

Source: Indian Polity by Laxmikanth

Q.2) To protest against which of the following, Gandhi ji undertook fast unto death in Yeravada Jail?

- a) Simon Commission
- b) Government of India Act of 1935
- c) Communal Award
- d) Rowlatt Act

ANS: C

Explanation:

Communal Award In August 1932, Ramsay MacDonald, the British Prime Minister, announced a scheme of representation of the minorities, which came to be known as the Communal Award. The award not only continued separate electorates for the Muslims, Sikhs, Indian Christians, Anglo-Indians and Europeans but also extended it to the depressed classes (scheduled castes).

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Gandhiji was distressed over this extension of the principle of communal representation to the depressed classes and undertook fast unto death in Yeravada Jail (Poona) to get the award modified. At last, there was an agreement between the leaders of the Congress and the depressed classes.

The agreement, known as Poona Pact, retained the Hindu joint electorate and gave reserved seats to the depressed classes.

Source: Indian Polity by Laxmikanth

Q.3) Consider the following pairs:

Committee

1. Steering Committee
2. Fundamental Rights Sub-Committee
3. Union Constitution Committee
4. States Committee

Headed by

1. Dr. Rajendra Prasad
2. J.B. Kripalani
3. Jawaharlal Nehru
4. Sardar Patel

Which of the pairs given above is/are correctly matched?

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

ANS: C

Explanation:

Major Committees

1. Union Powers Committee – Jawaharlal Nehru
2. Union Constitution Committee – Jawaharlal Nehru
3. Provincial Constitution Committee – Sardar Patel
4. Drafting Committee – Dr. B.R. Ambedkar
5. Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas – Sardar Patel. This committee had the following five sub-committees:
 - (a) Fundamental Rights Sub-Committee – J.B. Kripalani
 - (b) Minorities Sub-Committee – H.C. Mukherjee
 - (c) North-East Frontier Tribal Areas and Assam Excluded & Partially Excluded Areas Sub-Committee – Gopinath Bardoloi
 - (d) Excluded and Partially Excluded Areas (Other than those in Assam) Sub-Committee – A.V. Thakkar
 - (e) North-West Frontier Tribal Areas Sub-Committee
6. Rules of Procedure Committee – Dr. Rajendra Prasad
7. States Committee (Committee for Negotiating with States) – Jawaharlal Nehru
8. Steering Committee – Dr. Rajendra Prasad

Source: Indian Polity by Laxmikanth

Q.4) Which of the following is not revealed by the Preamble of Indian Constitution?

- a) Objective of the constitution
- b) Date of Independence
- c) Source of authority of the Constitution
- d) Nature of Indian State

ANS: B

Explanation:

INGREDIENTS OF THE PREAMBLE

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.

Source: Indian Polity by Laxmikanth

Q.5) With reference to Indian Constitution, which of the following statements is correct?

- a) Liberty conceived by the Preamble is absolute but not qualified.
- b) Liberty conceived by the Preamble is not absolute but qualified.
- c) Liberty conceived by the Preamble is both absolute and qualified.
- d) Liberty conceived by the Preamble is neither absolute nor qualified.

ANS: B

Explanation:

- The term 'liberty' means the absence of restraints on the activities of individuals, and at the same time, providing opportunities for the development of individual personalities.
- The Preamble secures to all citizens of India liberty of thought, expression, belief, faith and worship, through their Fundamental Rights, enforceable in court of law, in case of violation.
- Liberty as elaborated in the Preamble is very essential for the successful functioning of the Indian democratic system. However, liberty does not mean 'license' to do what one likes, and has to be enjoyed within the limitations mentioned in the Constitution itself. In brief, the liberty conceived by the Preamble or fundamental rights is not absolute but qualified.
- The ideals of liberty, equality and fraternity in our Preamble have been taken from the French Revolution (1789–1799).

Source: Indian Polity by Laxmikanth

Q.6) Consider the following pairs:

Person

Statement about Preamble

- | | |
|----------------------------|--|
| 1. K M Munshi | horoscope of our sovereign democratic republic |
| 2. Pt. Thakur Das Bhargava | soul of the Constitution |
| 3. Sir Ernest Barker | key-note to the Constitution |

Which of the above given pairs is/are correctly matched?

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

ANS: D

Explanation:

SIGNIFICANCE OF THE PREAMBLE

- The Preamble embodies the basic philosophy and fundamental values political, moral and religious on which the Constitution is based. It contains the grand and noble vision of the Constituent Assembly, and reflects the dreams and aspirations of the founding fathers of the Constitution. In the words of Sir Alladi Krishnaswami Iyer, a member of the Constituent
- Assembly who played a significant role in making the Constitution, 'The Preamble to our Constitution expresses what we had thought or dreamt so long'.
- According to K M Munshi, a member of the Drafting Committee of the Constituent Assembly, the Preamble is the 'horoscope of our sovereign democratic republic'.
- Pandit Thakur Das Bhargava, another member of the Constituent Assembly, summed up the importance of the Preamble in the following words: 'The Preamble is the most precious part of the Constitution. It is the soul of the Constitution. It is a key to the Constitution. It is a jewel set in the Constitution. It is a proper yardstick with which one can measure the worth of the Constitution'.
- Sir Ernest Barker, a distinguished English political scientist, paid a glowing tribute to the political wisdom of the authors of the Preamble. He described the Preamble as the 'key-note' to the Constitution. He was so moved by the text of the preamble that he quoted it at the opening of his popular book, Principles of Social and Political Theory (1951).
- M Hidayatullah, a former Chief Justice of India, observed, 'Preamble resembles the Declaration of Independence of the United States of America, but is more than a declaration. It is the soul of our Constitution, which lays down the pattern of our political society. It contains a solemn resolve, which nothing but a revolution can alter

Source: Indian Polity by Laxmikanth

Q.7) Consider the following statements with respect to citizenship in India:

1. In India, a citizen by birth only is eligible for the office of President.
2. Cultural and educational rights under article 29 and 30 are conferred to Indian Citizens only.

Which of the above given statements is/are correct?

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

ANS: B

Explanation:

The Constitution confers the following rights and privileges on the citizens of India (and denies the same to aliens):

1. Right against discrimination on grounds of religion, race, caste, sex or place of birth (Article 15).
2. Right to equality of opportunity in the matter of public employment (Article 16).
3. Right to freedom of speech and expression, assembly, association, movement, residence and profession (Article 19).
4. Cultural and educational rights (Articles 29 and 30).
5. Right to vote in elections to the Lok Sabha and state legislative assembly.
6. Right to contest for the membership of the Parliament and the state legislature.
7. Eligibility to hold certain public offices, that is, President of India, Vice-President of India, judges of the Supreme Court and the high courts, governor of states, attorney general of India and advocate general of states.

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Along with the above rights, the citizens also owe certain duties towards the Indian State, as for example, paying taxes, respecting the national flag and national anthem, defending the country and so on.

In India both a citizen by birth as well as a naturalized citizen is eligible for the office of President while in USA, only a citizen by birth and not a naturalized citizen is eligible for the office of President.

Source: Indian Polity by Laxmikanth

Q.8) Right to property was deleted from the list of fundamental rights by which of the following amendment?

- a) 42nd Amendment
- b) 44th Amendment
- c) 1st amendment
- d) 61st amendment

ANS: B

Explanation:

Originally, the Constitution provided for seven Fundamental Rights viz:

1. Right to equality (Articles 14–18)
2. Right to freedom (Articles 19–22)
3. Right against exploitation (Articles 23–24)
4. Right to freedom of religion (Articles 25–28)
5. Cultural and educational rights (Articles 29–30)
6. Right to property (Article 31)
7. Right to constitutional remedies (Article 32)

However, the right to property was deleted from the list of Fundamental Rights by the 44th Amendment Act, 1978. It is made a legal right under Article 300-A in Part XII.

Source: Indian Polity by Laxmikanth

Q.9) Which of the following article expressly provides for the doctrine of judicial review?

- a) Article 32
- b) Article 226
- c) Article 13
- d) Article 21

ANS: C

Explanation:

Article 13 declares that all laws that are inconsistent with or in derogation of any of the fundamental rights shall be void. In other words, it expressly provides for the doctrine of judicial review. This power has been conferred on the Supreme Court (Article 32) and the high court's (Article 226) that can declare a law unconstitutional and invalid on the ground of contravention of any of the Fundamental Rights.

Source: Indian Polity by Laxmikanth

Q.10) Which of the following article requires the state to promote equal justice and to provide free legal aid to the poor?

- a) Article 44
- b) Article 41

- c) Article 51
- d) Article 39A

ANS: D

Explanation:

NEW DIRECTIVE PRINCIPLES:

The 42nd Amendment Act of 1976 added four new Directive Principles to the original list. They require the State:

1. To secure opportunities for healthy development of children (Article 39).
2. To promote equal justice and to provide free legal aid to the poor (Article 39 A).
3. To take steps to secure the participation of workers in the management of industries (Article 43 A).
4. To protect and improve the environment and to safeguard forests and wildlife (Article 48 A).

The 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).

The 86th Amendment Act of 2002 changed the subject-matter of Article 45 and made elementary education a fundamental right under Article 21 A. The amended directive requires the State to provide early childhood care and education for all children until they complete the age of six years.

The 97th Amendment Act of 2011 added a new Directive Principle relating to co-operative societies. It requires the state to promote voluntary formation, autonomous functioning, democratic control and professional management of co-operative societies (Article 43B).

Source: Indian Polity by Laxmikanth

Indian Geography

Q.1) Consider the following factors:

1. Low Temperature

2. High Temperature
3. Humidity
4. Dry Condition

Which of the above is/are reason for “October Heat”?

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

ANS: D

Explanation: October Heat:

The retreating southwest monsoon season is marked by clear skies and rise in temperature. The land is still moist. Owing to the conditions of high temperature and humidity, the weather becomes rather oppressive. This is commonly known as the ‘October heat’. In the second half of October, the mercury begins to fall rapidly, particularly in northern India. The weather in the retreating monsoon is dry in north India but it is associated with rain in the eastern part of the Peninsula. Here, October and November are the rainiest months of the year.

Source: NCERT- Indian Physical Geography

Q.2) Consider the following pairs:

Term	Type of Forest
1. Parkland Landscape	Dry Deciduous Forest
2. Teak	Evergreen Forest
3. Sholas	Tropical Forest

Which of the above pair is/are correctly matched?

- a) Only 1 pair
- b) Only 2 pair
- c) All 3pairs
- d) None of the pair

ANS: A

Explanation:

Dry deciduous forest covers vast areas of the country, where rainfall ranges between 70 -100 cm. On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests. These forests are found in rainier areas of the Peninsula and the plains of Uttar Pradesh and Bihar. In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these forests have a **parkland landscape** with open stretches in which teak and other trees interspersed with patches of grass are common. As the dry season begins, the trees shed their leaves completely and the forest appears like a vast grassland with naked trees all around. Tendu, palas, amaltas, bel, khair, axlewood, etc. are the common trees of these forests. In the western and southern part of Rajasthan, vegetation cover is very scanty due to low rainfall and overgrazing.

The southern mountain forests include the forests found in three distinct areas of Peninsular India viz; the Western Ghats, the Vindhyas and the Nilgiris. As they are closer to the tropics, and only 1,500 m above the sea level, vegetation is temperate in the higher regions, and subtropical on the lower regions of the Western Ghats, especially in Kerala, Tamil Nadu and Karnataka. The temperate forests are called Sholas in the Nilgiris, Anaimalai and Palani hills. Some of the other trees of this forest of economic significance include, magnolia, laurel, cinchona and wattle. Such forests are also found in the Satpura and the Maikal ranges.

Source: NCERT- Indian Physical Geography

Q.3) Which among the following is called as “Monsoon Forest”?

- a) Montane Forest
- b) Tropical Deciduous Forests
- c) Evergreen Forest
- d) Temperate Forest

ANS: B

Explanation: Tropical Deciduous Forests

These 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 northeastern 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.

Dry deciduous forest covers vast areas of the country, where rainfall ranges between 70 -100 cm. On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests. These forests are found in rainier areas of the Peninsula and the plains of Uttar Pradesh and Bihar. In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these forests have a parkland landscape with open stretches in which teak and other trees interspersed with patches of grass are common. As the dry season begins, the trees shed their leaves completely and the forest appears like a vast grassland with naked trees all around. Tendu, palas, amaltas, bel, khair, axlewood, etc. are the common trees of these forests. In the western and southern part of Rajasthan, vegetation cover is very scanty due to low rainfall and overgrazing.

Source: NCERT- Indian Physical Geography

Q.4) Which of the following statement about South-west Monsoon is/are correct?

- 1. It is formed after southeast trade winds crosses equator.
- 2. The Monsoon has two branches- the Arabian Sea branch and the Bay of Bengal branch.
- 3. The Monsoon enters West Bengal and Bangladesh in South-westerly direction.
- 4. The Arabian Sea branch reaches Punjab plains.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

As a result of rapid increase of temperature in May over the northwestern plains, the low pressure conditions over there get further intensified. By early June, they are powerful enough to attract the trade winds of Southern Hemisphere coming from the Indian Ocean. These southeast trade winds cross the equator and enter the Bay of Bengal and the Arabian Sea, only to be caught up in the air circulation over India. Passing over the equatorial warm currents, they bring with them moisture in abundance. After crossing the equator, they follow a southwesterly direction. That is why they are known as southwest monsoons.

As these winds approach the land, their southwesterly direction is modified by the relief and thermal low pressure over the northwest India. The monsoon approaches the landmass in two branches:

- (i) The Arabian Sea branch
- (ii) The Bay of Bengal branch.

A third branch of this monsoon wind strikes the Saurashtra Peninsula and the Kachchh. It then passes over west Rajasthan and along the Aravalis, causing only a scanty rainfall. In Punjab and Haryana, it too joins the Bay of Bengal branch.

Source: NCERT- Indian Physical Geography

Q.5) Which of the following is true about Konkan Coast?

- 1. It extends from Mumbai to South Karnataka.
- 2. Annual range of temperature is high.
- 3. It receives rainfall by the Arabian Sea branch of South west monsoon.

Which of the above given statement is/are correctly matched?

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

ANS: D

Explanation:

With a long coastline, large coastal areas have an equable climate. Areas in the interior of India are far away from the moderating influence of the sea. Such areas have extremes of climate. That is why, the people of Mumbai and the Konkan coast have hardly any idea of extremes of temperature and the seasonal rhythm of weather. On the other hand, the seasonal contrasts in weather at places in the interior of the country such as Delhi, Kanpur and Amritsar affect the entire sphere of life.

Source: NCERT- Indian Physical Geography

Q.6) Consider the following statements:

“Vegetation is temperature in the higher region and subtropical in lower regions.”

Which of the region has the above mentioned characteristics?

- a) Andaman and Nicobar island
- b) Western Ghats
- c) Northeastern Himalayas
- d) Lesser Himalayas

ANS: B

Explanation:

The southern mountain forests include the forests found in three distinct areas of Peninsular India viz; the Western Ghats, the Vindhyas and the Nilgiris. As they are closer to the tropics, and

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only 1,500 m above the sea level, vegetation is temperate in the higher regions, and subtropical on the lower regions of the Western Ghats, especially in Kerala, Tamil Nadu and Karnataka. The temperate forests are called Sholas in the Nilgiris, Anaimalai and Palani hills. Some of the other trees of this forest of economic significance include, magnolia, laurel, cinchona and wattle. Such forests are also found in the Satpura and the Maikal ranges.

Source: NCERT- Indian Physical Geography

Q.7) “Rainfall occurs in winter from the retreating monsoon and summer is dry.”

The above statement best describe which of the following region?

- a) Punjab Plains
- b) Rajasthan
- c) Coromandel Coast
- d) Malabar Coast

ANS: C

Explanation:

The widespread rain in this season is associated with the passage of cyclonic depressions which originate over the Andaman Sea and manage to cross the eastern coast of the southern Peninsula. These tropical cyclones are very destructive. The thickly populated deltas of the Godavari, Krishna and Kaveri are their preferred targets.

Every year cyclones bring disaster here. A few cyclonic storms also strike the coast of West Bengal, Bangladesh and Myanmar. A bulk of the rainfall of the Coromandel coast is derived from these depressions and cyclones. Such cyclonic storms are less frequent in the Arabian Sea.

Source: NCERT- Indian Physical Geography

Q.8) Which of the following forest is described in the below given statement?

“The forests are highly developed in Andaman and Nicobar and are usually criss-crossed by creeks of stagnant water and tidal flows.”

- a) Evergreen forest
- b) Temperate forest
- c) Tropical forest
- d) Mangrove forest

ANS: D

Explanation:

The mangrove forest and other wetlands of the island arcs of the Andaman and Nicobar Islands. Mangroves grow along the coasts in the salt marshes, tidal creeks, mud flats and estuaries.

Source: NCERT- Indian Physical Geography

Q.9) Which of the following characteristic of India’s climate is not correct?

- a) India has cold monsoonal climate
- b) Northern India experiences high daily range of temperature than southern India

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- c) Himalayas trap the monsoon winds.
- d) Jet streams influences winter weather in India

ANS: A

Explanation:

Monsoon connotes the climate associated with seasonal reversal in the direction of winds. India has **hot monsoonal climate** which is the prevalent climate in south and southeast Asia.

Source: NCERT- Indian Physical Geography

Q.10) Consider the following statements:

1. These forests are found in warm and humid areas.
2. There is no definite time for trees to shed their leaves.

The forest described in the above statements is?

- a) Andaman and Nicobar
- b) Plains of Uttar Pradesh and Bihar
- c) Coromandel Coast
- d) Western Himalayas

ANS: A

Explanation:

Tropical Evergreen and Semi Evergreen Forests

These forests are found in the western slope of the Western Ghats, hills of the northeastern region and the Andaman and Nicobar Islands. They are found in warm and humid areas with an annual precipitation of over 200 cm and mean annual temperature above 22°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 up to 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.

Source: NCERT- Indian Physical Geography

Environment

Q.1) Consider the following statements with respect to salt content of Aquatic ecosystem:

1. The salt content of fresh bodies is always less than 5 ppt (parts per thousand).
2. The salt content of brackish water bodies is equal to or above 35 ppt.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

Ecosystems consisting of water as the main habitat are known as aquatic ecosystems. Aquatic ecosystems are classified based on their salt content.

- Fresh water ecosystems- The salt content of fresh bodies is very low, always less than 5 ppt (parts per thousand). E.g lakes, ponds, pools, springs, streams, and rivers.

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- Marine ecosystems - the water bodies containing salt concentration equal to or above that of sea water (i.e., 35 ppt or above). E.g shallow seas and open ocean.
- Brackish water ecosystems – these water bodies have salt content in between 5 to 35 ppt. e.g. estuaries, salt marshes, mangrove swamps and forests.

Source: Environment by Shankar IAS

Q.2) Consider the following pairs:

Aquatic Organisms	Description
1. Neuston	unattached organisms which live at the air-water interface
2. Nekton	animals which are swimmers
3. Periphyton	organisms which remain attached to stems and leaves of rooted plants
4. Benthos	organisms are those found living in the bottom of the water mass

Which of the following codes is correct for the correctly matched pairs?

- Only one pair
- Only two pairs
- Only three pairs
- All four pairs

ANS: D

Explanation:

AQUATIC ORGANISMS

The aquatic organisms are classified on the basis of their zone of occurrence and their ability to cross these zones.

The organisms (both flora and fauna) in the aquatic ecosystem are unevenly distributed but can be classified on the basis of their life form or location into five groups

i) Neuston:

- These are unattached organisms which live at the air-water interface such as floating plants, etc.
- Some organisms spend most of their lives on top of the air-water interface such as water striders, while others spend most of their time just beneath the air-water interface and obtain most of their food within the water.
- E.g., beetles and back-swimmers.

ii) Periphyton:

- These are organisms which remain attached to stems and leaves of rooted plants or substances emerging above the bottom mud such as sessile algae and their associated group of animals.

iii) Plankton:

- This group includes both microscopic plants like algae (phytoplankton) and animals like crustaceans and protozoans (zooplankton) found in all aquatic ecosystems, except certain swift moving waters.
- The locomotory power of the planktons is limited so that their distribution is controlled, largely, by currents in the aquatic ecosystems.

iv) Nekton:

- This group contains animals which are swimmers.
- The nektons are relatively large and powerful as they have to overcome the water currents.
- The animals range in size from the swimming insects (about 2 mm long) to the largest animals, the blue whale.

v) Benthos:

- The benthic organisms are those found living in the bottom of the water mass.
- Practically every aquatic ecosystem contains well developed benthos.

Source: Environment by Shankar IAS

Q.3) Which of the following statement about ecosystems is/are correct?

