



2021 Prelims Analysis

1. With reference to the history of ancient India, Bhavabhuti, Hastimalla and Kshemeshvara were famous

- (a) Jain monks
- (b) playwrights
- (c) temple architects
- (d) philosophers

Ans: (b)

Explanation:

- Bhavabhuti was a famous Indian dramatist, poet and scholar during the 8th century. Hastimalla was a Jain poet in the court of the Solanki rulers. Kshemeshwara was the court poet of Mahipala of Kannauj.
- **Therefore, option (b) is the correct answer.**

2. Consider the following statements:

1. The Montagu-Chelmsford Reforms of 1919 recommended granting voting rights to all the women above the age of 21.
2. The Government of India Act of 1935 gave women reserved seats in the legislature.

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:

- In 1918, Edwin Montagu, the Secretary of State, and Lord Chelmsford, the Viceroy, produced their scheme of constitutional reforms, known as the Montagu-Chelmsford (or Mont-Ford) Reforms, which led to the enactment of the Government of India Act of 1919. The Act introduced reforms at the Central as well as Provincial levels, which also included voting rights for some women, among

others. **Hence, statement 1 is not correct.**

- The **Government of India Act, 1935** extended the principle of communal representation by providing separate electorates for depressed classes (scheduled castes), women and workers. **Hence, statement 2 is correct.**

3. With reference to 8th August, 1942 in Indian history, which one of the following statements is correct?

- (a) The Quit India Resolution was adopted by the AICC.
- (b) The Viceroy's Executive Council was expanded to include more Indians.
- (c) The Congress ministries resigned in seven provinces.
- (d) Cripps proposed an Indian Union with full Dominion Status once the Second World War was over.

Ans: (a)

Explanation:

- On 8th August, 1942, Mahatma Gandhi gave the clarion call to end the British rule and launched the Quit India Movement at the session of the All-India Congress Committee in Mumbai. Gandhiji gave the call "Do or Die" in his speech delivered at the Gowalia Tank Maidan, now popularly known as August Kranti Maidan.
- **Therefore, option (a) is the correct answer.**

4. Who among the following is associated with 'Songs from Prison', a translation of ancient Indian religious lyrics in English?

- (a) Bal Gangadhar Tilak
- (b) Jawaharlal Nehru
- (c) Mohandas Karamchand Gandhi
- (d) Sarojini Naidu

Ans: (c)

Explanation:

- "Songs From Prison: Translations Of Indian Lyrics Made In Jail" was the collection of songs and lyrics by Mohandas Karamchand Gandhi, written during his imprisonment in Yerwada Jail, Poona.
- **Therefore, option (c) is the correct answer.**

5. With reference to medieval India, which one of the following is the correct sequence in ascending order in terms of size?

- (a) Paragana - Sarkar - Suba
- (b) Sarkar - Paragana - Suba
- (c) Suba - Sarkar - Paragana
- (d) Paragana - Suba - Sarkar

Ans: (a)

Explanation:

- The Mughals in India had an elaborate administrative setup. The emperor was the head of the central administration aided by different officials like Mir Bakshi, Diwan etc. The empire was divided into provinces called subas. Each suba was divided into sarkar. The local administration was looked after at the level of the pargana (sub-district). Thus, the correct sequence in ascending order in terms of size is **Pargana - Sarkar - Suba**.
- **Therefore, option (a) is the correct answer.**

6. Who among the following was associated as Secretary with Hindu Female School which later came to be known as Bethune Female School?

- (a) Annie Besant
- (b) Debendranath Tagore
- (c) Ishwar Chandra Vidyasagar
- (d) Sarojini Naidu

Ans: (c)

Explanation:

- In 1849, the Hindu Female School was founded by J.E.D. Bethune. In 1856, the British Government took charge of the Hindu Female School, and later renamed it as Bethune School. Pandit Ishwarchandra Vidyasagar was made the secretary.
- **Therefore, option (c) is the correct answer.**

7. In the context of Colonial India, Shah Nawaz Khan, Prem Kumar Sehgal and Gurbaksh Singh Dhillon are remembered as

- (a) leaders of Swadeshi and Boycott Movement
- (b) members of the Interim Government in 1946
- (c) members of the Drafting Committee in the Constituent Assembly
- (d) officers of the Indian National Army

Ans: (d)

Explanation:

- Prem Kumar Sehgal, Shah Nawaz Khan and Gurbaksh Singh Dhillon were the second-tier commanders of the Indian National Army (INA).
- **Therefore, option (d) is the correct answer.**

8. With reference to Indian history, which of the following statements is/are correct?

1. The Nizamat of Arcot emerged out of Hyderabad State.
2. The Mysore Kingdom emerged out of Vijayanagara Empire.
3. Rohilkhand Kingdom was formed out of the territories occupied by Ahmad Shah Durrani.

Select the correct answer using the code given below:

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

(c) 2 and 3

(d) 3 only

Ans: (a)

Explanation:

- The Nizamat of Carnatic (Arcot) was one of the subas (dependency) of the Mughal Deccan and was under the legal purview of the Nizam of Hyderabad. Later, Arcot emerged from Hyderabad. **Hence, statement 1 is correct.**
- A feudatory of the Vijayanagara Empire, the Yadu dynasty contributed significantly to the development of Mysore. After the decline of the Vijayanagara Empire, Mysore became an independent state under the Hindu Wodeyar Dynasty in 1565 AD. In 1761, Hyder Ali overthrew the reigning dynasty in Mysore and established his own control over that state that was succeeded by Tipu Sultan in 1782. **Hence, statement 2 is correct.**
- Most of Rohilkhand's borders were established by Ali Mohammed Khan and largely came into existence as a check to the power of Oudh State. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

9. Which one of the following statements is correct?

(a) Ajanta Caves lie in the gorge of Waghora river.

(b) Sanchi Stupa lies in the gorge of Chambal river.

(c) Pandu-lena Cave Shrines lie in the gorge of Narmada river.

(d) Amaravati Stupa lies in the gorge of Godavari river.

Ans: (a)

Explanation:

- Ajanta is a series of rock-cut caves in the Sahyadri ranges (Western Ghats) on Waghora river near Aurangabad in Maharashtra. There are a total of 29 caves (all Buddhist) of which 25 were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls.
- **Therefore, option (a) is the correct answer.**

10. Consider the following statements:

1. 21st February is declared to be the International Mother Language Day by UNICEF.
2. The demand that Bangla has to be one of the national languages was raised in the Constituent Assembly of Pakistan.

Which of the above statements is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Ans: (b)

Explanation:

- The Constituent Assembly of Pakistan, in its session at Karachi on 23rd February, 1948 proposed that the members would have to speak either in Urdu or in English at the Assembly. Dhirendranath Datta, a member from the East Pakistan Congress Party, moved an amendment motion to include Bangla as one of the languages of the Constituent Assembly. **Hence, statement 2 is correct.**
- International Mother Language Day is observed on 21st February every year. It was declared by UNESCO and not by UNICEF. **Hence, statement 1 is not correct.**
- **Therefore, option (b) is the correct answer.**

11. With reference to Chausath Yogini Temple situated near Morena, consider the following statements:

1. It is a circular temple built during the reign of Kachchhapaghata Dynasty.
2. It is the only circular temple built in India.
3. It was meant to promote the Vaishnava cult in the region.
4. Its design has given rise to a popular belief that it was the inspiration behind the Indian Parliament building.

Which of the statements given above are correct?