1. Sunlight and oxygen are important limiting factors of the terrestrial ecosystems
2. Moisture and temperature are the limiting factors of aquatic ecosystem

Select the correct answer using the codes given below:

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

ANS: D

Explanation:

Factors Limiting the Productivity of Aquatic Habitats Sunlight and oxygen are most important limiting factors of the aquatic ecosystems whereas moisture and temperature are the main limiting factors of terrestrial ecosystem.

Sunlight:

- Sunlight penetration rapidly diminishes as it passes down the column of water. The depth to which light penetrates a lake determines the extent of plant distribution.

Temperature:

- The water temperature changes less rapidly than the temperature of air because water has a considerably higher specific heat than air, i.e. larger amounts of heat energy must be added to or taken away from water to raise or lower its temperature.
- Since water temperatures are less subject to change, the aquatic organisms have narrow temperature tolerance limit.
- As a result, even small changes in water temperature are a great threat to the survival of aquatic organisms when compared to the changes in air temperatures in the terrestrial organisms.

Source: Environment by Shankar IAS

Q.4) “It is a syndrome of ecosystem, primarily caused by the leaching of phosphate and - or nitrate containing fertilizers from agricultural lands into lakes or rivers.”

Which of the following is described in the above given statement?

- a) Biocapacity
- b) Ecological footprint
- c) Eutrophication
- d) Algal bloom

ANS: C

Explanation:

EUTROPHICATION

- Greek word – Eutrophia means adequate & healthy nutrition.
- Eutrophication is a syndrome of ecosystem, response to the addition of artificial or natural nutrients such as nitrates and phosphates through fertilizer, sewage, etc that fertilize the aquatic ecosystem.
- It is primarily caused by the leaching of phosphate and - or nitrate containing fertilisers from agricultural lands into lakes or rivers.

The growth of green algae which we see in the lake surface layer is the physical identification of an Eutrophication.

- Some algae and blue-green bacteria thrive on the excess ions and a population explosion covers almost entire surface layer is known as algal bloom. This growth is unsustainable, however.

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- As Algal Bloom covers the surface layer, it restricts the penetration of sunlight. Diffusion of gas from atom.
 - Oxygen is required by all respiring animals in the water and it is replenished by diffusion and photosynthesis of green plants.
 - The oxygen level is already low because of the population explosion and further oxygen is taken up by microorganisms which feed off the dead algae during decomposition process.
 - Due to reduced oxygen level, fishes and other aquatic organism suffocate and they die.
 - The anaerobic conditions can promote growth of bacteria which produces toxins deadly to aquatic organisms, birds and mammals.
 - All this eventually leads to degradation of aquatic ecosystem and death of its organisms.
 - It often leads to change in animal and plant population & degradation of water & habitat quality.
- Source:** Environment by Shankar IAS

Q.5) Consider the following statements about Red Tide:

1. It is a phenomenon where certain phytoplankton species contain pigments and “bloom” such that the human eye perceives the water to be discolored.
2. The blooms are always red.

Which of the statement given above is/are correct?

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

ANS: A

Explanation:

“Red Tide” is a common name for such a phenomenon where certain phytoplankton species contain pigments and “bloom” such that the human eye perceives the water to be discolored.

- Blooms can appear greenish, brown, and even reddish orange depending upon the type of organism, the type of water, and the concentration of the organisms.
- The term “red tide” is thus a misnomer because blooms are not always red, they are not associated with tides, they are usually not harmful, and some species can be harmful or dangerous at low cell concentrations that do not discolor the water.
- They are scientifically referred as Harmful Algal Blooms (HABs).

Source: Environment by Shankar IAS

Q.6) The term “Montreux Record” is related to which of the following?

- a) UNESCO’s Natural Site
- b) Ramsar site
- c) UNEP’s Red List
- d) List of endemic plant species

ANS: B

Explanation:

Montreux Record

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Montreux Record is the principal tool under the Ramsar Convention, is a register of wetland sites on the List of Wetlands of International Importance. It highlights those sites where adverse changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference and which are therefore in need of priority conservation attention. It is maintained as part of the Ramsar List.

Montreux Record are employed to identify priority sites for positive national and international conservation attention.

Sites may be added to and removed from the Record only with the approval of the Contracting Parties in which they lie.

Source: Environment by Shankar IAS

Q.7) Consider the following statements:

1. It has a free connection with open sea.
2. It is the most productive region as it receives the high amount of nutrients from fresh and marine water.

Which of the following is described in the above given statements?

- a) Lagoons
- b) Estuary
- c) Swamp
- d) Gulf

ANS: B

Explanation: ESTUARY ECOSYSTEM

- Estuaries are located where river meets the sea. Estuaries are water bodies where the flow of freshwater from river mixes with salt water transported, by tide, from the ocean. Estuaries are the most productive water bodies in the world. They are located at the lower end of a river and are subject to tidal fluctuations.

- Estuaries are either once or twice, daily washed by the seawater.

Characters

- An Estuary is a semi enclosed coastal body of water with one or more rivers or streams flowing into it.

- It has a free connection with open sea.

- The complete salinity range from 0-35 ppt is seen from the head (river end) to the mouth (sea end) of an estuary.

- An estuary has very little wave action, so it provides a calm refuge from the open sea. It provides the shelter for some of the animals.

- It is the most productive region as it receives the high amount of nutrients from fresh and marine water.

- Estuaries are most heavily populated areas throughout the world, with about 60% of the world's population living along estuaries and the coast.

Source: Environment by Shankar IAS

Q.8) Consider the following statements:

1. Grasslands are found on every continent.

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2. These terrestrial ecosystems occupy roughly 19% of the earth's surface.
3. Grasslands are characterized by treeless herbaceous plant cover, dominated by a wide variety of grass species.

Which of the statements given above is/are not correct?

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

ANS: A

Explanation: grasslands are found on every continent except Antarctica. These terrestrial ecosystems occupy roughly 19% of the earth's surface. They are characterized by treeless herbaceous plant cover, dominated by a wide variety of grass species.

Features of grassland ecosystems:

- Land is dominated by grasses. Large shrubs or trees are not there.
- Grasslands have a rich variety of animals.
- Grasslands have been the home for grazing animals for Millions of years. Since the grass height is low and trees are few, animals found in their areas are exposed to the stress of sun and sweeping winds.

Source: Environment by Shankar IAS

Q.9) Environmental studies aims at developing

- a) Understanding local environment/environmental issues
- b) Understanding global environment/environmental issues.
- c) To develop positive attitude towards environment
- d) All of the above

ANS: D

Explanation:

Environmental studies aim at the following-Creating awareness about the environment as a whole as well as its related problems.

- Gaining experiences and acquiring a basic understanding of the environment and its allied problems.
- Skill acquisition for identifying and solving environmental problems.
- Protection of the environment through participation.
- Acquiring an attitude of concern towards the environment and solving its problems.
- Developing an ability to evaluate and analyze measures to protect the environment.
- Raise consciousness about the environment.
- Creating environmental ethics and environmentally sensitive society.
- Teaching environmentally appropriate behaviour.

Source: Environment by Shankar IAS

Q.10) Biosphere reserves are:

1. Area comprising terrestrial, marine and coastal ecosystems.
2. Monitored by national governments.
3. Areas where threatened animals and plants are kept in their habitat.
4. Wildlife sanctuaries.

Select the correct statements using the codes given below:

- a) 1 and 2 only

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

ANS: A

Explanation:

Biosphere reserves are 'learning places for sustainable development'.

- They are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.
- They are places that provide local solutions to global challenges.
- Biosphere reserves include terrestrial, marine, and coastal ecosystems. Each site promotes solutions reconciling the conservation of biodiversity with its sustainable use.
- Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located.
- Biosphere Reserves are designated under the intergovernmental MAB Programme by the Director-General of UNESCO following the decisions of the MAB International Coordinating Council (MAB ICC).
- Their status is internationally recognized. Member States can submit sites through the designation process.
- Biosphere Reserves involve local communities and all interested stakeholders in planning and management. They integrate three main "functions":
- Conservation of biodiversity and cultural diversity Economic development that is socio-culturally and environmentally sustainable Logistic support, underpinning development through research, monitoring, education, and training These three functions are pursued through the Biosphere Reserves' three main zones: Core area, Buffer zones, and Transition area.
- Hence, Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems and monitored by national governments.

Source: Environment by Shankar IAS

History

Q.1) Consider the following statements regarding the Portuguese Governors in India:

1. Francisco de Almeida is considered as the real founder of Portuguese power in India.
2. Nino de Cunha was known for his Blue Water Policy which aimed at making the Portuguese the masters of the Indian Ocean.

Which of the statements given above is/are correct?

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

ANS: C

Explanation:

Francisco De Almeida:

In 1505, the King of Portugal appointed a governor in India for a three-year term and equipped the incumbent with sufficient force to protect the Portuguese interests. Francisco De Almeida, the newly appointed governor, was asked to consolidate the position of the Portuguese in India. Almeida's vision was to make the Portuguese the master of the Indian Ocean. His policy was known as the 'Blue Water Policy' i.e. to be powerful at sea instead of building fortresses on land.

Alfonso de Albuquerque:

Albuquerque, who succeeded Almeida as the Portuguese governor in India, was the real founder of the Portuguese power in the East. He secured for Portugal the strategic control of the Indian Ocean by establishing bases overlooking all the entrances to the sea. The Portuguese, under Albuquerque, bolstered their stranglehold by introducing a permit system for other ships and exercising control over the major ship-building centers in the region. He acquired Goa from the Sultan of Bijapur in 1510 with ease. An interesting feature of his rule was the abolition of sati.

Nino da Cunha:

He assumed the office of the governor of Portuguese interests in India in November 1529 and almost one year later shifted the headquarters of the Portuguese government in India from Cochin to Goa. Bahadur Shah of Gujarat, during his conflict with the Mughal emperor Humayun, secured help from the Portuguese by ceding to them in 1534 the island of Bassein with its dependencies and revenues. He also promised them a base in Diu.

Source: NCERT

Q.2) With reference to Constitutional development in India during the British period, consider the following statements:

1. Pitts India Act established the Supreme Court in Bengal Province.
2. Charter Act of 1873 defined the Constitutional position of British territories in India.

Which of the statements given above is/are correct?

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

ANS: D

Explanation:

Constitutional development in India East India

- Company transformed itself from merely trading company to the ruling body through various stages of Constitutional developments in India.
- Regulating Act of 1773 was the first attempt of the British government to control and regulate the functioning of East India Company. Therefore, this is marked as the beginning of the parliamentary government of the Company.
- Under this Act, all the directors of the company were required to submit all correspondence regarding revenue affairs and civil and military administration of the company. This Act laid the foundation of a unitary type of Government in British India.
- Regulating Act of 1773 provides the establishment of the Supreme Court at Fort William in Bengal with original and appellate jurisdiction where all subjects could seek redressal.
- Charter Act of 1813 provided territories and revenue for 20 more years. Thus, it defined the Constitutional position of British territories in India explicitly for the first time.

Source: NCERT

Q.3) Which of the following colleges was the first to be established?

- a) Hindu College, Calcutta
- b) Banaras Hindu University
- c) Lady Hardinge Medical College
- d) Aligarh Muslim University

ANS: A

Explanation:

The 'Hindu College', established in 1817, was transformed into the 'Presidency College of Bengal'. Hindu College was the earliest institution of higher learning in the modern sense in Asia.

Banaras Hindu University is an internationally reputed temple of learning, situated in the holy city of Varanasi. This Creative and innovative university was founded by the great nationalist leader, Pandit Madan Mohan Malviya, in 1916 with the cooperation of great personalities like Dr. Annie Besant, who viewed it as the University of India. Banaras Hindu University was created under the Parliamentary legislation - B.H.U. Act of 1915

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Lady Hardinge Medical College is a medical college for women located in New Delhi, India. Established in 1916, it became part of the Faculty of Medical Sciences, University of Delhi in 1950. The college is funded by the Government of India.

Aligarh Muslim University is a public central university in Aligarh, Uttar Pradesh, India, which was originally established by Sir Syed Ahmad Khan as the Muhammadan Anglo-Oriental College in 1875. Muhammadan Anglo-Oriental College became Aligarh Muslim University in 1920, following the Aligarh Muslim University Act.

Source: NCERT

Q.4) Which of the following statement about Woods Despatch is not correct?

- It was the first comprehensive plan for the spread of education in India.
- It recommended English as the medium of for higher studies and at the school level.
- It recommended a system of grants-in-aid to encourage private enterprises.
- All are correct statements.

ANS: B

Explanation:

Woods Dispatch

- In 1854, Charles Wood prepared a dispatch on an educational system for India. This document was the first comprehensive plan for the spread of education in India so considered the “Magna Carta of English Education in India”.
- It recommended English as the medium of for higher studies and vernaculars at the school level.
- It laid down that the education imparted in government institutions should be secular. And recommended a system of grants-in-aid to encourage private enterprise.

Other provisions of despatch:

- It asked the Government of India to assume responsibility for the education of the masses, thus repudiating the ‘downward filtration theory’, at least on paper.
- It systematized the hierarchy from vernacular primary schools in villages at the bottom, followed by Anglo-Vernacular High Schools and an affiliated college at the district level, and affiliating universities in the presidency towns of Calcutta, Bombay and Madras.
- It laid stress on female and vocational, education, and teachers’ training.

Source: NCERT

Q.5) Ban of Human Sacrifice was the major cause of which of the following tribal uprisings?

- Santhal Uprising
- Rampa Uprising
- Khond Uprising
- Munda Uprising

ANS: C

Explanation:

Khonds Uprising

From 1837 to 1856, the Khonds of the hilly tracts extending from Odisha to the Srikakulam and Visakhapatnam districts of Andhra Pradesh revolted against Company rule. Chakra Bisnoi, a young raja, led the Khonds who were joined by the Ghumsar, Kalahandi and other tribals to oppose the suppression of human sacrifice, new taxes, and the entry of zamindars into their areas. With Chakra Bisnoi’s disappearance, the uprising came to an end.

Source: NCERT

Q.6) With reference to the Revolt of 1857, who of the following laid siege to Jhansi in March 1857?

- a) Major General Wyndham
- b) Major General Havelock
- c) Sir Colin Campbell
- d) Sir Hugh Rose

ANS: D

Explanation:

Revolt of 1857

- The Rani of Jhansi and Tantia Tope marched towards Gwalior where they were hailed by the Indian soldiers. The Sindhia, the local ruler, however, decided to side with the English and took shelter at Agra. Nana Saheb was proclaimed the Peshwa and plans were chalked out for a march into the south. Gwalior was recaptured by the English in June 1857.
- When the British forces finally arrived in March to recapture Jhansi they found it well-defended and the fort had heavy guns that could fire over the town and nearby countryside. Hugh Rose, commanding the British forces, demanded the surrender of the city. After a fierce battle, Jhansi was fallen to the British army.

Source: NCERT

Q.7) Consider the following statements with respect to decline of Portuguese Empire in India:

1. The religious policies followed by Portuguese
2. The honest trade practices followed by Portuguese
3. The discovery of Brazil
4. The monopoly of sea of knowledge

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The decline of the Portuguese was brought about by several factors. The local advantages gained by the Portuguese in India were reduced with the emergence of powerful dynasties in Egypt, Persia and North India and the rise of the turbulent Marathas as their immediate neighbours. (The Marathas captured Salsette and Bassein in 1739 from the Portuguese.) The religious policies of the Portuguese, such as the activities of the Jesuits, gave rise to political fears. Their antagonism for the Muslims apart, the Portuguese policy of conversion to Christianity made Hindus also resentful. Their dishonest trade practices also evoked a strong reaction. The Portuguese earned notoriety as sea pirates. Their arrogance and violence brought them the animosity of the rulers of small states and the imperial Mughals as well. The discovery of Brazil diverted colonising activities of Portugal to the West. The union of the two kingdoms of Spain and Portugal in 1580-81, dragging the smaller kingdom into Spain's wars with England and Holland, badly affected Portuguese monopoly of trade in India. The earlier monopoly of knowledge of the sea route to India held by the Portuguese could not remain a secret forever; soon enough the Dutch and the English, who were learning the skills of ocean navigation, also learnt of it.

Source: NCERT

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Q.8) Consider the given below pairs:

Author	Book
1. Kautilya	Arthashastra
2. Kalidasa	Mudrarakshasa
3. Vishakadatta	Malvikagnimitram

Which of the pairs given above is/are correctly matched?

- a) One pair only
- b) Two Pair only
- c) Three pair only
- d) None of the pair

ANS: A

Explanation: The Dharmasutras and the Smritis, are rules and regulations for the general public and the rulers. It can be termed in the modern concept as the constitution and the law books for the ancient Indian polity and society. These are also called Dharmashastras. These were compiled between 600 and 200 B.C. Manusmriti is prominent among the Kautilya's Arthashastra, a book on statecraft was written in the Maurya period. The text is divided into 15 chapters known as books. Different books deal with different subject matter concerning polity, economy and society. It appears that even before the final version of Arthashastra was written in the fourth century B.C. by Kautilya, there appeared a tradition of writing on and teaching of statecrafts because Kautilya acknowledges his debt to his predecessors in the field. Mudrarakshasha, a play written by Vishakhadatta, also gives a glimpse of society and culture. Kalidasa's Malvikagnimitram is based on some events of the reign of Pusyamitra Sunga, a dynasty which followed the Mauryas.

Source: NCERT

Q.9) The newspaper Som Prakash was started by:

- a) Dayanand Saraswati
- b) Ishwar Chandra Vidyasagar
- c) Raja Ram Mohan Roy
- d) Surendranath Banerjee

ANS: B

Explanation: Ishwar Chandra Vidyasagar

Shom Prakash was started by Ishwar Chandra Vidyasagar in 1859 under the editorship of Dwarakanath Vidyabhushan. It was a weekly paper coming from the Sanskrit Press. It is remembered for its contribution to the Indigo Movement.

Source: NCERT

Q.10) Who among the below given Governor-Generals started the policy of Ring-Fence?

- a) Warren Hastings
- b) Lord Cornwallis
- c) William Bentick
- d) Lord Hastings

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ANS: A

Explanation: Warren Hastings took charge as the governor-general at a critical period of British rule when the British were to encounter the powerful combination of the Marathas, Mysore and Hyderabad. He followed a policy of ring-fence which aimed at creating buffer zones to defend the Company's frontiers. Broadly speaking, it was the policy of defence of their neighbours' frontiers for safeguarding their own territories. This policy of Warren Hastings was reflected in his war against the Marathas and Mysore. The chief danger to the Company's territories was from the Afghan invaders and the Marathas. To safeguard against these dangers, the Company undertook to organise the defence of the frontiers of Awadh on the condition that the Nawab would defray the expenses of the defending army. The defence of Awadh constituted the defence of Bengal during that time. Thus the states brought under the ring-fence system were assured of military assistance against external aggression-but at their own expense. In other words, these allies were required to maintain subsidiary forces which were to be organised, equipped and commanded by the officers of the Company who, in turn, were to be paid by the rulers of these states.

Source: NCERT

Schemes/ Programmes/ Institutions

Q.1) Consider the following statements about Utsav Portal:

1. It has been launched by the Ministry of Culture.
2. It is a digital initiative that aims to showcase all the events, festivals and live darshans across India.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Utsav Portal

- It has been launched by the Ministry of Tourism.
- It is a digital initiative that aims to showcase all the events, festivals and live darshans across India.
- It will help promote different regions of the country as popular tourist destinations worldwide.

Source: EPIC April 2022

Q.2) Consider the following statements about Seema Darshan Project:

1. It is a joint initiative of the Tourism Department of the Gujarat government and Ministry of Defence.
2. Under the project, access will be provided to citizens to view the fenced Indo-Pakistan border.

Which of the statements given above is/are not correct?

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

ANS: A

Explanation: Seema Darshan Project

- It is a joint initiative of the Tourism Department of the Gujarat government and the BSF Gujarat Frontier.
- Its aim is to develop border tourism in the Nadabet region (Banaskantha District) of Gujarat, which has a sparse population and vegetation.
- Under the project, access will be provided to citizens to view the fenced Indo-Pakistan border.
- The project will boost tourism and restrict migration from the villages.

Source: EPIC April 2022

Q.3) “e-DAR Portal”, recently seen in news, is related to which of the following?

- a) Education
- b) Differently Abled Persons
- c) Road Accidents
- d) Covid-19 Vaccination

ANS: C

Explanation: e-DAR Portal (Detailed Accident Report)

- The Ministry of Road Transport and Highways has developed a portal named ‘e-DAR’ (e-Detailed Accident Report) in consultation with the insurance companies.
- Its aim is to provide instant information on road accidents to help accelerate accident compensation claims.
- It will also check fake claims.
- The portal will be linked to the Integrated Road Accident Database (iRAD).

Source: EPIC April 2022

Q.4) Which of the city has become the first Indian city to become a member of the Global Silk City Network?