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

Ans: (c)

Explanation:

- According to an inscription dated to 1323 AD, the Chausath Yogini temple was built by the Kachchhapaghata king Devapala (reigned 1055 – 1075). **Hence, statement 1 is correct.**
- The Chausath Yogini Temple is also known as Ekattarso Mahadeva Temple. This temple is so named because of the presence of a multitude of shiva lingas inside its cells. **Hence, statements 2 and 3 are not correct.**
- Many of the curious visitors have compared this temple with the Indian Parliament building (Sansad Bhawan) as both are circular in style. Many have drawn conclusions that this temple was the inspiration behind the Sansad Bhawan. **Hence, statement 4 is correct.**
- **Therefore, option (c) is the correct answer.**

12. Which one of the following ancient towns is well-known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs?

- (a) Dholavira
- (b) Kalibangan
- (c) Rakhigarhi
- (d) Ropar

Ans: (a)

Explanation:

- The city of Dholavira was located on Khadir Beyt in the Rann of Kutch, where there was fresh water and fertile soil. Being the 6th largest of more than 1,000 Harappan sites discovered so far, and

occupied for over 1,500 years, Dholavira not only witnesses the entire trajectory of the rise and fall of this early civilization of humankind, but also demonstrates its multifaceted achievements in terms of urban planning, construction techniques, water management, social governance and development, art, manufacturing, trading, and belief system.

▪ **Therefore, option (a) is the correct answer.**

13. In the first quarter of seventeenth century, in which of the following was/were the factory/factories of the English East India Company located?

1. Broach
2. Chicacole
3. Trichinopoly

Select the correct answer using the code given below:

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

Ans: (a)

Explanation:

- In January, 1618, the English factories in the dominions of the Mughal Empire numbered five in all: Agra, Ahmadabad, Burhanpur (in Khandesh), Broach, and Surat.
- **Therefore, option (a) is the correct answer.**

14. From the decline of Guptas until the rise of Harshavardhana in the early seventh century, which of the following kingdoms were holding power in Northern India?

1. The Guptas of Magadha
2. The Paramaras of Malwa
3. The Pushyabhutis of Thanesar
4. The Maukharis of Kanauj
5. The Yadavas of Devagiri
6. The Maitrakas of Valabhi

Select the correct answer using the code given below:

- (a) 1, 2 and 5 only
(b) 1, 3, 4 and 6 only
(c) 2, 3 and 4 only
(d) 5 and 6 only

Ans: (b)

Explanation:

- During 300 to 700 AD, the Gupta kingdom emerged as a great power and achieved the political unification of a large part of the Indian subcontinent. The Puranas mention Magadha, Allahabad and Oudh as the Gupta dominions. **Hence, 1 is correct.**
- The decline of the Gupta empire resulted in the emergence of numerous ruling dynasties in

different parts of northern India. The prominent among them were the Pushyabhutis of Thanesar, Maukharis of Kanauj and the Maitrakas of Valabhi. **Hence, 3, 4 and 6 are correct.**

- The political scene in Peninsular India was no different. South India too witnessed the rise of two important kingdoms under the Chalukyas and the Pallavas respectively during 550-750 AD.
- The Paramara dynasty ruled Malwa and surrounding areas in west-central India between 9th and 14th centuries. **Hence, 2 is not correct.**
- The Yadavas initially ruled as feudatories of the Western Chalukyas. Around the middle of the 12th century, as the Chalukya power waned, the Yadava king Bhillama V declared independence. **Hence, 5 is not correct.**
- **Therefore, option (b) is the correct answer.**

15. According to Portuguese writer Nuniz, the women in the Vijayanagara Empire were experts 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:

- In Vijayanagara society, women held a high position. Some of them were well-versed in literature and prominent litterateurs. The widows could remarry. Women from the upper castes and nobility were well-educated. Music and dance were a significant part of their education.
- According to Portuguese writer Nuniz, women were wrestlers, astrologers, accountants, writers and musicians. It was the only empire in Medieval India which employed women in state services. **Hence, 1, 2, 3 and 4 are correct.**
- **Therefore, option (d) is the correct answer.**

16. With reference to Madanapalle of Andhra Pradesh, which one of the following statements is correct?

- (a) Pingali Venkayya designed the tricolour Indian National Flag here.
- (b) Pattabhi Sitaramaiah led the Quit India Movement of Andhra region from here.
- (c) Rabindranath Tagore translated the National Anthem from Bengali to English here.
- (d) Madame Blavatsky and Colonel Olcott set up headquarters of Theosophical Society first here.

Ans: (c)

Explanation:

- The original song 'Jana Gana Mana' (National Anthem) was written in Bengali, but in a Sanskritized dialect known as Sadhu Bhasha. The idea of translating the song from Bengali to English came to Rabindranath Tagore while he was visiting the Besant Theosophical College on the invitation of

Irish poet James H. Cousins. He penned down the English translation during his stay at Madanapalle, a small town in the Chittoor district of Andhra Pradesh.

- **Therefore, option (c) is the correct answer.**

17. Consider the following pairs:

	Historical Place	Well-known for
1.	Burzahom	Rock-cut shrines
2.	Chandraketugarh	Terracotta art
3.	Ganeshwar	Copper artefacts

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

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

Ans: (d)

Explanation:

- **Chandraketugarh:** Major findings of this site include Buddhist stupas and images, decorative designs belonging to Pala period, coins of Gupta and Kushana period, different kinds of beads, terracotta seals, bricks and plaques depicting scenes from Jataka tales and figurines of Sunga, Maurya, Kushana and Gupta periods. **Hence, pair 2 is correctly matched.**
- **Ganeshwar:** Copper artefacts, objects, microliths and pottery were found throughout the deposits. Copper objects included arrowheads, spearheads, fish hooks, bangles and chisels. **Hence, pair 3 is correctly matched.**
- **Therefore, option (d) is the correct answer.**

18. Consider the following statements:

1. It was during the reign of Iltutmish that Chengiz Khan reached the Indus in pursuit of the fugitive Khwarezm prince.
2. It was during the reign of Muhammad bin Tughluq that Taimur occupied Multan and crossed the Indus.
3. It was during the reign of Deva Raya II of Vijayanagara Empire that Vasco da Gama reached the coast of Kerala.

Which of the statements given above is/are correct?

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

Ans: (a)

Explanation:

- In the year 1221, the great Mongol conqueror Chengiz Khan stood victorious at the western bank

of the Indus River with 50,000 soldiers, having just defeated Jalal-ad-Din, the Shah of Khwarezm. At that time Northern India was ruled by Shams ud-Din Iltutmish, the third sultan of the Turkic Mamluk dynasty, which was founded by Qutb al-Din Aibak in 1206. **Hence, statement 1 is correct.**

- In 1398, Timur invaded India with an aim of destroying the Hindu kings and rulers. Sultan Nasir-ud-din Mahmud Tughluq of the Tughlaq dynasty could not do anything to resist Timur and was easily defeated. Mohammed Bin Tughlaq ruled during 1325-1351 AD. **Hence, statement 2 is not correct.**
- Deva Raya II (1422-1446) was the greatest ruler of the Sangama dynasty. Vasco da Gama landed in Calicut in 1498 during the reign of Tuluva Narsa Nayaka in 1498. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

19. Consider the following statements:

1. St. Francis Xavier was one of the founding members of the Jesuit Order.
2. St. Francis Xavier died in Goa and a church is dedicated to him there.
3. The Feast of St. Francis Xavier is celebrated in Goa each year.