- a) Kolkata
- b) Guwahati
- c) Mysore
- d) Bengaluru

ANS: D

Explanation: Global Silk City Network

- Bengaluru has become the first Indian city to become a member of the Global Silk City Network.
- Global Silk City Network helps artisans and craftsmen to exchange knowledge, build trade relations and understand various craftsmanship techniques.
- At present, 13 best silk-producing cities and nine countries are members of this network. West Bengal’s Murshidabad district — known to produce fine silk over the past 300 years — may join the Global Silk City Network in future.

Source: EPIC April 2022

Q.5) Consider the following statements about Mission Vatsalya:

1. The mission is focused on Child Protection Services and Welfare services.
2. It aims to assist States/UTs in delivering the mandate of the Juvenile Justice Act 2015.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Mission Vatsalya

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- The Ministry of Women and Child Development has formulated draft guidelines for Mission Vatsalya Scheme.
- The mission is focused on Child Protection Services and Welfare services.
- It is essentially a renamed version of the pre-existing scheme Child Protection Services.
- The objectives of the Mission include
 - Secure a healthy and happy childhood for every child in India;
 - Foster a sensitive, supportive and synchronized ecosystem for the development of children;
 - Assist States/UTs in delivering the mandate of the Juvenile Justice Act 2015;
 - Achieve the SDG goals.

Source: EPIC April 2022

Q.6) Consider the following statements about Mission Integrated Biorefineries:

1. It has been launched under Mission Innovation of the EU.
2. It will be co-led by India and Britain.
3. It has a target of replacing 50% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Mission Integrated Biorefineries

- It has been launched under Mission Innovation of the EU.
- It will be co-led by India and Netherlands.
- Its aim is to develop and demonstrate innovative solutions to accelerate the commercialization of integrated biorefineries.
- It has a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030.
- The mission is a PPP (Public Private Participation) mode initiative that unites countries, international organizations, the corporate sector, academic institutions and civil society to accelerate innovation for renewable fuels for a low-carbon future.
- Brazil and Canada are core members and the European Commission and the United Kingdom are supporting members.
- Mission Innovation (MI) is a global initiative of 24 countries and the European Commission (on behalf of the European Union).
- In India, the mission is being coordinated by Department of Biotechnology.

Source: EPIC April 2022

Q.7) Consider the following statements about PM VIKAS:

1. The scheme shall focus on socio-economic empowerment of minorities with emphasis on women only.
2. At least 33% of the total targets in the scheme are reserved for women.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: PM Virasat Ka Samvardhan (PM VIKAS)

- The Union Cabinet has approved the integrated scheme 'Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS)'.
- The scheme shall focus on socio-economic empowerment of minorities with special emphasis on artisan communities, women, and youth.
- At least 33% of the total targets in the scheme are reserved for women.
- One of components of the scheme aims to provide entrepreneurship and leadership support exclusively to women.

Source: EPIC April 2022

Q.8) Consider the following statements about TEJAS Skilling Project:

1. It is a Skill India International Project to train overseas Indians.
2. The project is aimed at skill enhancement, certification and overseas employment of Indians.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: TEJAS Skilling Project

- TEJAS stands for Training for Emirates Jobs and Skills.
- It is a Skill India International Project to train overseas Indians.
- The project is aimed at skill enhancement, certification and overseas employment of Indians.
- The project has a target of creating a 10,000 strong Indian workforce in the UAE during the initial phase.

Source: EPIC April 2022

Q.9) Which of the following states have signed Combined Reciprocal Common Transport Agreement (CRCTA)?

1. Delhi
2. Bihar
3. Punjab
4. Haryana
5. Uttar Pradesh
6. Rajasthan

Select the correct answer using the codes given below:

- a) 1, 2, 3 and 4 only
- b) 1, 3, 4 and 5 only
- c) 1, 4, 5 and 6 only
- d) 3, 4, 5 and 6 only

ANS: C

Explanation: Combined Reciprocal Common Transport Agreement (CRCTA)

- Governments of Delhi, Haryana, Rajasthan and Uttar Pradesh have signed a Combined Reciprocal Common Transport Agreement (CRCTA) covering both Contract Carriage & Stage Carriage.
- It aims to facilitate seamless movement of passenger vehicles in the National Capital Region (NCR).
- It will cover all Motor cabs/Taxis/Auto Rickshaws, vehicles belonging to Educational Institutions and All Stage Carriage Buses of State Transport Undertakings.

Source: EPIC April 2022

Q.10) Project UNNATI is an initiative of which of the following ministry?

- a) Ministry of Rural Development
- b) Ministry of Urban development
- c) Ministry of Agriculture & Farmers Welfare
- d) Ministry of Road Transport & Highways

ANS: A

Explanation: Project UNNATI

- It is an initiative of the Ministry of Rural Development.
- It is a skilling project to upgrade the skill base of the MGNREGA beneficiaries.
- It will help in improving their livelihoods so that they can move to fulltime employment and hence reduce their dependence on MGNREGA.
- Expenditure towards stipend and wage loss compensation are entirely borne by the Central Government.

Source: EPIC April 2022

General Science

Q.1) Which of the following is/are correctly matched?

Vision Defect	Correction Lens
1. Myopia	Bifocal lens
2. Hypermetropia	Convex lens
3. Presbyopia	Concave lens

Select the correct answer using the codes given below:

- a) Only 1 pair
- b) Only 2 pair
- c) Only 3 pair
- d) None of the above pair

ANS: A

Explanation: Vision Defects

Myopia: A person with Myopia can see nearby objects clearly. A person with myopia cannot see faraway objects clearly. The far point for the myopic eye is nearer than infinity occurs due to excessive curvature of the eye lens and elongation of the eyeball. The image of a distant object is formed in front of the retina and not on the retina

Defected is corrected by using Concave lenses such that the lens will bring the image back on to the retina.

Hypermetropia: A person with Hypermetropia can see far away objects clearly. A person with Hypermetropia cannot see nearby objects clearly. The near point of the eye is more than 25cm. This arises mostly during latter stages in life, as a result of the weakening of the ciliary muscles and/or the decreased flexibility of the lens. The image of a distant object is formed behind the retina and not on the retina.

Defected is corrected by using Convex lenses such that the lens will bring the image back on to the retina.

Presbyopia: The power of accommodation of the eye usually decreases with aging. The ciliary muscles weaken and thereby the flexibility of the eye lens reduces. The near point moves away. Spectacles with bifocal lenses are recommended.

Source: NCERT

Q.2) Which of the following is the real-world application of the Doppler Effect?

- a) Medical Diagnosis
- b) Artificial Intelligence
- c) Speed Gun
- d) Both (a) and (b)

ANS: D

Explanation: Doppler Effect and its applications

- Doppler's effect can be defined as an observed change in frequency of a wave (for eg., Sound wave) when an observer and source have relative motion between them.
- The Doppler Effect has several real-world applications. Some of them are given below.
 - Police radar "gun" to check the speed of oncoming vehicles.
 - In meteorology, to track storms.
 - In the medical field such as to draw echocardiograms and in medical ultrasonography to diagnose heart and vascular problems.
 - It is used to measure the speed at which stars and galaxies are approaching or receding from us, in a mechanism named red shift or blue shift.

Source: NCERT

Q.3) The speed of light is maximum in which of the following medium?

- a) Solid
- b) Air
- c) Water
- d) Vacuum

ANS: D

Explanation: Light

- When light traveling in a vacuum enters a new transparent medium, such as air, water, or glass, the speed is reduced in proportion to the refractive index of the new material. That is, Speed of light in any medium = speed of light in vacuum/refractive index.
- Light has its maximum speed in a vacuum as the refractive index in a vacuum is 1.
- As the refractive index increases the speed of light in the medium decreases.

Source: NCERT

Q.4) Which of the following are known as the 'suicide bags' of the cell?

- a) Golgi apparatus
- b) Lysosome
- c) Ribosome
- d) Mitochondria

ANS: B

Explanation: Lysosomes

- They are organelle which is mostly found in animal cells; very rarely in plant cells. It is also called 'suicidal bags' because they are responsible for digestion.
- Each lysosome is surrounded by a membrane that maintains an acidic environment within the interior via a proton pump. Lysosomes contain a wide variety of hydrolytic enzymes (acid hydrolases) that break down macromolecules such as nucleic acids, proteins, and polysaccharides.
- These enzymes are active only in the lysosome's acidic interior; their acid-dependent activity protects the cell from self-degradation in case of lysosomal leakage or rupture, since the pH of the cell is neutral to slightly alkaline.

Source: NCERT

Q.5) A person with which of the following blood groups is said to be a universal recipient?

- a) O negative
- b) AB negative
- c) O positive
- d) AB Positive

ANS: D

Explanation: Universal Recipient

- A person who can accept a blood transfusion from any blood type is called a universal recipient.
- The immune system of a person with AB blood will accept blood from all possible donors, whether they have O, A, B, or AB blood.
- Blood contains red cells with type A antigen on their surface has in its serum (fluid) antibodies against type B red cells. If in transfusion, type B blood is injected into persons with type A blood, the red cells in the injected blood will be destroyed by the antibodies in the recipient's blood.
- In the same way, type A red cells will be destroyed by anti-A antibodies in type B blood. Type O blood can be injected into persons with type A, B, or O blood unless there is incompatibility with respect to some other blood group system also present. Persons with type AB blood can receive type A, B, or O blood.

Source: NCERT

Q.6) Which of the following is/are Plant Hormones?

- 1. Gibberellins
- 2. Cortisol
- 3. Abscisic acid

Select the correct answer using the code given below:

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

ANS: C

Explanation: Plant Hormones

- These are chemical compounds released by stimulated cells. These chemical compounds help in the growth and development of plants.
- When growing plants detect light, a hormone called auxin, synthesised at the shoot tip, helps the cells to grow longer. When light is coming from one side of the plant, auxin diffuses towards the shady side of the shoot. This concentration of auxin stimulates the cells to grow longer on the side of the shoot which is away from light. Thus, the plant appears to bend towards the light.
- Another example of plant hormones is gibberellins which, like auxins, help in the growth of the stem.
- Cytokinins promote cell division, and it is natural then that they are present in greater concentration in areas of rapid cell division, such as in fruits and seeds. These are

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examples of plant hormones that help in promoting growth. But plants also need signals to stop growing.

- Abscisic acid is one example of a hormone that inhibits growth. Its effects include wilting of leaves.

Source: NCERT

Q.7) Consider the following:

1. Agaricus
2. Azotobacter
3. Spirogyra

Which of the above is/are used as bio-fertilizer?

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

ANS: B

Explanation:

Bio fertilizer-The cultured micro-organisms packed in some carrier material for easy application in the field are called bio-fertilizers. Thus, the critical input in Biofertilizers is the microorganisms. Commonly produced biofertilizers are Rhizobium, Azotobacter, Phosphate Solubilizers, Blue-Green Algae, Azolla, Micorohizae.

Spirogyra, (genus Spirogyra), any member of a genus of some 400 species of free-floating green algae (division Chlorophyta) found in freshwater environments around the world. Named for their beautiful spiral chloroplasts, spirogyras are filamentous algae that consist of thin unbranched chains of cylindrical cells. They can form masses that float near the surface of streams and ponds, buoyed by oxygen bubbles released during photosynthesis. They are commonly used in laboratory demonstrations.

Agaricus is a genus of mushrooms containing both edible and poisonous species, with possibly over 300 members worldwide. The genus includes the common ("button") mushroom (Agaricus bisporus) and the field mushroom (Agcampestris), the dominant cultivated mushrooms of the West.

Source: ForumIAS

Q.8) Which one of the following is not found in animal cells?

- a) Free ribosomes
- b) Mitochondria
- c) Nucleolus
- d) Cell wall

ANS: D

Explanation:

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Animal cells do not have cell walls. Cell walls are found in plant cells. Other given organelles like Mitochondria, Nucleolus and Free ribosomes are present in animal cells.

The cell parts found only in plants but not in animals are:

- Cell wall
- Large central vacuole
- Chloroplasts (plastids)

The cell parts found only in animals but not in plants are:

- Lysosomes
- Centrioles
- Cilia (some plant sperm have flagella)

Source: NCERT

Q.9) Which one of the following acids is also known as Vitamin C?

- Methanoic acid
- Ascorbic acid
- Lactic acid
- Tartaric acid

ANS: B

Explanation:

- Vitamin C, also known as ascorbic acid, is a vitamin. It is found fresh fruits, berries and vegetables. It is one of the water-soluble vitamins. Vitamin C was first discovered in 1928. In 1932, it was proved to stop the sickness called scurvy.
- Vitamin C is important in wound healing. Without enough vitamin C, a person can get a sickness called scurvy. Vitamin C is an essential nutrient involved in the repair of tissue and the enzymatic production of certain neurotransmitters. It is required for the functioning of several enzymes and is important for an immune system function. It also functions as an antioxidant.
- Lack of vitamin C was a serious health problem on long ocean trips where supplies of fresh fruit were quickly used up. Many people died from scurvy on such trips. Most animals make their own vitamin C. Some mammals cannot. Those that cannot include the main suborder of primates, the Haplorrhini: tarsiers, monkeys and apes, including humans. Others are bats, capybaras and guinea pigs.

Source: NCERT

Q.10) Consider the following statement:

"The atomic number of an element is a more fundamental property than its atomic mass." Who among the following scientists has made the above statement?

- Dmitri Mendeleev
- Henry Moseley
- J. J. Thomson
- Ernest Rutherford

ANS: B

Explanation:

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- The scientist who first of all, showed that the atomic number is a more fundamental property of an element than its atomic mass was Henry Moseley. He declared this concept in the Year, 1913. He is best known for the Moseley's Law and contributions to Physics. Moseley is also associated with the publication of the very first Long Form or Modern periodic table that is used to date.
- Moseley performed experiments and studied the frequencies of the rays emitted from the elements. With these experiments, he concluded that the atomic number is a more fundamental property of an element than its atomic mass.
- The atomic number is a more fundamental property of an element than its atomic mass. On arranging elements in the increasing order of their atomic numbers, similarities appear in physical and chemical properties at regular intervals.

Source: NCERT

Economy

Q.1) In which one of the following places, was Asia's first EPZ was set up in 1965?

- a) Kandla, India
- b) Chittagong, Bangladesh
- c) Anshun, China
- d) Tan Thuan, Vietnam

ANS: A

Explanation:

India was one of the first in Asia to recognize the effectiveness of the Export Processing Zone (EPZ) model in promoting exports, with Asia's first EPZ set up in Kandla in 1965. With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances; absence of world-class infrastructure, and an unstable fiscal regime and with a view to attract larger foreign investments in India, the Special Economic Zones (SEZs) Policy was announced in April 2000.

Source: sezindia.nic.in

Q.2) Goods and Services Tax (GST) was introduced as a part of indirect tax reforms in India. Which of the following are the salient features of the GST?

1. GST is applicable either on manufacture of goods or on sale of goods or on provisions of services.
2. GST is applicable on supply of goods and services
3. GST is based on the principle of destinations based consumption taxation
4. GST is levied at rates decides by GST Council

Select the correct answer using the codes given below:

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

d) 1, 3 and 4 only

ANS: C

Explanation: Goods and Services Tax (GST)

- Goods and Services Tax(GST) is a comprehensive indirect tax on the manufacture, sale, and consumption of goods and services throughout India. It replaced the existing taxes levied by the central and state governments. It is a single indirect tax for the whole nation, which made India one unified common market.
- Likewise, it is a destination-based tax applied on goods and services at the place where final/actual consumption happens.
- GST is applied to all goods other than crude petroleum, motor spirit, diesel, aviation turbine fuel, and natural gas and alcohol for human consumption.
- There are four slabs for taxes for both goods and services- 5%, 12%, 18%, and 28%.
- Although GST aimed at levying a uniform tax rate on all products and services, four different tax slabs were introduced because daily necessities could not be subject to the same rate as luxury items.

About GST Council

- GST Council is the most important part of India's GST regime. The council is responsible for recommending rates of tax, period of levy of additional tax, principles of supply, the threshold for exemption, floor level and bands of taxation rate, special provisions to certain states, etc.
- Article 279A of the constitution enables the formation of the GST Council by the President to administer & govern GST. The Union Finance Minister of India is a Chairman of the GST Council. Ministers nominated by the state governments are members of the GST Council.

Source: ForumIAS

Q.3) "A proportion of the total deposits and reserves of the commercial banks is to be kept with the central Bank (RBI)." Which of the following represents this proportion?

- a) Reverse Repo Rate
- b) Statutory Liquidity Ratio
- c) Cash Reserve Ratio
- d) Minimum Reserve System

ANS: C

Explanation: Cash Reserve Ratio

Under cash reserve ratio (CRR), the commercial banks have to hold a certain minimum amount of deposit as reserves with the central bank. The percentage of cash required to be kept in reserves as against the bank's total deposits, is called the Cash Reserve Ratio. The cash reserve is either stored in the bank's vault or is sent to the RBI. Banks can't lend the CRR money to corporates or individual borrowers, banks can't use that money for investment purposes. And Banks don't earn any interest on that money.

Why do banks have to reserve cash with RBI?

Since a part of the bank's deposits is with the Reserve Bank of India, it ensures the security of the amount in case of any emergencies. The cash is readily available when customers want their deposits back. At the time of high inflation, the government needs to ensure that excess money is not available in the economy. CRR helps in keeping inflation under control. If there is a threat of high inflation in the economy, RBI increases the CRR, so that banks need to keep more money

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in reserves, effectively reducing the amount of money that is available with the banks. This curbs excess flow of money in the economy.

When there is a need to pump funds into the market, the RBI lowers the CRR rate, which in turn, helps the banks provide loans to a large number of businesses and industries for investment purposes. Lower CRR also boosts the growth rate of the economy.

Source: <https://www.business-standard.com/>

Q.4) Which of the following pairs are correctly matched?

- | | |
|---------------------------|-------------------------|
| 1. Bitcoin | National Stock Exchange |
| 2. Moody's | Credit Rating |
| 3. Special Drawing Rights | World Bank |
| 4. FRBM Act | Fiscal Deficit |

Select the correct answer using the codes given below:

- Only one Pair
- Only two pairs
- Only Three pairs
- All four pairs

ANS: B

Explanation:

Credit Rating

- A credit rating is a quantified assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt or financial obligation.
- A credit rating can be assigned to any entity that seeks to borrow money—an individual, corporation, state or provincial authority, or sovereign government.
- A rating agency is a company that assesses the financial strength of companies and government entities, especially their ability to meet principal and interest payments on their debts.
- Fitch Ratings, Moody's Investors Service and Standard & Poor's (S&P) are the big three international credit rating agencies controlling approximately 95% of global ratings business.
- In India, there are six credit rating agencies registered under Securities and Exchange Board of India (SEBI) namely, CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings.

Special Drawing Rights

The SDR is neither a currency nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members. SDRs can be exchanged for these currencies. The SDR serves as the unit of account of the IMF and some other international organizations.

FRBM Act

- The Fiscal Responsibility and Budget Management Act (FRBM Act), 2003, establishes financial discipline to reduce fiscal deficit.
- The FRBM Act aims to introduce transparency in India's fiscal management systems. The Act's long-term objective is for India to achieve fiscal stability and to give the Reserve Bank of India (RBI) flexibility to deal with inflation in India.
- The FRBM Act was enacted to introduce more equitable distribution of India's debt over the years.

Source: ForumIAS

Q.5) A country is said to be in debt trap if:

- a) It has to abide by the conditionality imposed by the International Monetary Funds.
- b) It is required to borrow money to make interest payments on outstanding loans.
- c) It has been refused loans or aide by creditors.
- d) The World Bank charges a very high rate of interest on outstanding as well as new loans:

ANS: B

Explanation: Debt trap

- The debt trap is a situation where one is forced to over consume loans to repay your existing debts.
- A Debt trap is a situation where you're forced to take new loans in order to repay your existing debt obligations. And before you know what a debt trap is, you fall into a situation where the amount of debt you owe takes a turn for the worse and spirals out of control.

Source: ForumIAS

Q.6) Consider the following statement:

1. No Five Year Plan was made by The Government of India during the late 1960s.
2. Indo Pakistan conflict, drought and inflation erased the financial resources required for planning

Which of the following statements is/are correct?

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

ANS: C

Explanation:

In the late 1960s, from 1966 to 1969 there were no five-year plans launched because of which the period is known as Plan Holidays.

After the Sino-India (1962) war, the financial resources of India were stressed. The country was trying to cope with the aftermath of war.

But, the Indo-Pakistani (1965) war, destabilised the economy and erased most of the financial resources of the country and became the foremost reason behind no five-year plans in the late 1960s.

Source: ForumIAS

Q.7) Disguised unemployment is said to occur when?

- a) Demand for labour declines compare to its supply for demographic reasons
- b) Demand for labour reduce because of a seasonal swing
- c) More labour is engaged in an occupation than optimally required
- d) Jobs get reduced because of a negative business cycle.

ANS: C

Explanation: Disguised unemployment is unemployment that does not affect aggregate economic output. It occurs when productivity is low and too many workers are filling too few jobs. It can refer to any part of the population that is not employed at full capacity.

Source: ForumIAS

Q.8) Narsimham Committee was related to which of the following reforms?

- a) High Education Reforms
- b) Tax Structure Reforms
- c) Banking Structure reforms
- d) Planning implementation reforms

ANS: C

Explanation:

Banks are considered the backbone of any economy. In the late 1980s, Indian economy was going through a series of economic crises, including the Balance of Payment crisis. From near depletion in foreign reserves in mid-1991 to becoming the 3rd largest economy in the world in 2011, India has come a long way. One of the major contributions in that journey has come from banks.

India has both public and private sector banks. As India liberalised its economy in 1991, it was felt that banks were not performing efficiently. During the economic crises, it was recognised that banks have a crucial role to play in the economy and, hence, the banking sector had to be more competitive and effective. For that, Ministry of Finance under then finance minister Dr Manmohan Singh set up Narasimham Committee to analyse India's banking sector and recommend reforms.

The Committee was set up under the chairmanship of Maidavolu Narasimham. He was the 13th governor of the Reserve Bank of India (RBI) from 2 May 1977 to 30 November 1977. There was another Committee, this time under P Chidambaram as the finance minister, headed by Narasimham, which was formed in 1998. The first Committee was set up in 1991 and is referred to as the Narasimham Committee- I, and the 1998 Committee is known as the Narasimham Committee – II.

The first Narasimhan Committee made the following recommendations for the growth of the banking sector.

- A 4-tier hierarchy for the Indian banking system with 3 or 4 major public sector banks at the top and rural development banks for agricultural activities at the bottom
- A quasi-autonomous body under RBI for supervising banks and financial institutions
- Reduction in statutory liquidity ratio
- Reaching of 8% capital adequacy ratio
- Deregulation of Interest rates
- Full disclosure banks' accounts and proper classification of assets
- Setting up Asset Reconstruction fund

Source: ForumIAS

Q.9) Khadi and Village Industry Commission was established in which of the following Plan?

- a) Third Plan
- b) Fourth Plan
- c) Second Plan

d) First Plan

ANS: C

Explanation: The Khadi and Village Industries Commission (KVIC) is a statutory body formed in April 1957 (During 2nd Five Year plan)(as per an RTI) by the Government of India, under the Act of Parliament, 'Khadi and Village Industries Commission Act of 1956'.

Source: ForumIAS

Q.10) Dependency Theory is the notion:

- a) That resources flow from a periphery of poor and underdeveloped states to a core of wealthy states, enriching the latter at the expense of the former
- b) That resources flows between Third World Countries
- c) That resources flows among countries of a region
- d) That resources flows among the advanced countries

ANS: A

Explanation: Dependency theory, an approach to understanding economic underdevelopment that emphasizes the putative constraints imposed by the global political and economic order. First proposed in the late 1950s by the Argentine economist and statesman Raúl Prebisch, dependency theory gained prominence in the 1960s and '70s.

According to dependency theory, underdevelopment is mainly caused by the peripheral position of affected countries in the world economy. Typically, underdeveloped countries offer cheap labour and raw materials on the world market. These resources are sold to advanced economies, which have the means to transform them into finished goods. Underdeveloped countries end up purchasing the finished products at high prices, depleting the capital they might otherwise devote to upgrading their own productive capacity. The result is a vicious cycle that perpetuates the division of the world economy between a rich core and a poor periphery.

Source: ForumIAS

Indian Polity

Q.1) The Government of India Act 1935 provided for which of the following:

- a) dyarchy in the provinces and at the center
- b) autonomy to the provinces and dyarchy at the center
- c) abolition of the system of dyarchy
- d) autonomy at the center as well as the provinces

ANS: B

Explanation:

Government of India Act of 1935

The Act marked a second milestone towards a completely responsible government in India. It was a lengthy and detailed document having 321 Sections and 10 Schedules.

Features of the Act

It provided for the establishment of an All-India Federation consisting of provinces and princely states as units.

1. The Act divided the powers between the Centre and units in terms of three lists—Federal List (for Centre, with 59 items), Provincial List (for provinces, with 54 items) and the Concurrent List (for both, with 36 items). Residuary powers were given to the Viceroy. However, the federation never came into being as the princely states did not join it.

2. It abolished dyarchy in the provinces and introduced 'provincial autonomy' in its place. The provinces were allowed to act as autonomous units of administration in their defined spheres. Moreover, the Act introduced responsible governments in provinces, that is, the governor was required to act with the advice of ministers responsible to the provincial legislature. This came into effect in 1937 and was discontinued in 1939.

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3. It provided for the adoption of dyarchy at the Centre. Consequently, the federal subjects were divided into reserved subjects and transferred subjects. However, this provision of the Act did not come into operation at all.
4. It introduced bicameralism in six out of eleven provinces. Thus, the legislatures of Bengal, Bombay, Madras, Bihar, Assam and the United Provinces were made bicameral consisting of a legislative council (upper house) and a legislative assembly (lower house). However, many restrictions were placed on them.
5. It further extended the principle of communal representation by providing separate electorates for depressed classes (scheduled castes), women and labour (workers).
6. It abolished the Council of India, established by the Government of India Act of 1858. The secretary of state for India was provided with a team of advisors.
7. It extended franchise. About 10 per cent of the total population got the voting right.
8. It provided for the establishment of a Reserve Bank of India to control the currency and credit of the country.
9. It provided for the establishment of not only a Federal Public Service Commission but also a Provincial Public Service Commission and Joint Public Service Commission for two or more provinces.

Source: Indian Polity by Laxmikanth

Q.2) The doctrine of the “basic structure” of the constitution has been laid by which of the following?

- a) Shankari Prasad case
- b) Golak Nath case
- c) Kesavananda Bharati case
- d) Minerva Mills case

ANS: C

Explanation:

In the Kesavananda Bharati case³ (1973), the Supreme Court overruled its judgement in the Golak Nath case (1967). It upheld the validity of the 24th Amendment Act (1971) and stated that Parliament is empowered to abridge or take away any of the Fundamental Rights. At the same time, it laid down a new doctrine of the ‘basic structure’ (or ‘basic features’) of the Constitution. It ruled that the constituent power of Parliament under Article 368 does not enable it to alter the ‘basic structure’ of the Constitution. This means that the Parliament cannot abridge or take away a Fundamental Right that forms a part of the ‘basic structure’ of the Constitution.

The doctrine of basic structure of the constitution was reaffirmed and applied by the Supreme Court in the Indira Nehru Gandhi case^{3a} (1975). In this case, the Supreme Court invalidated a provision of the 39th Amendment Act (1975) which kept the election disputes involving the Prime Minister and the Speaker of Lok Sabha outside the jurisdiction of all courts. The court said that this provision was beyond the amending power of Parliament as it affected the basic structure of the constitution.

Source: Indian Polity by Laxmikanth

Q.3) Which of the following cases is also known as the IX schedule case?

- a) I.R.Coelho Case

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- b) Keshvananda Bharati Case
- c) S.R. Bommai Case
- d) Indira Nehru Gandhi Case

ANS: A

Explanation:

Name of the Case (Year)	Elements of the Basic Structure (As Declared by the Supreme Court)
Kesavananda Bharati case (1973) (popularly known as the Fundamental Rights Case)	<ol style="list-style-type: none">1. Supremacy of the Constitution2. Separation of powers between the legislature, the executive and the judiciary3. Republic and democratic form of government4. Secular character of the constitution5. Federal character of the constitution6. Sovereignty and unity of India7. Freedom and dignity of the individual8. Mandate to build a welfare state9. Parliamentary System
Indira Nehru Gandhi case (1975) (popularly known as the Election Case)	<ol style="list-style-type: none">1. India as a sovereign democratic republic2. Equality of status and opportunity of an individual3. Secularism and freedom of conscience and religion4. Government of laws and not of men (i.e., Rule of Law)5. Judicial review6. Free and fair elections which is implied in democracy
S.R. Bommai Case ¹⁷ (1994)	<ol style="list-style-type: none">1. Federalism2. Secularism3. Democracy4. Unity and integrity of the nation5. Social justice6. Judicial review
I.R. Coelho Case ²³ (2007) (popularly known as IX Schedule Case)	<ol style="list-style-type: none">1. Rule of law2. Separation of powers3. Principles (or essence) underlying fundamental rights4. Judicial review5. Principle of equality

Source: Indian Polity by Laxmikanth

Q.4) Which of the following Amendment provided for the Fundamental duty to provide opportunities for education to his child between the age of six and fourteen years?

- a) 91st Constitutional Amendment

- b) 86th Constitutional Amendment
- c) 75th Constitutional Amendment
- d) 32nd Constitutional Amendment

ANS: B

Explanation:

Eighty-Sixth Amendment Act, 2002

1. Made elementary education a fundamental right. The newly-added Article 21-A declares that “the State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may determine”.
2. Changed the subject matter of Article 45 in Directive Principles. It now reads— “The State shall endeavour to provide early childhood care and education for all children until they complete the age of six years”.
3. Added a new fundamental duty under Article 51-A which reads— “It shall be the duty of every citizen of India who is a parent or guardian to provide opportunities for education to his child or ward between the age of six and fourteen years”.

Source: Indian Polity by Laxmikanth

Q.5) Consider the following statements about Fundamental duties:

1. Sardar Swaran Singh Committee was set up in 1976 to make recommendations about Fundamental duties.
2. All the recommendations were incorporated in the 42nd Constitutional amendment Act of 1976.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

SWARAN SINGH COMMITTEE RECOMMENDATIONS

In 1976, the Congress Party set up the Sardar Swaran Singh Committee to make recommendations about fundamental duties, the need and necessity of which was felt during the operation of the internal emergency (1975–1977).

The committee recommended the inclusion of a separate chapter on fundamental duties in the Constitution.

Though the Swaran Singh Committee suggested the incorporation of eight Fundamental Duties in the Constitution, the 42nd Constitutional Amendment Act (1976) included ten Fundamental Duties.

Interestingly, certain recommendations of the Committee were not accepted by the Congress Party and hence, not incorporated in the Constitution. These include:

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1. The 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.
- Source: Indian Polity by Laxmikanth

Q.6) Consider the following statements:

1. Living wage includes food, shelter and clothing
2. Minimum wage includes education, health and insurance

Which of the statements given above is/are correct?

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

ANS: D

Explanation:

'Living wage' is different from 'minimum wage', which includes the bare needs of life like food, shelter and clothing. In addition to these bare needs, a 'living wage' includes education, health, insurance, etc. A 'fair wage' is a mean between 'living wage' and 'minimum wage'.

Source: Indian Polity by Laxmikanth

Q.7) Which of the following statements is/are correct?

1. Lok Adalat is a non permanent Constitutional body.
2. Its awards are final as no appeal lies before any court against them.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

The Legal Services Authorities Act (1987) has established a nation-wide network to provide free and competent legal aid to the poor and to organise lok adalats for promoting equal justice. Lok adalat is a statutory forum for conciliatory settlement of legal disputes. It has been given the status of a civil court. Its awards are enforceable, binding on the parties and final as no appeal lies before any court against them.

Source: Indian Polity by Laxmikanth

Q.8) The directive principle of providing just and humane conditions of work and maternity relief is under which of the following principles?

- a) Gandhian Principle
- b) Liberal-Intellectual Principle
- c) Socialistic Principles
- d) None of the above

ANS: C

Explanation:

Socialistic Principles

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

1. To promote the welfare of the people by securing a social order permeated by justice—social, economic and political—and to minimize inequalities in income, status, facilities and opportunities⁴ (Article 38).
2. To secure (a) the right to adequate means of livelihood for all citizens; (b) the equitable distribution of material resources of the community for the common good; (c) prevention of concentration of wealth and means of production; (d) equal pay for equal work for men and women; (e) preservation of the health and strength of workers and children against forcible abuse; and (f) opportunities for healthy development of children (Article 39).
3. To promote equal justice and to provide free legal aid to the poor (Article 39 A).
4. To secure the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement (Article 41).
5. To make provision for just and humane conditions of work and maternity relief (Article 42).
6. To secure a living wage, a decent standard of life and social and cultural opportunities for all workers (Article 43).
7. To take steps to secure the participation of workers in the management of industries (Article 43 A).
8. To raise the level of nutrition and the standard of living of people and to improve public health (Article 47).

Source: Indian Polity by Laxmikanth

Q.9) Right to property is a:

- a) legal right
- b) constitutional right
- c) fundamental right
- d) option a and b

ANS: D

Explanation:

The 44th Amendment Act of 1978 abolished the right to property as a Fundamental Right by repealing Article 19(1)(f) and Article 31 from Part III. Instead, the Act inserted a new Article 300A in Part XII under the heading 'Right to Property'. It provides that no person shall be deprived of his property except by authority of law. Thus, the right to property still remains a legal right or a constitutional right, though no longer a fundamental right. It is not a part of the basic structure of the Constitution.

Source: Indian Polity by Laxmikanth

Q.10) Which one of the following literally means 'we command'?

- a) Habeas corpus
- b) Mandamus
- c) Certiorari
- d) Quo-warranto

ANS: B

Explanation:

It literally means 'we command'. It is a command issued by the court to a public official asking him to perform his official duties that he has failed or refused to perform. It can also be issued against any public body, a corporation, an inferior court, a tribunal or government for the same purpose.

The writ of mandamus cannot be issued:

- (a) against a private individual or body;
- (b) to enforce departmental instruction that does not possess statutory force;
- (c) when the duty is discretionary and not mandatory;
- (d) to enforce a contractual obligation;
- (e) against the president of India or the state governors; and
- (f) against the chief justice of a high court acting in judicial capacity.

Source: Indian Polity by Laxmikanth

Geography

Q.1) Consider the following statements:

1. Soil Survey of India was established in 1856.
2. The National Bureau of Soil Survey is an Institute under the control of the Indian Council of Agricultural Research (ICAR).

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Since Independence, scientific surveys of soils have been conducted by various agencies. Soil Survey of India, established in 1956, made comprehensive studies of soils in selected areas like in the Damodar Valley. The National Bureau of Soil Survey and the Land Use Planning an Institute under the control of the Indian Council of Agricultural Research (ICAR) did a lot of studies on Indian soils. In their effort to study soil and to make it comparable at the international level, the ICAR has classified the Indian soils on the basis of their nature and character as per the United States Department of Agriculture (USDA) Soil Taxonomy.

Source: NCERT

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Q.2) Which of the following order of soil classification covers the maximum of India's area?

- a) Vertisol
- b) Alfisol
- c) Inceptisol
- d) Ultisol

ANS: C

Explanation:

ICAR has classified the soils of India into the following order as per the USDA soil taxonomy			
<i>Sl. No.</i>	<i>Order</i>	<i>Area (in Thousand Hectares)</i>	<i>Percentage</i>
(i)	Inceptisols	130372.90	39.74
(ii)	Entisols	92131.71	28.08
(iii)	Alfisols	44448.68	13.55
(iv)	Vertisols	27960.00	8.52
(v)	Aridisols	14069.00	4.28
(vi)	Ultisols	8250.00	2.51
(vi)	Mollisols	1320.00	0.40
(viii)	Others	9503.10	2.92
Total			100

Source : Soils of India, National Bureau of Soil Survey and Land Use Planning, Publication Number 94

Source: NCERT

Q.3) Which of the following statements about alluvial soils is/are correct?

- 1. Bhangar is the new alluvium and is deposited by floods annually.
- 2. Both the Khadar and Bhangar soils contain calcareous concretions.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

The alluvial soils vary in nature from sandy loam to clay. They are generally rich in potash but poor in phosphorous. In the Upper and Middle Ganga plain, two different types of alluvial soils have developed, viz. Khadar and Bhangar. Khadar is the new alluvium and is deposited by floods annually, which enriches the soil by depositing fine silts. Bhangar represents a system of older alluvium, deposited away from the flood plains. Both the Khadar and Bhangar soils contain calcareous concretions (Kankars). These soils are ore loamy and clayey in the lower and middle Ganga plain and the Brahamaputra valley. The sand content decreases from the west to east.

Source: NCERT

Q.4) Which of the following soil is more suitable for tree crops like cashewnut?

- a) Black Soil

- b) Alluvial Soil
- c) Red and Yellow Soil
- d) Red Laterite soil

ANS: D

Explanation:

Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for tree crops like cashewnut. Laterite soils are widely cut as bricks for use in house construction. These soils have mainly developed in the higher areas of the Peninsular plateau. The laterite soils are commonly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and the hilly areas of Odisha and Assam.

Source: NCERT

Q.5) Consider the following statements about Peaty Soil:

1. They are found in the areas of heavy rainfall and high humidity.
2. These soils are normally heavy and black in colour.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Peaty Soils

They are found in the areas of heavy rainfall and high humidity, where there is a good growth of vegetation. Thus, large quantity of dead organic matter accumulates in these areas, and this gives a rich humus and organic content to the soil. Organic matter in these soils may go even up to 40-50 per cent. These soils are normally heavy and black in colour. At many places, they are alkaline also. It occurs widely in the northern part of Bihar, southern part of Uttarakhand and the coastal areas of West Bengal, Odisha and Tamil Nadu.

Source: NCERT

Q.6) Which of the following statement with respect to disasters is/are correct?

1. Natural Hazards may be swift or permanent aspects of the respective environmental settings.
2. Natural disasters are relatively sudden and cause large scale, loss of property and disturbance to social systems and life over which people have a little or no control.

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

Natural Hazards are elements of circumstances in the Natural environment that have the potential to cause harm to people or property or both. These may be swift or permanent aspects of the respective environmental settings like currents in the oceans, steep slope and unstable structural features in the Himalayas or extreme climatic conditions in deserts or glaciated areas.

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As compared to natural hazards, natural disasters are relatively sudden and cause large scale, widespread death, loss of property and disturbance to social systems and life over which people have a little or no control. Thus, any event can be classed as disaster when the magnitude of destruction and damage caused by it is very high.

Generally, disasters are generalized experiences of people the world over, and no two disasters are similar and comparable to each other. Every disaster is unique in terms of the local socio-environmental factors that control it, the social response it generates, and the way each social group negotiates with it. However, the opinion mentioned above is indicative of three important things. Firstly, the magnitude, intensity, frequency and damages caused by natural disasters have increased over the years. Secondly, there is a growing concern among people the world over to deal with the menace created by these so that the loss of human life and property can be minimised. And finally, significant changes have taken place in the pattern of natural disasters over the years.

Source: NCERT

Q.7) Which of the following is not “atmospheric” type of natural disaster?

- a) Storm Surge
- b) Tornadoes
- c) Blizzards
- d) All are atmospheric type of natural Disaster

ANS: A

Explanation:

<i>Atmospheric</i>	<i>Terrestrial</i>	<i>Aquatic</i>	<i>Biological</i>
Blizzards Thunderstorms Lightning Tornadoes Tropical Cyclone Drought Hailstorm Frost, Heat Wave or <i>Loo</i> . Cold Waves, etc.	Earthquakes Volcanic Eruptions Landslides Avalanches Subsidence Soil Erosion	Floods Tidal Waves Ocean Currents Storm Surge Tsunami	Plants and Animals as colonisers (Locusts, etc.). Insects infestation— fungal, bacterial and viral diseases such as bird flu, dengue, etc.

Source: NCERT

Q.8) Consider the following pairs:

Type	Natural Disaster
1. Terrestrial	Subsidence
2. Biological	Insects infestation
3. Aquatic	Tropical Cyclone
4. Atmospheric	Ocean Currents

Which of the pairs given above is/are correctly matched?

- a) One Pair only
- b) Two pairs only
- c) Three pairs only
- d) All four pairs

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ANS: B

Explanation:

Table 7.2 : Classification of Natural Disasters			
<i>Atmospheric</i>	<i>Terrestrial</i>	<i>Aquatic</i>	<i>Biological</i>
Blizzards Thunderstorms Lightning Tornadoes Tropical Cyclone Drought Hailstorm Frost, Heat Wave or <i>Loo</i> , Cold Waves, etc.	Earthquakes Volcanic Eruptions Landslides Avalanches Subsidence Soil Erosion	Floods Tidal Waves Ocean Currents Storm Surge Tsunami	Plants and Animals as colonisers (Locusts, etc.). Insects infestation— fungal, bacterial and viral diseases such as bird flu, dengue, etc.

Source: NCERT

Q.9) Which of the following city is not under “Very low damage risk zone of Earthquake”?