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: (c)

Explanation:

- The patron saint of missionaries and one of the founders of the Jesuit order, Saint Francis Xavier sought religious converts throughout Asia during the 1500s. **Hence, statement 1 is correct.**
- Xavier traveled to Sancian (Shangchuan) Island, near Canton, but was not able to access the mainland because borders had been closed to foreigners. Before he could find a way inside the country, illness incapacitated Xavier. He died on the island on December 3, 1552, at the age of 46. His body was then taken to Goa. **Hence, statement 2 is not correct.**
- Each year, 3rd December, marks the anniversary of St. Francis Xavier's death, when thousands gather at the Basilica of Bom Jesus. This annual festival, known as the Feast of St. Francis Xavier or Lord of Goa Festival, is the biggest of all the Christian festivals in Goa celebrated each year. **Hence, statement 3 is correct.**
- **Therefore, option (c) is the correct answer.**

20. With reference to the history of ancient India, which of the following statements is/are correct?

1. Mitakshara was the civil law for upper castes and Dayabhaga was the civil law for lower castes.
2. In the Mitakshara system, the sons can claim right to the property during the lifetime of the father, whereas in the Dayabhaga system, it is only after the death of the father that the sons can claim right to the property.
3. The Mitakshara system deals with the matters related to the property held by male members only of a family, whereas the Dayabhaga system deals with the matters related to the property held by both male and female members of a family.

Select the correct answer using the code given below:

- (a) 1 and 2 only

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

Ans: (b)

Explanation:

- Mitakshara and Dayabhaga terms were used to denote regions. It is not related to the caste system. **Hence, statement 1 is not correct.**
- The difference between Dayabhaga and Mitakshara is in the basic idea of them. Dayabhaga does not give anyone the right to property before the death of their forefathers whereas Mitakshara gives anyone the right to property just after their birth. **Hence, statement 2 is correct.**
- Dayabhaga system prevails in West Bengal and allows both the male and female members of the family to be coparceners. Mitakshara system, on the other hand, prevails all over India except West Bengal and allows only the male members to be coparceners. **Hence, statement 3 is not correct.**
- **Therefore, option (b) is the correct answer.**

21. The money multiplier in an economy increases with which one of the following?

- (a) Increase in the Cash Reserve Ratio in the banks
- (b) Increase in the Statutory Liquidity Ratio in the banks
- (c) Increase in the banking habit of the people
- (d) Increase in the population of the country

Ans: (c)

Explanation:

- The money multiplier effect can be seen in a country's banking system. An increase in bank lending should translate to an expansion of a country's money supply. Thus, the money multiplier in an economy increases with an increase in the banking habits of the people.
- **Therefore, option (c) is the correct answer.**

22. With reference to Indian economy, demand-pull inflation can be caused/increased by which of the following?

1. Expansionary policies
2. Fiscal stimulus
3. Inflation-indexing of wages
4. Higher purchasing power
5. Rising interest rates

Select the correct answer using the code given below:

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

Ans: (a)

Explanation:

- There are multiple causes of increase in demand-pull inflation in an economy including:
- **Expansionary Policies:** Expansionary policies leads to an expansion of the money supply with too few goods to buy, which leads to increase in price. **Hence, 1 is correct.**
- **Higher Purchasing Power:** If in an economy, employment rises, more people go to work, they make more money and spend more money. However, if at a point of time, people are willing to spend more money while goods are limited, then competition among consumers drives the prices up. **Hence, 4 is correct.**
- **Fiscal Stimulus:** Policy tools often used to implement fiscal stimulus include lowering interest rates, increasing government spending, and quantitative easing. Often these fiscal stimulus lead to the increase of money supply in the economy. **Hence, 2 is correct.**
- Inflation indexing ensures lowest-paid workers a wage that keeps pace with the rising costs of goods and services, it does not lead to demand pull inflation. **Hence, 3 is not correct.**
- There is an inverse relationship between the interest rates and rate of inflation. So, when interest rates are high, the economy slows and inflation decreases. **Hence, 5 is not correct.**
- **Therefore, option (a) is the correct answer.**

23. With reference to India, consider the following statements:

1. Retail investors through demat account can invest in 'Treasury Bills' and 'Government of India Debt Bonds' in primary market.
2. The 'Negotiated Dealing System-Order Matching' is a government securities trading platform of the Reserve Bank of India.
3. The 'Central Depository Services Ltd.' is jointly promoted by the Reserve Bank of India and the Bombay Stock Exchange.