- a) Chennai
- b) Bengaluru
- c) Raipur
- d) Hyderabad

ANS: A

Explanation:

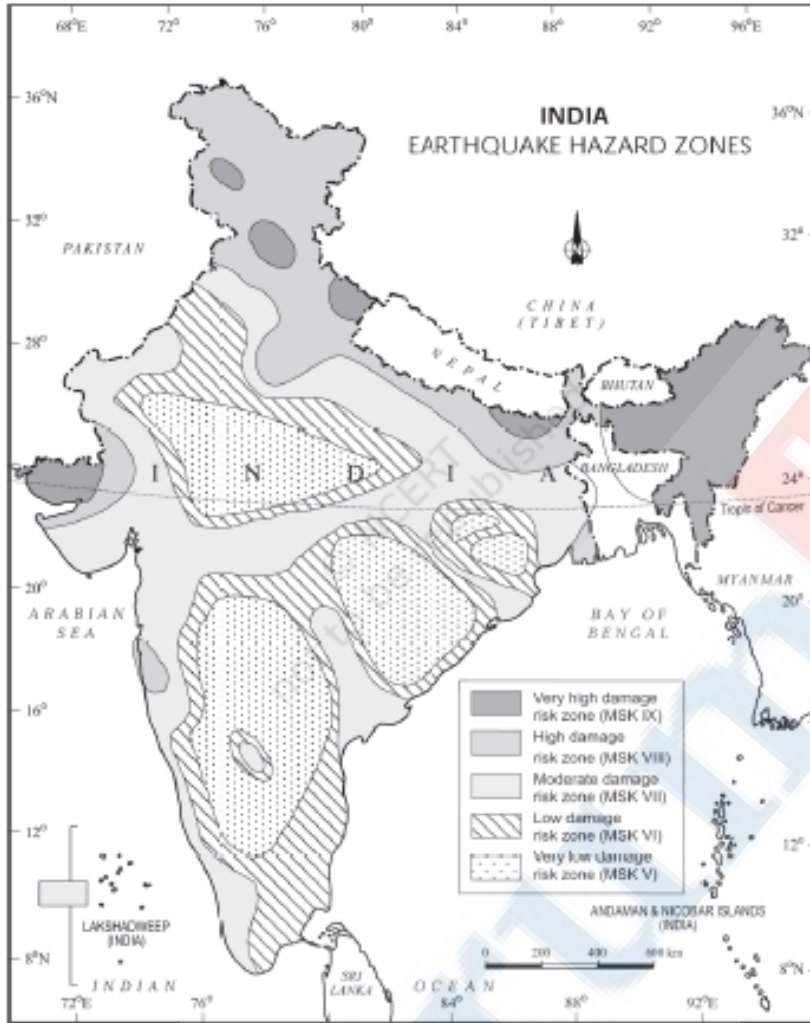


Figure 7.2 : India: Earthquake Hazard Zones

Source: NCERT

Q.10) Which of the following statements about tropical cyclone is/are correct?

1. The centre of the cyclone is mostly a cold and high-pressure, cloudless core.
2. Generally, the isobars are closely placed to each other showing high-pressure gradients.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Structure of Tropical Cyclone

Tropical cyclones are characterised by large pressure gradients. The centre of the cyclone is mostly a warm and low-pressure, cloudless core known as eye of the storm. Generally, the isobars are closely placed to each other showing high-pressure gradients. Normally, it varies

between 14-17mb/100 km, but sometimes it can be as high as 60mb/100km. Expansion of the wind belt is about 10-150 km from the centre.

Source: NCERT

Environment

Q.1) “These species have the ability to capture the imagination of the public and include people to support conservation action and/or to donate funds.” Which of the following is described in the above statement?

- a) Surrogate Species
- b) Flagship Species
- c) Foundation Species
- d) Umbrella Species

ANS: B

Explanation: Flagship Species

- Flagship species are species that have the ability to capture the imagination of the public and induce people to support conservation action and/or to donate funds.
- These are popular charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action.
- Flagship species can represent an environmental feature, cause, organisation or geographic region.

Source: NCERT

Q.2) Which of the following term is used for the plants adapted to grow in bright light?

- a) Sciophytes
- b) Hydrophytes
- c) Heliophytes
- d) Halophytes

ANS: C

Explanation: Heliophytes

These are plants adapted to grow in bright light. They have the following adaptations to survive:

- Shorter and thicker internodes
- Smaller and thicker leaves, leaves are pale green in color with shining surface or hairy growth
- The root system is extensive
- Stomata are small and sunken

Source: NCERT

Q.3) In which of the following type of interaction neither species is affected by association with the other:

- a) Symbiosis
- b) Amensalism
- c) Neutralism
- d) Predation

ANS: C

Explanation: Neutralism

- Neutralism, in which neither population is affected by association with the other.
- Examples: Rabbits, deer, frogs, live together in grassland with no interaction between them.

Source: NCERT

Q.4) Consider the following statements:

1. Plants growing in nutrient-deficient soils or oligotrophic soil have special adaptations in their roots.
2. The roots of these plants form an association with the fungi for the absorption of minerals and water from the soil.

Which of the following is described in the above given statements?

- a) Mycorrhizae
- b) Heliophyte
- c) Pneumatophores
- d) Halophytes

ANS: A

Explanation: Mycorrhizae

Plants growing in nutrient-deficient soils or oligotrophic soil have special adaptations in their roots. The roots of these plants form an association with the fungi for the absorption of minerals and water from the soil. This association between plant roots and fungi is called Mycorrhizae.

Source: NCERT

Q.5) Consider the following statements regarding the Phosphorus Cycle:

1. Phosphorous has a vital role in cell development.
2. Rocks release phosphate ions when in contact with rainwater.

Which of the statements given above is/are correct?

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

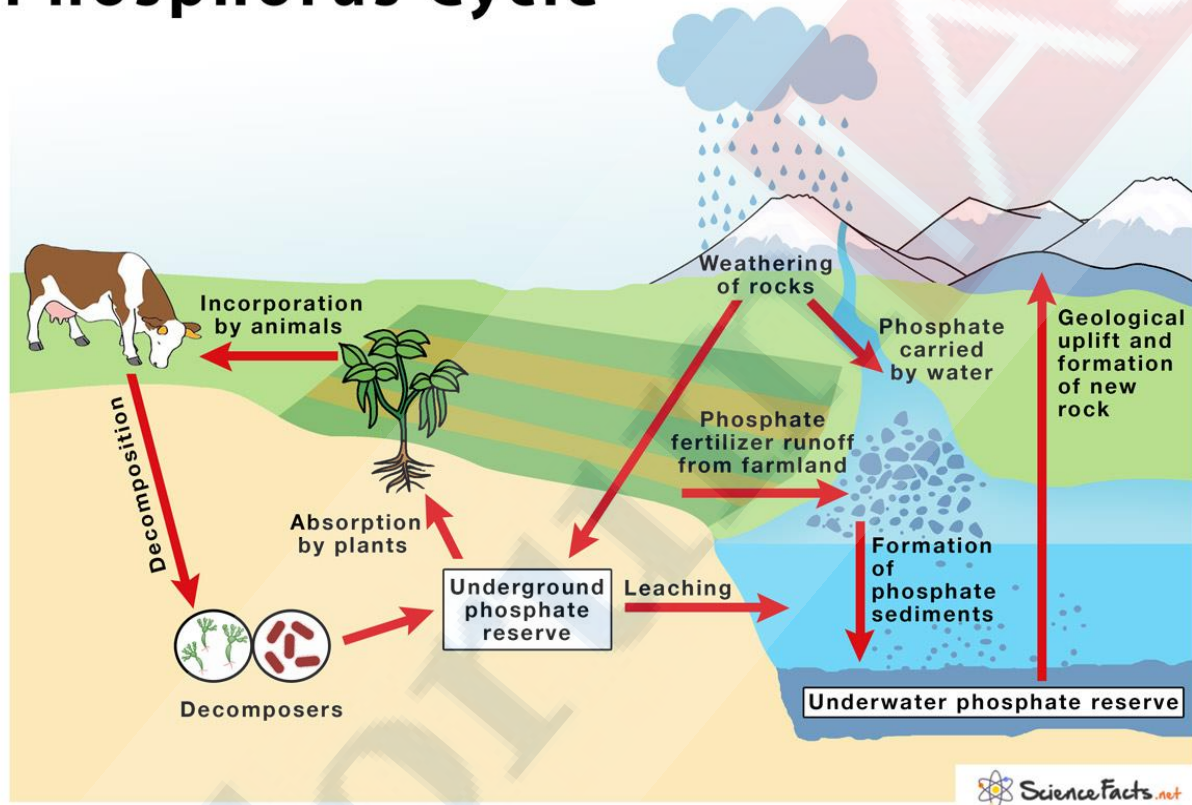
ANS: C

Explanation: Phosphorus Cycle

- Phosphorus is an element that can be found in several compound forms in water, soil, and sediments.
- It is an essential nutrient needed for the growth of plants and animals as well.
- It has a vital role in cell development and is a key component of molecules that store energy.
- Phosphorus occurs in nature as the phosphate ion.
- In addition to phosphate runoff as a result of human activity, natural surface runoff also takes place. It is leached from phosphate-containing rock by weathering, thus sending phosphates into rivers, lakes, and the ocean. This rock has its origins in the ocean.
- Rocks when in contact with rainwater, release phosphate ions and other minerals over time.
- This inorganic phosphate is then distributed in soils and water.

- Plants then take up inorganic phosphate from the soil, and these plants may then be consumed by animals.
- The phosphate is then incorporated into organic molecules such as DNA, and when plants or animals die and decay, the organic phosphate is returned to the soil.
- Bacteria in the soil then breaks down the organic matter into forms of phosphate that are absorbable by plants. It is also a process called mineralisation.
- Phosphorus in the soil can then end up in waterways and oceans and can be incorporated into sediments over time.

Phosphorus Cycle



Source: NCERT

Q.6) Arrange the following zones of lentic waterbody from top to bottom:

1. Limnetic Zone
2. Benthic Zone
3. Littoral Zone
4. Profundal Zone

Select the correct answer using the codes given below:

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

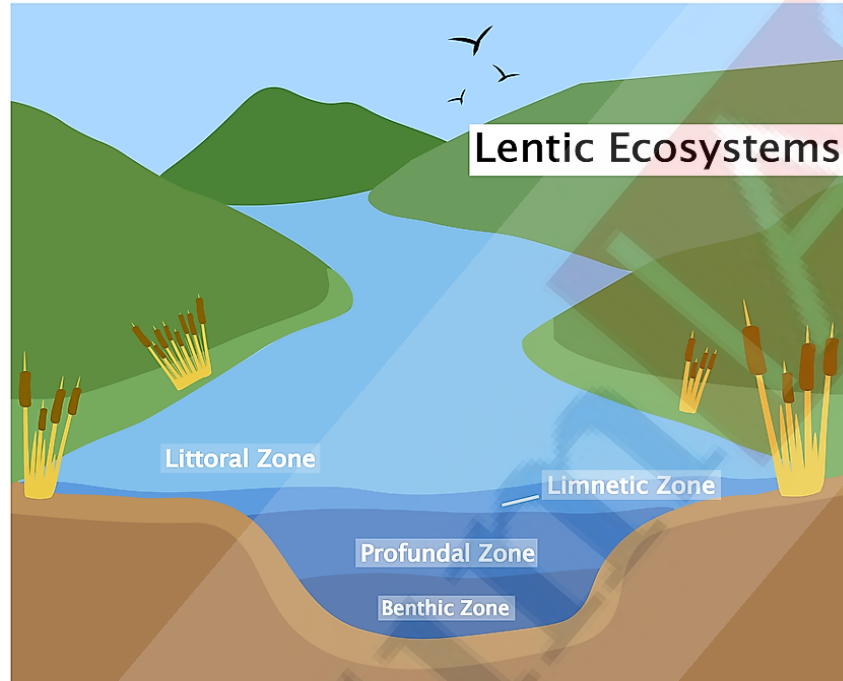
ANS: C

Explanation: The zones of a lentic waterbody:

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A lentic aquatic body can be divided into four major zones, each of which has its own characteristics.

- Littoral zone
- Limnetic zone
- Profundal zone
- Benthic Zone



Source: NCERT

Q.7) Which of the two materials constitute approximately 85% of the dissolved materials in seawater?

- a) Sodium and Potassium
- b) Sodium and Chlorine
- c) Oxygen and Carbon
- d) Calcium and Oxygen

ANS: B

Explanation: Marine Ecosystem

- Marine ecosystems cover approximately 71% of the Earth's surface and contain approximately 97% of the planet's water. They generate 32% of the world's net primary production.
- They are distinguished from freshwater ecosystems by the presence of dissolved compounds, especially salts, in the water.
- Approximately 85% of the dissolved materials in seawater are sodium and chlorine.
- Seawater has an average salinity of 35 parts per thousand (ppt) of water. Actual salinity varies among different marine ecosystems.

Source: NCERT

Q.8) 'A Realm is a continent or sub-continent-sized area with unifying features of geography and fauna & flora'. Which of the following is not one of eight recognized biogeographic realms?

- a) Antarctic realm
- b) Oriental realm
- c) Australian realm
- d) Icelandic realm

ANS: D

Explanation: Bio Geographic Realm

Bio geographic realms are large spatial regions within which ecosystems share a broadly similar biota.

Scholars have recognized eight Terrestrial biogeographic realms:

- Nearctic realm
- Neotropical realm
- Palearctic realm
- Indo-Malayan/Oriental realm
- Afrotropical/Ethiopian realm
- Oceania realm
- Australian realm
- Antarctic realm

Source: NCERT

Q.9) Which of the following regions of India has the lowest floral endemism?

- a) Western and Eastern Ghats
- b) Western Himalaya
- c) North-eastern Himalayas
- d) Andaman & Nicobar Islands

ANS: D

Explanation: Floral Endemism in India

Floral Endemism is the phenomenon of flower species being unique to a defined geographical area. Its measure defines the diversity of species at any location.

In India, the sequence of floral endemism is (in decreasing order):

- Peninsular India including western and Eastern Ghats (about 2,600 species).
- Eastern Himalaya and north-eastern region (about 2,500 species).
- North-western Himalaya (about 800 species).
- Andaman & Nicobar Islands (about 250 species).

Source: NCERT

Q.10) Consider the following part of the tree:

1. Bark
2. Cambium
3. Annual Ring

Which of the above given part is/are helpful in determining its age?

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

ANS: C

Explanation: Annual Rings

- Inside the trunk of a tree, there are a number of growth rings.
- Each year of the tree's life, a new ring is added so it is referred to as the annual rings.
- It is used to calculate Dendro-Chronology i.e. Age of a tree and Paleo-Climatology.
- The age of a tree can be determined by the number of growth rings. The size of the growth ring is determined in part by environmental conditions - temperature, water availability.

Source: NCERT

History

Q.1) Who among the following divided Indian history into three periods – Hindu, Muslim and British?

- a) James Mill
- b) Jadunath Sarkar
- c) Surendra Nath Sen
- d) Bipin Chandra

ANS: A

Explanation: In 1817, James Mill, a Scottish economist and political philosopher, published a massive three-volume work, A History of British India. In this he divided Indian history into three periods – Hindu, Muslim and British. This periodisation came to be widely accepted.

Source: Our Past III

Q.2) Why was Permanent Settlement introduced?

1. Artisanal production in Bengal was in decline, and agricultural cultivation showed signs of collapse.
2. It aims to encourage the British Governors to invest in improving the land.

Select the correct answer using the codes given below:

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

ANS: A

Explanation: Revenue for the Company

The Company had become the Diwan, but it still saw itself primarily as a trader. It wanted a large revenue income but was unwilling to set up any regular system of assessment and collection. The effort was to increase the revenue as much as it could and buy fine cotton and silk cloth as cheaply as possible. Within five years the value of goods bought by the Company in Bengal doubled. Before 1765, the Company had purchased goods in India by importing gold and silver from Britain. Now the revenue collected in Bengal could finance the purchase of goods for export.

Soon it was clear that the Bengal economy was facing a deep crisis. Artisans were deserting villages since they were being forced to sell their goods to the Company at low prices. Peasants

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were unable to pay the dues that were being demanded from them. Artisanal production was in decline, and agricultural cultivation showed signs of collapse. Then in 1770 a terrible famine killed ten million people in Bengal. About one-third of the population was wiped out.

The need to improve agriculture

The Company finally introduced the Permanent Settlement in 1793. By the terms of the settlement, the rajas and taluqdars were recognised as zamindars. They were asked to collect rent from the peasants and pay revenue to the Company. The amount to be paid was fixed permanently, that is, it was not to be increased ever in future. It was felt that this would ensure a regular flow of revenue into the Company's coffers and at the same time encourage the zamindars to invest in improving the land. Since the revenue demand of the state would not be increased, the zamindar would benefit from increased production from the land.

Source: OUR PAST III

Q.3) Who among the following was the Governor-General of India when the Permanent Settlement was introduced?

- a) Robert Clive
- b) Warren Hastings
- c) Charles Cornwallis
- d) Thomas Munro

ANS: C

Explanation: Company finally introduced the Permanent Settlement in 1793. By the terms of the settlement, the rajas and taluqdars were recognised as zamindars. They were asked to collect rent from the peasants and pay revenue to the Company. The amount to be paid was fixed permanently, that is, it was not to be increased ever in future. It was felt that this would ensure a regular flow of revenue into the Company's coffers and at the same time encourage the zamindars to invest in improving the land. Since the revenue demand of the state would not be increased, the zamindar would benefit from increased production from the land.

Cornwallis was the Governor-General of India when the Permanent Settlement was introduced.

Source: Our Past III

Q.4) Consider the following statements:

1. Under British rule, tribal chiefs were allowed to keep their land titles over a cluster of villages and rent out lands.
2. Tribal chiefs had control over their administrative power.

Which of the above given statements about Tribal chiefs during British Rule is/are correct?

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

ANS: A

Explanation:

Before the arrival of the British, in many areas the tribal chiefs were important people. They enjoyed a certain amount of economic power and had the right to administer and control their territories. In some places they had their own police and decided on the local rules of land and forest management. Under British rule, the functions and powers of the tribal chiefs changed considerably. They were allowed to keep their land titles over a cluster of villages and rent out lands, but they lost much of their administrative power and were forced to follow laws made by

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British officials in India. They also had to pay tribute to the British, and discipline the tribal groups on behalf of the British. They lost the authority they had earlier enjoyed amongst their people, and were unable to fulfil their traditional functions.

Source: Our Past III

Q.5) Who among the following decided that Bahadur Shah Zafar would be the last Mughal king and after his death none of his descendants would be recognized as kings?

- a) Dalhousie
- b) Canning
- c) Bentick
- d) No such decision was taken

ANS: B

Explanation: The Company began to plan how to bring the Mughal dynasty to an end. The name of the Mughal king was removed from the coins minted by the Company. In 1849, Governor-General Dalhousie announced that after the death of Bahadur Shah Zafar, the family of the king would be shifted out of the Red Fort and given another place in Delhi to reside in. In 1856, Governor-General Canning decided that Bahadur Shah Zafar would be the last Mughal king and after his death none of his descendants would be recognized as kings – they would just be called princes.

Source: Our Past III

Q.6) Arrange the following in chronological order:

1. Widow Remarriage Act
2. Abolition of Sati
3. Publication of Stripurushtulna

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

- Rammohun Roy was well versed in Sanskrit, Persian and several other Indian and European languages. He tried to show through his writings that the practice of widow burning had no sanction in ancient texts. They were therefore more than willing to listen to Rammohun who was reputed to be a learned man. In 1829, sati was banned.
- one of the most famous reformers, Ishwarchandra Vidyasagar, used the ancient texts to suggest that widows could remarry. His suggestion was adopted by British officials, and a law was passed in 1856 permitting widow remarriage. Those who were against the remarriage of widows opposed Vidyasagar, and even boycotted him.
- By the 1880s, Indian women began to enter universities. Some of them trained to be doctors, some became teachers. Many women began to write and publish their critical views on the place of women in society. Tarabai Shinde, a woman educated at home at Poona, published a book, Stripurushtulna, (A Comparison between Women and Men), criticising the social differences between men and women.

Source: Our Past III

Q.7) Who among the following founded Satnami movement?

- a) Swami Dayanand Saraswati
- b) Tarabai Shinde
- c) Haridas Thakur
- d) Ghasidas

ANS: D

Explanation:

By the second half of the nineteenth century, people from within the Non-Brahman castes began organising movements against caste discrimination, and demanded social equality and justice. The Satnami movement in Central India was founded by Ghasidas who worked among the leatherworkers and organised a movement to improve their social status. In eastern Bengal, Haridas Thakur's Matua sect worked among Chandala cultivators. Haridas questioned Brahmanical texts that supported the caste system. In what is present-day Kerala, a guru from Ezhava caste, Shri Narayana Guru, proclaimed the ideals of unity for his people. He argued against treating people unequally on the basis of caste differences. According to him, all humankind belonged to the same caste. One of his famous statements was: "oru jati, oru matam, oru daivam manushyanu" (one caste, one religion, one god for humankind).

Source: Our Past III

Q.8) Who among the following authored the book titled, 'Gulamgiri'?

- a) Bhagat Singh
- b) Jyotirao Phule
- c) Kesab Chandra Sen
- d) Mahatma Gandhi

ANS: B

Explanation:

In 1873, Phule wrote a book named Gulamgiri, meaning slavery. Some ten years before this, the American Civil War had been fought, leading to the end of slavery in America. Phule dedicated his book to all those Americans who had fought to free slaves, thus establishing a link between the conditions of the "lower" castes in India and the black slaves in America.

Source: Our Past III

Q.9) Consider the following statements:

1. Young Bengal Movement was started by Raja Ram mohan Roy
2. Ramakrishna Mission stressed the ideal of salvation through social service and selfless action.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: Derozio and Young Bengal

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Henry Louis Vivian Derozio, a teacher at Hindu College, Calcutta, in the 1820s, promoted radical ideas and encouraged his pupils to question all authority. Referred to as the Young Bengal Movement, his students attacked tradition and custom, demanded education for women and campaigned for the freedom of thought and expression.

The Ramakrishna Mission and Swami Vivekananda

Named after Ramakrishna Paramhansa, Swami Vivekananda's guru, the Ramakrishna Mission stressed the ideal of salvation through social service and selfless action.

Source: Our Past III

Q.10) Consider the following statements about Swaraj Party:

1. It was formed after Gaya Session of Indian National Congress in 1922.
2. It worked as an independent Party.
3. The party decided to boycott the legislatures.

Which of the above given statement is/are not correct?

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

ANS: B

Explanation:

Swaraj Party was formed by Motilal Nehru and Chittaranjandas and was named as "Congress-Khilafat Swarajaya Party" in 1922. It also claimed to be an integral part of the Congress and professes its adherence to Non-Violence & Non-Cooperation Movement and decided to boycott the legislatures. One group led by C.R. Das, Motilal Nehru and Vithalbhai Patel wanted that the congress should take part in the elections and wreck the working of legislatures from within. The other group which was led by Vallabhbhai Patel, C. Rajagopalachari and Rajendra Prasad, was opposed to this. They wanted the congress to be engaged in the constructive programme.

Source: NCERT

Schemes/ Programmes/ Institutions

Q.1) Consider the following statements about MSME Innovative Scheme:

1. The government has announced equity support of up to INR 100 crore for commercialisation of ideas, designs and patents.
2. A separate corpus will be created and managed by SIDBI as the fund manager.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: MSME Innovative Scheme

The Union Ministry of MSME has launched the MSME Innovative Scheme (Incubation, Design and IPR). It is combination of existing sub-schemes around incubation, design, and Intellectual Property Rights (IPR) for MSMEs. The government has announced equity support of up to INR 1 crore for commercialisation of ideas, designs and patents across all three sub-schemes. A separate corpus will be created and managed by SIDBI (Small Industries Development Bank of India) as the fund manager. The new scheme will ensure support through guidance, financial support, technical support, and more to MSMEs to scale up.

Source: EPIC March 2022

Q.2) Consider the following statements about e-Bill system:

1. The aim of the e-Bill system is to make the entire process of submission and backend processing of bills completely paperless and transparent.
2. It has been developed by NIC.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: e-Bill system for Union Ministries

The Union Minister for Finance has launched the e-Bill system for Central Government Ministries on the 46th Civil Accounts Day (March 02, 2022). The aim of the e-Bill system is to make the entire process of submission and backend processing of bills completely paperless and transparent for Central Government Ministries. It has been developed by the Public Financial Management System (PFMS) Division in the office of the Controller General of Accounts in the Department of Expenditure, Ministry of Finance.

Source: EPIC March 2022

Q.3) “Digisaathi” has been set up by which of the following?

- a) Public Financial Management System (PFMS)
- b) National Informatics Centre (NIC)
- c) National Payments Corporation of India (NPCI)
- d) NITI Aayog

ANS: C

Explanation: Digisaathi

Digisaathi has been set up by the National Payments Corporation of India (NPCI). It is a 24 x 7 helpline for providing information on digital payment products and services. It will use AI technology to answer any questions related to all types of digital transactions. Currently, it is available in English and Hindi language.

Source: EPIC March 2022

Q.4) Consider the following statements about SAMARTH Scheme:

1. It is a Special Entrepreneurship Promotion Drive for differently-abled to provide them with an opportunity to be self-reliant.

2. It has been launched by the Ministry of Micro, Small & Medium Enterprises.

Which of the statements given above is/are not correct?

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

ANS: A

Explanation: SAMARTH

It has been launched by the Ministry of Micro, Small & Medium Enterprises on the occasion of International Women’s Day. It is a Special Entrepreneurship Promotion Drive for Women to provide them with an opportunity to be self-reliant and independent by undertaking self-employment opportunities. Under this scheme several benefits will be available to aspiring and existing women entrepreneurs like 20% Seats in free Skill Development Programs will be allocated for Women.

Source: EPIC March 2022

Q.5) Consider the following statements about Rejuvenating Watersheds for Agricultural Resilience through Innovative Development Programme:

1. World Bank will provide financial aid to the state of Karnataka and Odisha.

2. India has committed to restoring 26 million hectares of degraded land by 2025.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: REWARD Project

The Government of India, State Governments of Karnataka and Odisha and the World Bank have signed a \$115 million REWARD Project. REWARD stands for Rejuvenating Watersheds for

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Agricultural Resilience through Innovative Development Programme. Its aim is to help national and state institutions adopt improved watershed management practices to help increase farmers' resilience to climate change, promote higher productivity and better incomes. The Government of India has committed to restoring 26 million hectares of degraded land by 2030.

Source: EPIC March 2022

Q.6) Consider the following statements about Bhasha Sangam App:

1. The mobile application has been developed by NITI Aayog.
2. Using the app, people can learn 100+ sentences of daily use in as many as 22 scheduled Indian languages.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Bhasha Sangam App

It is a mobile application developed by the Ministry of Education in collaboration with MyGov India. Its aim is to foster the spirit of Ek Bharat Shreshtha Bharat by enabling people across India to learn different languages of India and come closer to their culture. Using the app, people can learn 100+ sentences of daily use in as many as 22 scheduled Indian languages.

Source: EPIC March 2022

Q.7) Consider the following statements about Sustainable Cities India Program:

1. It has been jointly designed by World Economic Forum (WEF) and the National Institute of Urban Affairs (NIUA).
2. Its aim is to enable cities to decarbonize in a systematic and sustainable way.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Sustainable Cities India Program

The World Economic Forum (WEF) and the National Institute of Urban Affairs (NIUA) have signed an MoU to collaborate on a jointly designed 'Sustainable Cities India program'. The aim is to enable cities to decarbonize in a systematic and sustainable way that will reduce emissions and deliver resilient and equitable urban ecosystems. The NIUA will adapt the WEF's City Sprint process and Toolbox of Solutions for decarbonization in the context of five to seven Indian cities across two years.

Source: EPIC March 2022

Q.8) Rashtriya Raksha University, is located in which of the following states/UTs?

- a) Jammu and Kashmir
- b) New Delhi
- c) West Bengal
- d) Gujarat

ANS: D

Explanation: Rashtriya Raksha University

Rashtriya Raksha University is a Central University located in Gandhinagar, Gujarat. It has a specialization in National and Internal Security. It was established by the Government of Gujarat in 2009. The university has been upgraded as an Institute of National Importance through RRU Act 2020.

Source: EPIC March 2022

Q.9) Consider the following statements about Council of Europe:

- 1. It was founded in 1949 by the Treaty of London.
- 2. It aims to uphold human rights, democracy and the rule of law in Europe.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Council of Europe

The Council of Europe was founded in 1949 by the Treaty of London. It is an international organization founded in the wake of World War II to uphold human rights, democracy and the rule of law in Europe. The council is distinct from the European Union (EU). It includes 47 member states (27 of which are EU members). The Council cannot make binding laws, but it does have the power to enforce select international agreements reached by European states. The Council is also an official United Nations Observer. The Council of Europe has suspended Russia from its rights of representation in the Council.

Source: EPIC March 2022

Q.10) Consider the following statements about BBIN MVA:

- 1. Nepal has decided to continue to stay out of the BBIN MVA.
- 2. BBIN MVA initiative is being assisted by the South Asia Sub-regional Economic Cooperation (SASEC) program of World Bank.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: About the BBIN MVA

Bangladesh, Bhutan, India and Nepal (BBIN) had signed the Motor Vehicles Agreement (MVA) in 2015 at Thimphu, Bhutan. Its aims is to provide seamless people-to-people contact and enhance

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economic interaction by facilitating cross border movement of people and goods. As per the agreement, member countries would allow vehicles registered in the other countries to enter their territory under certain terms and conditions. Customs and tariffs will be decided by the respective countries and these would be finalized at bilateral and trilateral forums. The Asian Development Bank (ADB) has been providing support to the BBIN MVA initiative as part of its assistance to the South Asia Sub-regional Economic Cooperation (SASEC) program. Bhutan has decided to continue to stay out of the BBIN MVA.

Source: EPIC March 2022

Science and Technology

Q.1) Consider the following statements about Nano Mission in India:

1. It involves funding of basic research by individual scientists.
2. It involves facility development for technologies like Optical Tweezers, Atomic Force Microscope (AFM).

Which of the statements given above is/are not correct?

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

ANS: D

Explanation: Nano India Mission

1. The Government of India launched the Nano Mission in May 2007 as an “umbrella capacity-building program”.
2. It envisages the overall development of Nanotechnology in the country and taps some of its applied potential for a nation’s development.
3. The objectives of the Nano-Mission include:
 1. Basic Research Promotion: Funding of basic research by individual scientists and/or groups of scientists and the creation of centers of excellence for pursuing studies related to the Nanoscale.
 2. Infrastructure Development for Nano Science & Technology Research: It focuses on facility development for technologies like Optical Tweezers, Nano Indenter, Transmission Electron Microscope (TEM), Atomic Force Microscope (AFM), Scanning Tunneling Microscope (STM), Microarray Spotter & Scanner, etc.
 3. Nano Applications and Technology Development Programmes: The Mission proposes to promote application-oriented R&D Projects, establish Nano Applications and Technology Development Centers, Nano-Technology Business Incubators.
 4. Human Resource Development: The Mission focuses on providing effective education and training to researchers and professionals in diversified fields so that a genuine interdisciplinary culture for nanoscale science, engineering and technology can emerge.
 5. International Collaborations: Apart from exploratory visits of scientists, organization of joint workshops and conferences and joint research projects, it focuses to facilitate access to sophisticated research facilities abroad, establish joint centers of excellence and forge academia-industry partnerships at the international level wherever required and desirable.

Source: ForumIAS

Q.2) Which of the following statement about nano-fabric is/are correct?

1. Zinc oxide embedded nano fabrics has antimicrobial properties.
2. Nano-silver coating can be used for UV rays protection.

Select the correct answer using the codes given below:

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

ANS: D

Explanation: Nano fabrics

1. Nano fabrics are textiles embedded with small nanoparticles to give ordinary materials advantageous properties such as the Lotus effect, odor and moisture elimination and even bacterial resistance.
2. The lotus effect refers to self-cleaning properties that are a result of water repellent properties as exhibited by the leaves of a lotus flower.
3. It is done by a technique known as Nano finishing which includes coating the surface of textiles and clothing with nanoparticles.
4. Zinc oxide nanoparticles embedded in polymer matrices like soluble starch are a good example of functional nanostructures with potential for applications such as UV-protection ability in textiles and sunscreens.
5. Nano-silver coating provides antimicrobial properties to the fabric.
6. Nano fabrics can also be used for the delivery of drugs such as antibiotics, anticancer drugs etc in precise quantities. It can be done by Electrospinning that creates porous nano fabrics that can be loaded with the desired drug and the drug passes through the skin tissue by the diffusion process.

Source: ForumIAS

Q.3) Consider the following statements about carbon nanotubes:

1. These are cylindrical molecules consisting of rolled-up sheets of single-layer carbon atoms .
2. They have very high tensile strength.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Carbon Nanotubes

1. Carbon nanotubes (CNTs) are cylindrical molecules that consist of rolled-up sheets of single-layer carbon atoms (graphene).
2. Carbon nanotubes are composed of carbon atoms linked in hexagonal shapes, with each carbon atom covalently bonded to three other carbon atoms.
3. They can be single-walled with a diameter of less than 1 nanometre (nm) or multi-walled, consisting of several concentrically interlinked nanotubes, with diameters reaching more than 100 nm.
4. Carbon Nanotubes are stronger than steel wires and have high thermal and electrical conductivity.

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5. They are very elastic and have very high tensile strength.
6. Carbon nanotubes have the highest strength-to-weight ratio of any known material.
7. Carbon nanotubes have the potential to be used as semiconductors, for example, potentially replacing silicon in a wide variety of computing devices.

Source: ForumIAS

Q.4) Consider the following statements about the classification of nano-materials:

1. Zero Dimensional Nano-materials are those that have all their dimensions less than 100nm.
2. The nano-film is an example of one-dimensional nano-material.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Classification of Nanomaterials

Nanomaterials can be classified on the basis of their dimensions into the following categories:

1. **Zero Dimensional Nanomaterials (0D):** These nanomaterials have all the dimensions within the nanoscale. no dimensions are larger than 100 nm. Most commonly, 0D nanomaterials are nanoparticles.
2. **One Dimensional Nanomaterials (1D):** These have one dimension outside the nanoscale. This class includes nanotubes, nanorods, and nanowires.
3. **Two Dimensional Nanomaterials (2D):** These have two dimensions outside the nanoscale. This class exhibits plate-like shapes and includes graphene, nanofilms, nanolayers, and nanocoatings.
4. **Three Dimensional Nanomaterials (3D):** These are materials that are not confined to the nanoscale in any dimension. This class can contain bulk powders, dispersions of nanoparticles, bundles of nanowires, and multi-nanolayers.

Source: ForumIAS

Q.5) Consider the following statements with reference to Nanotechnology:

1. It involves science and engineering of objects in the range of only 1 to 10 nano-meter.
2. An atomic force microscope is used to generate images of nano-scale details on a physical surface.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Nanotechnology

1. The idea of nanotechnology was born in 1959 when physicist Richard Feynman gave a lecture exploring the idea of building things at the atomic and molecular scale.
2. The term 'Nanotechnology' was coined in 1974 by Norio Taniguchi of Tokyo Science University to describe semiconductor processes such as thin-film deposition that deal with control on the order of nanometers.

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3. Nanotechnology is science, engineering, and technology conducted at the nanoscale, which is about 1 to 100 nanometers.
4. Nanoscience and nanotechnology are the study and application of extremely small things and can be used across all the other science fields, such as chemistry, biology, physics, materials science, and engineering.
5. An Atomic force microscope is a scientific instrument that can generate images of nanoscale details on a physical surface by scanning small nanoscale probes.

Source: ForumIAS

Q.6) Which of the following given statement is incorrect?

- a) Antibody-drug conjugates are a class of biopharmaceutical drugs designed as a targeted therapy.
- b) Biologics is a product that is produced from living organisms or contains components of living organisms.
- c) Like chemotherapy, ADCs kill tumour cells as well as healthy cells.
- d) Both (a) and (b)

ANS: C

Explanation: What are biological drugs (biologics)?

1. A biologic drug (biologics) is a product that is produced from living organisms or contains components of living organisms. The composition may include sugars, proteins, or nucleic acids or complex combinations of these substances.
2. The biological drug works by targeting a defective protein in the system by delivering proteins to it.
3. For example in case of insulin treatment. If a person is short of insulin, (which is a protein), then s/he will get an insulin shot to balance the system.

What are Antibody Drug Conjugates?

1. Antibody-drug conjugates or ADCs are a class of biopharmaceutical drugs designed as a targeted therapy for treating diseases like cancer.
2. Unlike chemotherapy, ADCs are intended to target and kill tumour cells while sparing healthy cells.

Source: ForumIAS

Q.7) Which of the following is/are application of Nanophotonics?

1. Nanophotonics will build up integrated-circuits driven entirely by photons (light).
2. Nanophotonics is useful for all-optical-based technologies such as pliable, wearable devices.

Select the correct answer using the codes given below:

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

ANS: C

Explanation: Applications of Nanophotonics:

Solar cells:

Solar Cells often work best when the light is absorbed very close to the surface. It is because electrons near the surface have a better chance of being collected. Moreover, the device can be

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made thinner, which reduces cost. Researchers have investigated a variety of nanophotonic techniques to intensify light in the optimal locations within a solar cell.

Optical Technology

Nano-Photonics can help achieve an unprecedented level of miniaturization. It is useful for all-optical-based technologies such as pliable, wearable devices. These are operated by light entirely.

Integrated Circuits(IC)

Nanophotonics would make it possible to go beyond current electronics. It will build up integrated-circuits driven entirely by photons(light).

Spectroscopy

If a given amount of light energy is squeezed into a smaller and smaller volume ("hot-spot"), the intensity in the hot-spot gets larger and larger. This is especially helpful in nonlinear optics, an example is surface-enhanced Raman scattering.

Source: ForumIAS

Q.8) Consider the following statements about NanoSniffer:

1. NanoSniffer accurately detects all classes of military, conventional, and homemade explosives.
2. The core technology of NanoSniffer is protected by patents in China.

Which of statements given above is/are correct?

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

ANS: A

Explanation: About Nano Sniffer:

Nanosniffer has been developed by NanoSniff Technologies, an IIT Bombay incubated startup.

Purpose: It is the world's first Microsensor based Explosive Trace Detector (ETD). It can detect explosives in less than 10 seconds. Not only that, but it can also identify and categorize explosives into different classes.

Key Features:

1. NanoSniffer accurately detects all classes of military, conventional, and homemade explosives.
2. The device gives visible and audible alerts with a colour display.
3. The device is a 100% Made in India product in terms of research, development and manufacturing. The core technology of NanoSniffer is protected by patents in the US and Europe.

Source: ForumIAS

Q.9) Nano Urea Liquid, recently seen in news is launched by which of the following?

- a) Ministry of Science and technology
- b) IFFCO
- c) Ministry of chemical and fertiliser
- d) APEDA

ANS: B

Explanation: Indian Farmers Fertiliser Cooperative Limited (IFFCO) has launched the world's first Nano Urea Liquid

What is Nano Liquid Urea?

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1. Nano Urea Liquid is a nutrient to provide nitrogen to plants as an alternative to conventional urea.
2. Developed by: Nano Urea Liquid has been developed indigenously through proprietary technology at IFFCO's Nano Biotechnology Research Centre(NBRC) in Gujarat.
3. Efficacy Trials: IFFCO had conducted around 11,000 farmer field trials (FFT's) on more than 94 crops across India to test the efficacy of nano urea. The trials had shown an average 8% increase in yield.

Source: ForumIAS

Q.10) Which of the following are the applications of Nanotechnology in food processing sector?

1. Enhanced Nutrient Delivery
2. Antimicrobial Packaging
3. Green Packaging

Select the correct answer using the code given below:

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

ANS: D

Explanation: Nanotechnology in Food Processing

Nanotechnology offers some exciting potential benefits for the quality and safety of our foods such as:

1. Contamination Sensor: Flashlight to reveal the presence of E. coli bacteria.
2. Antimicrobial Packaging: Edible food films made with cinnamon or oregano oil, or nanoparticles of zinc, calcium other materials that kill bacteria.
3. Improved Food Storage: Nano-enhanced barrier keeps oxygen-sensitive foods fresher.
4. Enhanced Nutrient Delivery: Nano-encapsulating improves the solubility of vitamins, antioxidants, healthy omega oils and other 'nutraceuticals'.
5. Green Packaging: Nano-fibers made from lobster shells or organic corn are both antimicrobial and biodegradable.
6. Pesticide Reduction: A cloth saturated with nanofibers slowly releases pesticides, eliminating the need for additional spraying and reducing chemical leakage into the water supply.
7. Tracking, Tracing Brand Protection: Nanobarcodes can be created to tag individual products and trace outbreaks.
8. Texture: Food spreadability and stability improve with nano-sized crystals and lipids for better low-fat foods.
9. Flavor: Trick the tongue with bitter blockers or sweet and salty enhancers.
10. Bacteria Identification and Elimination: Nano carbohydrate particles bind with bacteria so they can be detected and eliminated.

Source: ForumIAS

Economy

Q.1) Which of the following is/are the main objectives of Fiscal Policy in India?

1. To maintain and achieve full employment
2. To maintain equilibrium in the Balance of Payments
3. To regulate magnitude of interest rates

Select the correct answer using the codes given below:

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

ANS: A

Explanation: Objectives of Fiscal Policy

1. To maintain and achieve full employment
2. To stabilize the price level
3. To stabilize the growth rate of the economy
4. To maintain equilibrium in the Balance of Payments
5. To promote the economic development of underdeveloped countries

Source: Ramesh Singh

Q.2) Consider the following pairs:

Policy Statement	Aim
1. Medium-term Fiscal Policy Statement	It sets the priorities of the government in the fiscal area
2. Fiscal Policy Strategy Statement	It assesses the prospects of the economy with respect to the fiscal balance of the central government
3. Macroeconomic Framework Statement	It sets a three-year rolling target for specific fiscal indicators

Which of the above given pairs is/are correctly matched?

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

ANS: D

Explanation: Policies of Government

1. The budget is not merely a statement of receipts and expenditures. Since Independence, with the launching of the Five-Year Plans, it has also become a significant national policy statement.
2. The budget reflects and shapes, and is, in turn, shaped by the country's economic life. Along with the budget, three policy statements are mandated by the Fiscal Responsibility and Budget Management Act, 2003 (FRBMA).

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3. The Medium-term Fiscal Policy Statement sets a three-year rolling target for specific fiscal indicators and examines whether revenue expenditure can be financed through revenue receipts on a sustainable basis and how productively capital receipts including market borrowings are being utilized
4. The Fiscal Policy Strategy Statement sets the priorities of the government in the fiscal area, examining current policies and justifying any deviation in important fiscal measures
5. The Macroeconomic Framework Statement assesses the prospects of the economy with respect to the GDP growth rate, fiscal balance of the central government and external balance

Source: Ramesh Singh

Q.3) Fiscal Responsibility and Budget Management Act (FRBMA) was passed to keep a check on which of the following?

1. Fiscal deficit
2. Revenue deficit

Select the correct answer using the codes given below:

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

ANS: C

Explanation: Fiscal Responsibility and Budget Management Act (FRBMA)

The FRBM Act 2003 in its amended form was passed by the government to bring fiscal discipline and to implement a prudent fiscal policy. High fiscal deficit was the one major macroeconomic problem faced by the Indian economy around 2000. It was argued that high deficits lead to inflation, reduce consumption, result in a crowding out of the private sector investment, rising unemployment and falling living standards of the people. Thus arose a need to institutionalize a new fiscal discipline framework.

Source: Ramesh Singh

Q.4) Which one of the following is a capital receipt in the government budget?

- a) Income tax receipts
- b) Dividends and profits from public sector undertakings
- c) Borrowing of the government from public
- d) Interest receipts on loans given by the government to other parties

ANS: C

Explanation: Capital Receipt

Capital receipts refer to those receipts which either create liability or cause a reduction in the assets of the government. They are non-recurring and non-routine in nature.

A receipt is a capital receipt if it satisfies any one of the two conditions:

1. The receipts must create a liability for the government. For example, Borrowings are capital receipts as they lead to an increase in the liability of the government. However, tax received is not a capital receipt as it does not result in the creation of any liability.
2. The receipts must cause a decrease in the assets. For example, receipts from the sale of shares of public enterprise is a capital receipt as it leads to a reduction in assets of the government.

Source: Ramesh Singh

Q.5) Which of the following is/are the effects of a budget deficit?

1. Rise in the National Debt
2. Rise in value of the currency
3. Increase in currency circulation

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Budget deficit

A budget deficit is an annual shortfall between government spending and tax revenue. The deficit is the annual amount the government needs to borrow.

Effects of a budget deficit:

1. Rise in national debt
2. Higher debt interest payments
3. Fall in value of the currency
4. Increase in currency circulation
5. Increase in Aggregate Demand (AD)
6. Possible increase in public sector investment
7. May cause crowding out and higher bond yields

Source: Ramesh Singh

Q.6) On which of the following factors does economic growth is directly dependent?

- a) Fiscal Policy
- b) Trade policy
- c) Monetary Policy
- d) All of the above

ANS: A

Explanation: Fiscal policy

1. Fiscal policy through tax policy and direct expenditure can influence investments and demand in the economy, and directly affect the growth
2. Monetary policy affects growth indirectly through an increase or decrease in the money supply. On the other hand, it has a direct impact on inflation

Source: Ramesh Singh

Q.7) Which of the following statement related to Effective Revenue Deficit is correct?

- a) It is the difference between the revenue deficit and the grants for creation of capital assets
- b) It is the difference between revenue expenditure and revenue receipts without an increase in the assets of the Government
- c) It refers to the grants-in-aid given by the Central Government to the State Governments for the creation of capital assets that are owned by the said entities
- d) None of the above

ANS: A

Explanation: Effective Revenue Deficit

- 1. Effective Revenue Deficit is the difference between revenue deficit and grants for the creation of capital assets. In other words, the Effective Revenue Deficit excludes those revenue expenditures which were done in the form of grants for the creation of capital assets
- 2. Effective Revenue Deficit signifies the amount of capital receipts that are being used for actual consumption expenditure of the Government

Source: Ramesh Singh

Q.8) Which of the following is/are the typical consequences of the Revenue Deficit?

- 1. The government borrows to finance its investment and consumption requirements.
- 2. A higher revenue deficit creates a higher repayment burden on the government.

Select the correct answer using the code given below:

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

ANS: B

Explanation: Revenue Deficit

- 1. The revenue deficit refers to the excess of the government's revenue expenditure over revenue receipts Revenue deficit = Revenue expenditure – Revenue receipts
- 2. The revenue deficit includes only such transactions that affect the current income and expenditure of the government
- 3. When the government incurs a revenue deficit, it implies that the government is dissaving and is using up the savings of the other sectors of the economy to finance a part of its consumption expenditure.
- 4. This will lead to a build-up of stock of debt and interest liabilities and force the government, eventually, to cut expenditure Since a major part of revenue, expenditure is committed to expenditure, it cannot be reduced.
- 5. The revenue deficit is to be met from the capital receipt, which is through the borrowing and sale of assets Given the same level of fiscal deficit, a higher revenue deficit is worse than the lower one because it implies a higher repayment burden in the future not matched by the benefits via investment.

Source: Ramesh Singh

Q.9) Which of the following statements is/are correct with respect to Monetized Deficit?

1. It leads to an increment in the net holdings of treasury bills by the Central Bank.
2. It leads to an increment in the money supply in the economy.

Select the correct answer using the code given below:

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

ANS: C

Explanation: Monetised Deficit

Deficit financing is when a govt spends more than what it earns Monetized deficit refers (quantum of deficit financing) where the government (here RBI) prints more money in order to pay its deficits This is not in proportion to wealth or capital formation in the economy Since the enactment of the FRBM Act 2003, deficit financing is not practiced in India In other words, a monetized deficit means the increase in the net RBI credit to the central government, such that the monetary needs of the government could be met easily

The monetized deficit results in the increase in the net holdings of treasury bills by the RBI (which is raised through Open Market Operations) and also the RBI contribution towards the government's market borrowings increases

With the issue of more money to the government (not being backed by assets), the money supply in the economy increases, as a result of which the inflationary pressure prevails

Source: Ramesh Singh

Q.10) Which of the following statements is/are correct related to Fiscal Deficit?

1. High Fiscal Deficit crowds out the private investment in normal times
2. It is financed through borrowing from the Central Bank.

Select the correct answer using the code given below:

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

ANS: A

Explanation: Fiscal Deficit

1. The fiscal deficit is defined as the excess of total budget expenditure over total budget receipts excluding borrowings during a fiscal year In simple words, it is the amount of borrowing the government has to resort to meet its expenses A large deficit means a large amount of borrowing The fiscal deficit is a measure of how much the government needs to borrow from the market to meet its expenditure when its resources are inadequate
2. Fiscal deficit = Total expenditure – Total receipts excluding borrowings
3. If we add borrowing in total receipts, the fiscal deficit is zero Clearly, fiscal deficit gives the borrowing requirements of the government
4. High fiscal deficit results in high government borrowing which leads to lowering the amount of available money to be borrowed by private investors, increasing the interest rates and lowering the private investments
5. The central bank no longer finances the deficits of Government It is a facilitator of borrowings from the market.

Source: Ramesh Singh

Indian Polity

Q.1) Which of the following majority is required to approve a resolution for the proclamation of financial emergency?

- a) Simple majority
- b) Special majority
- c) Effective Majority
- d) Absolute Majority

ANS: A

Explanation:

A resolution approving the proclamation of financial emergency can be passed by either House of Parliament only by a simple majority, that is, a majority of the members of that house present and voting.

A proclamation of Financial Emergency may be revoked by the president at anytime by a subsequent proclamation. Such a proclamation does not require the parliamentary approval.

Source: Indian Polity by Laxmikanth

Q.2) With respect to president's rule, consider the following statement:

1. The Parliament can delegate the power to make laws for the state
2. a law made by the Parliament or president or any other specified authority continues to be operative even after the President's Rule.

Which of the above given statement is/are correct?

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

ANS: C

Explanation:

When the state legislature is thus suspended or dissolved:

1. The Parliament can delegate the power to make laws for the state to the President or to any other authority specified by him in this regard,
2. The Parliament or in case of delegation, the President or any other specified authority can make laws conferring powers and imposing duties on the Centre or its officers and authorities,
3. The President can authorise, when the Lok Sabha is not in session, expenditure from the state consolidated fund pending its sanction by the Parliament, and
4. The President can promulgate, when the Parliament is not in session, ordinances for the governance of the state.

A law made by the Parliament or president or any other specified authority continues to be operative even after the President's Rule. This means that the period for which such a law remains in force is not co-terminous with the duration of the proclamation. But it can be repealed or altered or re-enacted by the state legislature.

It should be noted here that the President cannot assume to himself the powers vested in the concerned state high court or suspend the provisions of the Constitution relating to it. In other

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words, the constitutional position, status, powers and functions of the concerned state high court remain same even during the President's Rule.

Source: Indian Polity by Laxmikanth

Q.3) Consider the following statement:

1. The constitution does not have the expression 'proclamation of emergency'
2. Article 360 deals with President's rule

Which of the above given statement is/are correct?

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

ANS: D

Explanation:

The Constitution stipulates three types of emergencies:

1. An emergency due to war, external aggression or armed rebellion (Article 352). This is popularly known as 'National Emergency'.

However, the Constitution employs the expression 'proclamation of emergency' to denote an emergency of this type.

2. An Emergency due to the failure of the constitutional machinery in the states (Article 356). This is popularly known as 'President's Rule'. It is also known by two other names — 'State Emergency' or 'constitutional Emergency'. However, the Constitution does not use the word 'emergency' for this situation.

3. Financial Emergency due to a threat to the financial stability or credit of India (Article 360).

Source: Indian Polity by Laxmikanth

Q.4) Which of the following statement about zonal council is/are not correct?

1. Zonal Council are constitution bodies
2. There is Five Zonal Council in India
3. The Prime Minister of India is Chairman of The Five Council

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

ZONAL COUNCILS

The Zonal Councils are the statutory (and not the constitutional) 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.

Source: Indian Polity by Laxmikanth

Q.5) Which of the following statement about Inter-State Council is /are correct?

1. Inter-State Council is permanent constitution body.
2. Prime Minister can establish such a Council at his will.

Select the correct answer using the codes given below:

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

ANS: D

Explanation:

Article 263 contemplates the establishment of an Inter-State Council to effect coordination between the states and between Centre and states. Thus, the President can establish such a council if at any time it appears to him that the public interest would be served by its establishment. He can define the nature of duties to be performed by such a council and its organisation and procedure.

Source: Indian Polity by Laxmikanth

Q.6) Which of the following is related to Centre-State Relations?

- a) Rajmanner committee
- b) Madan Mohan Punchhi commission
- c) Sarkaria commission
- d) All of the above

ANS: D

Explanation:

Rajamannar Committee

In 1969, the Tamil Nadu Government (DMK) appointed a three-member committee under the chairmanship of Dr P V Rajamannar to examine the entire question of Centre–state relations and to suggest amendments to the Constitution so as to secure utmost autonomy to the states.²⁵ The committee submitted its report to the Tamil Nadu Government in 1971.

Sarkaria Commission

In 1983, the Central government appointed a three-member Commission on Centre–state relations under the chairmanship of R S Sarkaria, a retired judge of the Supreme Court.²⁶ The commission was asked to examine and review the working of existing arrangements between the Centre and states in all spheres and recommend appropriate changes and measures. It was initially given one year to complete its work, but its term was extended four times.

The final report was submitted in October 1987, and the summary was later officially released in January 1988.

Punchhi Commission

The Second commission on Centre-State Relations was set-up by the Government of India in April 2007 under the Chairmanship of Madan Mohan Punchhi, former Chief Justice of India.²⁸ It was required to look into the issues of Centre-State relations keeping in view the sea-changes that have taken place in the polity and economy of India since the Sarkaria Commission had last looked at the issue of Centre-State relations over two decades ago.

Source: Indian Polity by Laxmikanth

Q.7) Consider the following statement:

1. Indian forest services (IFS) was created as the fourth All India Services in 1966.
2. Article 312 of the Constitution authorises the Parliament to create new All-India Services on the basis of a Rajya Sabha resolution to that effect.

Which of the above given statements is/are correct?

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

ANS: B

Explanation:

In 1947, Indian Civil Service (ICS) was replaced by IAS and the Indian Police (IP) was replaced by IPS and were recognised by the Constitution as All-India Services. In 1966, the Indian Forest Service (IFS) was created as the third All-India Service. Article 312 of the Constitution authorises the Parliament to create new All-India Services on the basis of a Rajya Sabha resolution to that effect.

Each of these three all-India services, irrespective of their division among different states, form a single service with common rights and status and uniform scales of pay throughout the country.

Source: Indian Polity by Laxmikanth

Q.8) “India has practically functioned as a unitary state though the Union and the states have tried to function formally and legally as a federation.”

Who among the following remarked the above statements regarding federal system?

- a) Paul Appleby
- b) Morris Jones
- c) KC Wheare
- d) Granville Austin

ANS: C

Explanation:

The Constitution of India has deviated from the traditional federal systems like US, Switzerland and Australia and incorporated a large number of unitary or non-federal features, tilting the balance of power in favour of the Centre. This has prompted the Constitutional experts to challenge the federal character of the Indian Constitution. Thus, KC Wheare described the Constitution of India as ‘quasifederal’.

He remarked that ‘Indian Union is a unitary state with subsidiary federal features rather than a federal state with subsidiary unitary features’.

According to K Santhanam, the two factors have been responsible for increasing the unitary bias (tendency of centralisation) of the Constitution.

These are:

- (i) The dominance of the Centre in the financial sphere and the dependence of the states upon the Central grants; and
- (ii) The emergence of a powerful planning commission which controls the developmental process in the states. He observed: “India has practically functioned as a unitary state though the Union and the states have tried to function formally and legally as a federation.”

Source: Indian Polity by Laxmikanth

Q.9) Which of the following Prime Minister of India was not a member of the Rajya Sabha, when he took the position?

- a) Indira Gandhi
- b) Rajiv Gandhi
- c) Deve Gowda
- d) Manmohan Singh

ANS: B

Explanation:

In Britain, the prime minister should be a member of the Lower House (House of Commons) of the Parliament. In India, the prime minister may be a member of any of the two Houses of Parliament.

For example, three prime ministers, Indira Gandhi (1966), Deve Gowda (1996), and Manmohan Singh (2004), were members of the Rajya Sabha.

Source: Indian Polity by Laxmikanth

Q.10) Consider the following statements:

1. American President is both the head of the state and Head of the Government.
2. The American President and his secretaries are responsible to the Congress for their Acts.

Which of the above given statements is/are correct?

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

ANS: A

Explanation: Features of Presidential Government

Unlike the Indian Constitution, the American Constitution provides for the presidential form of government. The features of the American presidential system of government are as follows:

1. The American President is both the head of the State and the head of government. As the head of State, he occupies a ceremonial position. As the head of government, he leads the executive organ of government.
2. The President is elected by an electoral college for a fixed tenure of four years. He cannot be removed by the Congress except by impeachment for a grave unconstitutional act.
3. The President governs with the help of a cabinet or a smaller body called 'Kitchen Cabinet'. It is only an advisory body and consists of non-elected departmental secretaries. They are selected and appointed by him, are responsible only to him, and can be removed by him any time.
4. The President and his secretaries are not responsible to the Congress for their acts. They neither possess membership in the Congress nor attend its sessions.
5. The President cannot dissolve the House of Representatives—the lower house of the Congress.
6. The doctrine of separation of powers is the basis of the American presidential system. The legislative, executive and judicial powers of the government are separated and vested in the three independent organs of the government.

Source: Indian Polity by Laxmikanth

Geography

Q.1) Which of the following seas is/are a part of Arctic Ocean?

1. Sulu Sea
2. Kara Sea
3. Laptev Sea

Select the correct answer using the codes given below:

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

ANS: C

Explanation: Kara and Laptev Sea are a part of Arctic Ocean.

Q.2) Consider the following mountain ranges:

1. KunlunMountains
2. Zagros Mountains
3. KarakoramMountains
4. KirtharMountains
5. Hindu KushMountains

Which of the following is/are not among the mountain ranges that form Pamir knot?

- a) 2 and 4 only
- b) 2 and 3 only
- c) 1 and 5 only
- d) 4 and 5 only

ANS: A

Explanation: The Pamir Knot is the junction of five mountain ranges they are the Tien Shan, the Hindu Kush, theKunlun, the Karakoram, and the Himalayan ranges.

Source: School Atlas

Q.3) Consider the following Mountain Passes in India,

Mountain Passes	Location
1. Shipki La	Uttarakhand
2. Zoji La	Kashmir
3. Diphu La	Arunachal Pradesh

Which of the above given pairs is/are correctly matched?

- a) One Pair Only
- b) Two Pair Only
- c) All Three pairs
- d) None of the above pairs

ANS: B

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Explanation: Shipki La Pass: It is located through Sutlej Gorge. It connects Himachal Pradesh with Tibet. It is India's third border post for trade with China after Lipulekh and Nathula Pass.

Diphu Pass: Arunachal Pradesh – Mandalay Diphu Pass is a mountain pass around the area of the disputed tripoint borders of India, China, and Myanmar. Diphu Pass is also a strategic approach to eastern Arunachal Pradesh. It lies on the McMahon Line.

Zoji La: Srinagar- Kargil & Leh. It connects Srinagar with Kargil and Leh. Border Road Organization is responsible for clearing and maintaining the road, especially during the winter.
Source: School Atlas

Q.4) Which of the following strait separate North America from Asia?

- a) Bering Strait
- b) Cabot Strait
- c) Strait of Canso
- d) Cebu Strait

ANS: A

Explanation: Bering Strait

- 1. Located between Alaska (USA) and Russia, the Bering Strait is the marine gateway between the Arctic and the Pacific Ocean. At its narrowest point, the strait is only 55 miles wide.
- 2. The Bering Strait may be narrow, but it's full with wildlife—beluga whales, bowhead whales, gray whales, walrus, polar bears, ringed and ribbon seals.

Source: School Atlas

Q.5) Consider the following Tiger Reserves:

- 1. Bor Tiger Reserve
- 2. Panna Tiger Reserve
- 3. Pilibhit Tiger Reserve
- 4. Manas Tiger Reserve

Arrange the above given tiger reserves in a north to south direction.

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

ANS: A

Explanation:

Source: School Atlas

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Q.6) Arrange the following Islands of Pacific Ocean from north to south:

1. Volcano Islands
2. Bonin Islands
3. Kuril Islands
4. Kamchatka Peninsula

Select the correct option from the codes given below:

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

ANS: C

Explanation:

Source: School Atlas

Q.7) The Formosa Strait also known as Taiwan Strait connects which of the following seas?

- a) East China Sea with South China Sea
- b) Yellow Sea with Sea of Japan
- c) Sea of Okhotsk with Sea of Japan
- d) South China Sea with Pacific Ocean

ANS: A

Explanation: Formosa Strait connects East China Sea with South China Sea.

Source: School Atlas

Q.8) Golan Heights touches the boundary of which of the following countries?

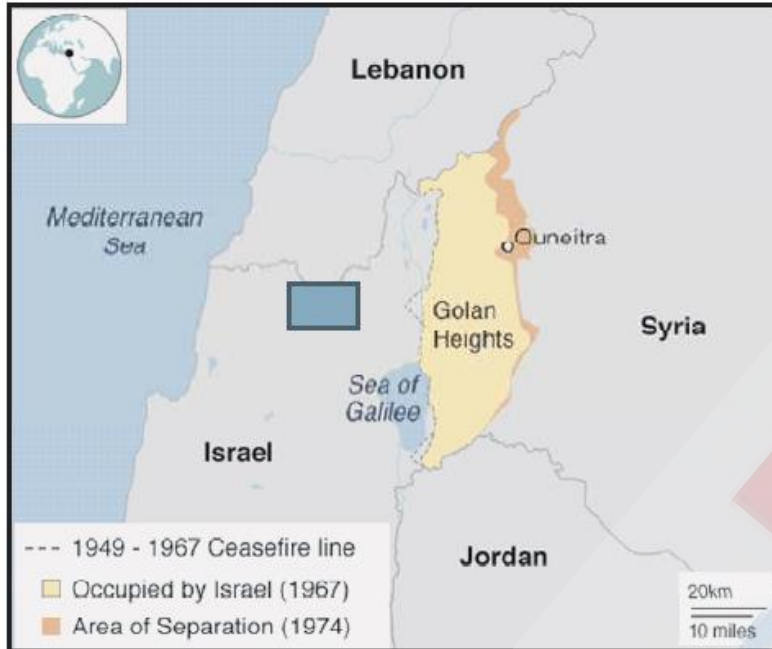
1. Syria
2. Jordan
3. Turkey
4. Israel

Select the correct answer using the codes given below:

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

ANS: C

Explanation: It touches the boundary of Syria, Jordan, Lebanon and Israel.



Source: School Atlas

Q.9) Which of the following rivers drains their water in Atlantic Ocean?

- a) Gila river
- b) Colorado river
- c) Fraser river
- d) Mississippi River

ANS: A

Explanation:

Mississippi River drains its water in Gulf of Mexico. Gila river is a tributary of Colorado river and their water drains into Pacific Ocean.

Colorado River, major river of North America, rising in the Rocky Mountains of Colorado, U.S., and flowing generally west and south for 1,450 miles (2,330 kilometres) into the Gulf of California in north-western Mexico.

The Fraser River is a river within British Columbia, Canada, rising at Fraser Pass near Blackrock Mountain in the Rocky Mountains and flowing for 1,375 kilometres (854 mi), into the Strait of Georgia.

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Source: School Atlas

Q.10) Which of the following countries of South America does not lie on the Tropic of Capricorn?

- a) Argentina
- b) Bolivia
- c) Paraguay
- d) Brazil

ANS: B

Explanation: South American Countries and Tropic of Capricorn

The Tropic of Capricorn passes through a number of countries including Argentina, Australia, Botswana, Brazil, Chile, Madagascar, Mozambique, Namibia, and Paraguay.



Source: School Atlas

Environment

Q.1) Kabartal Wetland, recently declared Ramsar sites in India, is located in which of the following state/UT?

- a) Bihar
- b) Jharkhand
- c) Chattisgarh
- d) Odisha

ANS: A

Explanation: Kabartal Wetland has been designated as Ramsar sites. With this, the total number of Ramsar sites in India is 39, the highest in South Asia.

Facts:

1. **Kabartal Wetland:** It is also known as Kanwar Jheel. It covers 2,620 hectares of the Indo-Gangetic plains in the Begusarai district of Bihar.
2. **Significance:** It acts as a vital flood buffer for the region besides providing livelihood opportunities to local communities.
3. **Biodiversity:** Significant biodiversity is present in the wetland. It is also an important stopover along the Central Asian Flyway for migratory waterbirds.
4. **Species:** It is home to species such as white rumped vulture (Critically Endangered), red-headed vulture (Critically Endangered) and two waterbirds, the sociable lapwing (*Vanellus gregarius*) and Baer's pochard (*Aythya baeri*).

Source: ForumIAS

Q.2) "Global Initiative to reduce Land Degradation and Coral Reef program", has been recently launched by which of the following?

- a) UNEP
- b) United Nations Convention to Combat Desertification
- c) G20
- d) World Bank

ANS: C

Explanation: Global Initiative to reduce Land Degradation: It aims to strengthen the implementation of existing frameworks to prevent, halt and reverse land degradation within G20 member states and globally taking into account possible implications on the achievement of other SDGs.

Global Coral Reef R&D Accelerator Platform: It is an innovative action-oriented initiative aimed at creating a global research and development (R&D) program to advance research, innovation and capacity building in all facets of coral reef conservation.

Additional Facts:

1. **Land Degradation:** It is any reduction or loss in the biological or economic productive capacity of the land resource base.
2. **Corals:** They are small (0.25-12 inches), soft-bodied marine organisms. They live in colonies called reefs that they build using a limestone skeleton (calicle) lying at their base.

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3. G20: It is an international group initially founded in 1999 after the Asian financial crisis as a forum for finance ministers and central bank governors of 19 countries and the European Union.

Source: ForumIAS

Q.3) Which of the following has been declared as the largest Marine Protection Zone of the Atlantic Ocean?

- a) St. Helena
- b) Tristan da Cunha
- c) Ross Sea
- d) Ascension Island

ANS: B

Explanation: Tristan da Cunha has been declared as the largest Marine Protection Zone of the Atlantic Ocean.

Facts:

Tristan da Cunha: It is an isolated UK Overseas Territory located 6,000 miles from London in the South Atlantic Ocean.

The island is inhabited by less than 300 humans and the water around the islands is considered to be the richest in the world. It is also home to the World Heritage Site of Gough and Inaccessible Islands, which is one of the most important seabird islands in the world.

Source: ForumIAS

Q.4) Consider the following statements about Centre for Wetland Conservation and Management (CWCM)?

- 1. The Centre has been established at Kolkata, West Bengal.
- 2. This centre comes under the Minister of Environment, Forest, and Climate Change.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: The Minister of Environment, Forest and Climate Change has announced the establishment of a Centre for Wetland Conservation and Management (CWCM) in Chennai, Tamil Nadu. This announcement came on the occasion of World Wetland Day.

About Centre for Wetland Conservation and Management (CWCM):

- 1. The Centre has been established as a part of the National Centre for Sustainable Coastal Management (NCSCM). This centre comes under the Minister of Environment, Forest, and Climate Change.
- 2. Aim: To address specific research needs and knowledge gaps in the conservation and management of wetlands.

Key Functions of the centre:

- 1. It will help in building partnerships and networks with relevant national and international agencies.
- 2. Center will serve as a knowledge hub. It enables exchange between State/ UT Wetland Authorities, wetland users, managers, researchers, policy-makers, and practitioners.

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3. Moreover, it will assist the national and State/ UT Governments in the design and implementation of policy and regulatory frameworks for conservation.

Source: ForumIAS

Q.5) Which of the following statement about Karlapat Wildlife Sanctuary is not correct?

- a) The sanctuary is famous for the lush green dry deciduous forest.
- b) It is situated Garo Hills.
- c) There are several small and big waterfalls inside the sanctuary like Phurlijharan, Ghusrigudi, Dumnijhola, Kamalajharan etc
- d) None

ANS: B

Explanation: Karlapat Wildlife Sanctuary

- 1. It is a wildlife sanctuary located in the Kalahandi district in Odisha. The sanctuary is famous for the lush green dry deciduous forest.
- 2. Fauna: The sanctuary is home to a plethora of wildlife animals such as leopard, gaur, sambar, nilgai, barking deer, mouse deer, soft claws ottawa and a wide variety of birds.
- 3. Flora: The sanctuary consists of flora like Sal, Bija, Asan, Harida, Amala, Bahada, and Bamboo and varieties of medicinal plants.
- 4. Waterfalls: There are several small and big waterfalls inside the sanctuary like Phurlijharan, Ghusrigudi, Dumnijhola, Kamalajharan, Koyirupa, Kuang, and Raja Rani.

Source: ForumIAS

Q.6) Consider the following statements about National Tiger Conservation Authority (NTCA):

- 1. It was established in 1972 under the Wildlife (Protection) Act, 1972.
- 2. It got established following the recommendations of the Tiger Task Force.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: About National Tiger Conservation Authority (NTCA):

- 1. NTCA is a statutory body under the Ministry of Environment, Forests and Climate Change. It was constituted under the Wildlife (Protection) Act, 1972.
- 2. It got established in 2005 following the recommendations of the Tiger Task Force.

Objectives of National Tiger Conservation Authority:

- 1. Firstly, providing statutory authority to Project Tiger so that compliance with its directives becomes legal.
- 2. Secondly, fostering accountability of Center-State in the management of Tiger Reserves by providing a basis for MoU with States within our federal structure.
- 3. Thirdly, providing for oversight by Parliament.
- 4. Lastly, addressing livelihood interests of local people in areas surrounding Tigers Reserves.

Source: ForumIAS

Q.7) Consider the following Tiger Reserves:

1. Srivilliputhur-Megamalai Tiger Reserve
2. Mudumalai Tiger Reserve
3. Anamalai Tiger Reserve
4. Sathyamangalam Tiger Reserve
5. Kalakkad Mundanthurai Tiger Reserve

Which of the above given Tiger Reserve is/are not located in Tamil Nadu?

- a) 1 and 3 only
- b) 2 and 5 only
- c) 1, 4 and 5 only
- d) All are located in Tamil Nadu

ANS: D

Explanation: Tiger Reserves in Tamil Nadu

1. Srivilliputhur-Megamalai Tiger Reserve will be the 5th tiger reserve of Tamil Nadu. The other four are:
2. Mudumalai (MTR)
3. Anamalai (ATR)
4. Sathyamangalam (STR)
5. Kalakkad Mundanthurai Tiger Reserve (KMTR)

About Srivilliputhur-Megamalai Tiger Reserve:

1. Srivilliputhur-Megamalai Tiger Reserve is the fifth Tiger Reserve of Tamil Nadu and the 51st tiger reserve of India.
2. It was jointly declared as a Tiger Reserve by the Centre and Tamil Nadu governments in February 2021
3. For this, the Megamalai WLS and the adjoining Srivilliputhur WLS were clubbed together.
4. Vegetation: It has a mix of tropical evergreen forests and semi-evergreen forests, dry deciduous forests and moist mixed deciduous forests, grassland.
5. Fauna: Meghamalai has a large population of ungulates (hoofed mammals), spotted deer, Indian gaurs, wild boars and other carnivores.
6. The adjoining Srivilliputhur hosts grizzled giant squirrels, flying squirrels, leopards, Nilgiri tars, jungle cats, Sambars, elephants, lion-tailed macaques and many species of birds.

Source: ForumIAS

Q.8) Consider the following statements about Nandankanan Zoological Park (NZN):

1. It is the first zoo in the World to breed White tiger and Melanistic tiger.
2. It is an institutional member of World Association of Zoos and Aquarium (WAZA).

Which of the above given statement is/are correct?

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

ANS: C

Explanation: Nandankanan Zoological Park(NZN):

It is located in Bhubaneswar, Odisha. Unlike other zoos in the country, Nandankanan is built right inside the forest and set in a completely natural environment.

Uniqueness:

1. It is the first zoo in the World to breed White tiger and Melanistic tiger and it is the only conservation breeding centre of Indian Pangolins in the world.
2. First captive breeding centre for endangered Gharials in the year 1980.
3. Kanjia Lake – A wetland of National importance (2006).

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4. It is the only zoological park in India to become an institutional member of World Association of Zoos and Aquarium (WAZA).
5. It is the only zoo in India after which an express train Puri-New Delhi express has been named as “Nandankanan Express”.
6. It is the first zoo in India where endangered Ratel was born in captivity.

Source: ForumIAS

Q.9) Which of the following is not under UNESCO’s Man and the Biosphere (MAB) program?

- a) Panna Biosphere Reserve
- b) Pachmarhi Biosphere Reserve
- c) Pench Biosphere Reserve
- d) Similipal Biosphere Reserve

ANS: C

Explanation:

There are 12 biosphere reserves of India which have been recognized internationally under the Man and Biosphere(MAB) Reserve program. These are: 1) Nilgiri (First one to be included) 2) Gulf of Mannar 3) Sunderban 4) Nanda Devi 5) Nokrek 6) Pachmarhi 7) Similipal 8) Achanakmar – Amarkantak 9) Great Nicobar 10) Agasthyamala 11) Khangchendzonga (2018) and 12) Panna(2020).

Source: ForumIAS

Q.10) Consider the following statements:

1. Asan Conservation Reserve (ACR) is Uttarakhand state’s first entry into the list of Ramsar sites.
2. It is located on the banks of Ganga River.

Which of the above given statement is/are correct?

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

ANS: A

Explanation: The Asan Conservation Reserve (ACR) was declared as a site of international importance under the Ramsar Convention becoming Uttarakhand state’s first entry into the coveted list and 38th Ramsar Wetland Site of India.

Facts:

1. Asan Conservation Reserve: It is located on the banks of Yamuna river near Dehradun district in Garhwal region of Uttarakhand.
2. Species: It is home to species such as white rumped vulture(Critically Endangered), ruddy shelduck(Least Concern), red-headed vulture (Critically Endangered), Asian woolly neck(Vulnerable) among others.
3. Significance: The wetland also acts as host to several migratory birds from October till March.

Source: ForumIAS

History

Q.1) Treaty of Yandaboo, was conclusion of which of the following war?

- a) Burmese War
- b) Anglo- Mysore war
- c) Anglo- Maratha War
- d) Anglo-Nepalese War

ANS: A

Explanation: The principality of Cachar lying in the North East Frontier came under the protection of the British in accordance with the Treaty of Yandaboo concluded at the end of the first Burmese War. The Raja of this small state was assassinated in 1832 but there was no heir to succeed him. Bentinck annexed this state at the wish of the people.

Source: Tamil Nadu Board Class 12

Q.2) Who among the following signed 'Treaty of Lahore', after first anglo-Sikh war?

- a) Lord Auckland
- b) Lord Hardinge
- c) Lord Dalhousie
- d) Lord Ellenborough

ANS: B

Explanation: After William Bentinck, Lord Auckland (1836-42) became Governor-General. The First Afghan War (1836-42) was fought during his administration. Due to his failure in Afghanistan he was recalled in 1842. Lord Ellenborough succeeded him and ended the Afghan War. He also annexed the Sindh. His successor, Lord Hardinge (1844-48) fought the first Anglo-Sikh War (1845-46) and concluded the Treaty of Lahore.

Source: Tamil Nadu Board Class 12

Q.3) Consider the following statements about Railways in India:

1. Lord Dalhousie started the "guarantee system" by which the railway companies were guaranteed a minimum interest of five percent on their investment.
2. Railway lines connecting from Calcutta to the Raniganj coal-fields was opened in 1854.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Railways

The introduction railways in India inaugurated a new economic era. There were three major reasons for the British to take interest in its quick development. The first reason was commercial. The second main reason was administrative. The third reason was defense. At the time of revolt and disturbance, movement of the forces was much easier through railways. Lord Dalhousie's

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contribution in the development of railways is worth commending. In 1853, he penned his Railway Minute formulating the future policy of railways in India. He started the “guarantee system” by which the railway companies were guaranteed a minimum interest of five percent on their investment. The government retained the right of buying the railway at the end of the period of contract. The first railway line connecting Bombay with Thane was opened in 1853. Railway lines connecting from Calcutta to the Raniganj coal-fields was opened in 1854 and from Madras to Arakkonam in 1856.

Source: Tamil Nadu Board Class 12

Q.4) Consider the following statements about British Agrarian Policy:

1. The Mahalwari Settlement was introduced in about 30 per cent of the total area under British rule.
2. The Ryotwari System covered about 51 per cent of the area under British rule.

Which of the above given statement is/are correct?

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

ANS: C

Explanation: After their advent, the British principally adopted three types of land tenures. Roughly 19 per cent of the total area under the British rule, i.e., Bengal, Bihar, Banaras, division of the Northern Western Provinces and northern Karnatak, were brought under the Zamindari System or the Permanent Settlement. The second revenue system, called the Mahalwari Settlement, was introduced in about 30 per cent of the total area under British rule i.e., in major parts of the North Western Provinces, Central Provinces and the Punjab with some variations. The Ryotwari System covered about 51 per cent of the area under British rule comprising part of the Bombay and Madras Presidencies, Assam and certain other parts of British India.

Source: Tamil Nadu Board Class 12

Q.5) Which of the following is/are features of the Permanent Settlement?

1. The zamindars of Bengal were recognised as the owners of land as long as they paid the revenue to the East India Company regularly.
2. This settlement gave the administrative and judicial functions to the zamindars.

Which of the above given statement is/are correct?

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

ANS: A

Explanation: The main features of the Permanent Settlement were as follows:

1. The zamindars of Bengal were recognised as the owners of land as long as they paid the revenue to the East India Company regularly.
2. The amount of revenue that the zamindars had to pay to the Company was firmly fixed and would not be raised under any circumstances. In other words the Government of the East India Company got 89% leaving the rest to the zamindars.
3. The ryots became tenants since they were considered the tillers of the soil.

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4. This settlement took away the administrative and judicial functions of the zamindars.
Source: Tamil Nadu Board Class 12

Q.6) Jonathan Duncan established a Sanskrit college at which of the following places?

- a) Madras
- b) Bombay
- c) Calcutta
- d) Banaras

ANS: D

Explanation: A decade later in 1791 due to the sincere efforts of the British resident, Jonathan Duncan, a Sanskrit College was established to promote the study of Hindu laws and philosophy in Banaras. Therefore, it must be contended that during the first three decades of the 19th century, the development of education took place only through the traditional institutions.

Source: Tamil Nadu Board Class 12

Q.7) Which of the following is/are causes of Vellore mutiny?

- 1. Wearing ear rings and caste marks were not prohibited.
- 2. Sir John Cradock, the commander-in-chief introduced a new form of turban, resembling a European hat.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: Several causes are attributed to the Vellore Mutiny. Indian sepoys had to experience numerous difficulties when they went to serve in the Company's army. The sepoys were forced to serve under the Company since their earlier patrons (the native chieftains) were all disappearing from the scene. The strict discipline, practice, new weapons, new methods and uniforms were all new to the sepoys. Anything new appears to be difficult and wrong for a man who is well-settled in the old way of life for a long-time. Sir John Cradock, the commander-in-chief, with the -approval of Lord-William Bentinck, the Governor of Madras, introduced a new form of turban, resembling a European hat. Wearing ear rings and caste marks were also prohibited.

Source: Tamil Nadu Board Class 12

Q.8) Consider the following statements about Revolt of 1857:

1. At Kanpur the revolt was led by Nana Saheb.
2. Sir Hugh Rose defeated Tantia Tope and stormed Jhansi.

Which of the above given statement is/are correct?

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

ANS: C

Explanation: At Kanpur the revolt was led by Nana Saheb, the adopted son of Baji Rao II, the last Peshwa. Nana Saheb expelled the English from Kanpur with the help of the sepoys and proclaimed himself the Peshwa. Nana Saheb in his efforts against the British was ably supported by two of his lieutenants. One was Tantia Tope, the other was Azimullah. Sir Hugh Wheeler the commander of the British garrison at Kanpur surrendered on the 27 June 1857. But, soon Kanpur was recaptured by the British commander Sir Colin Campbell.

Rani Lakshmi Bai of Jhansi, the widowed queen of Gangadhar Rao played a heroic role in this revolt. Rani Lakshmi Bai was affected by Dalhousie's Doctrine of Lapse, was joined by Tantia Tope. The combined efforts of Rani and Tantia Tope saw the capture of Gwalior. Meanwhile, Sir Hugh Rose defeated Tantia Tope and stormed Jhansi on 3 April 1858. He then captured Gwalior. The Rani of Jhansi died a soldier's death on 17 June 1858. Tantia Tope was captured and hanged on charges of rebellion and murder in the massacre of Kanpur

Source: Tamil Nadu Board Class 12

Q.9) Famine Commission (1878-80) was set up under which of the following?

- a) Sir William Hunter
- b) Sir Mark Cubbon
- c) Sir Richard Strachey
- d) Sir Andrew Frazer.

ANS: C

Explanation: Famine Policy

The famine of 1876-78 had resulted from the failure of two monsoons. It covered an area of two lakh fifty thousand square miles and affected fifty eight million people. The worst affected areas were Madras, Mysore, Hyderabad, Bombay, Central India and the Punjab. It took a toll of five million lives in a single year. The outbreak of cholera and fever added to the misery of the suffering population. Lytton's Government failed miserably to tackle the situation. The government's relief measures seemed to be inadequate. The first Famine Commission (1878-80) under Sir Richard Strachey was appointed and it made many commendable recommendations. They include provision of funds for famine relief and construction work in the annual budget. The Famine Code came into existence in 1883.

Source: Tamil Nadu Board Class 12

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Q.10) Who among the following passed a law called Ancient Monuments Act, 1904?

- a) Lord Ripon
- b) Lord Curzon
- c) Lord Lytton
- d) Lord Mayo

ANS: B

Explanation: Preservation of Archaeological objects Curzon had a passion for preserving the ancient monuments of historical importance in India. No Viceroy in India before or after him took such a keen interest in archaeological objects. He passed a law called the Ancient Monuments Act, 1904 which made it obligatory on the part of the government and local authorities to preserve the monuments of archaeological importance and their destruction an offence.

Source: Tamil Nadu Board Class 12