Which of the statements given above is/are correct?

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

Ans: (b)

Explanation:

- Gilt account is opened by the bank for individuals who wish to invest in government securities and treasury bills. Banks in effect maintain a Demat account for these instruments in the name of the individuals. **Hence, statement 1 is correct.**
- Negotiated Dealing System-Order Matching (NDS-OM) is RBI's screen-based, anonymous electronic order matching system for trading in government securities in the secondary market. **Hence, statement 2 is correct.**
- Central Depository Services Ltd (CDSL), is the first listed Indian central securities depository based in Mumbai. CDSL is promoted by BSE Ltd. jointly with leading banks such as State Bank of India, Bank of Baroda, HDFC Bank, and Standard Chartered Bank. **Hence, statement 3 is not correct.**
- **Therefore, option (b) is the correct answer.**

24. With reference to 'Water Credit', consider the following statements:

1. It puts microfinance tools to work in the water and sanitation sector.
2. It is a global initiative launched under the aegis of the World Health Organization and the World

Bank.

3. It aims to enable the poor people to meet their water needs without depending on subsidies.

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: (c)

Explanation:

- Water Credit is the first to put microfinance tools to work in the water and sanitation sector. **Hence, statement 1 is correct.**
- The model empowers people to address their own water and sanitation needs in developing countries who often lack access to traditional credit markets. It eliminates the need for subsidies. **Hence, statement 3 is correct.**
- WaterCredit is a global initiative launched by Water.org, a non-profit organization working to bring water and sanitation to the world. **Hence, statement 2 is not correct.**
- **Therefore, option (c) is the correct answer.**

25. In India, the central bank's function as the 'lender of last resort' usually refers to which of the following?

1. Lending to trade and industry bodies when they fail to borrow from other sources
2. Providing liquidity to the banks having a temporary crisis
3. Lending to governments to finance budgetary deficits

Select the correct answer using the code given below:

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

Ans: (b)

Explanation:

- The Reserve Bank of India, a Banker to Banks also acts as the 'lender of the last resort'. It can come to the rescue of a bank that is solvent but faces temporary liquidity problems by supplying it with much needed liquidity when no one else is willing to extend credit to that bank. **Hence, 2 is correct and 1 and 3 are not correct.**
- **Therefore, option (b) is the correct answer.**

26. 'R2 Code of Practices' constitutes a tool available for promoting the adoption of

- (a) environmentally responsible practices in electronics recycling industry
- (b) ecological management of Wetlands of International Importance under the Ramsar Convention

(c) sustainable practices in the cultivation of agricultural crops in degraded lands

(d) 'Environmental Impact Assessment' in the exploitation of natural resources

Ans: (a)

Explanation:

- Responsible Recycling (R2) Code of Practices is a set of guidelines for use by electronics recyclers to promote better environmental, health and security practices when recycling end-of-life electronics.
- **Therefore, option (a) is the correct answer.**

27. Why is there a concern about copper smelting plants?

1. They may release lethal quantities of carbon monoxide into environment.
2. The copper slag can cause the leaching of some heavy metals into environment.
3. They may release sulphur dioxide as a pollutant.

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: (b)

Explanation:

- The principal air pollutants emitted from the process is sulphur dioxide and particulate matter and the main portion of the solid waste is discarded slag. **Hence, statement 3 is correct.**
- The slag produced can contain significant concentrations of a number of potentially toxic elements including arsenic, lead, cadmium, barium, zinc, etc. The slag can release these potentially toxic elements into the environment under natural weathering conditions and cause pollution of soils, surface waters and groundwater. **Hence, statement 2 is correct.**
- Copper smelting does not release lethal quantities of carbon monoxide into the environment. **Hence, statement 1 is not correct.**
- **Therefore, option (b) is the correct answer.**

28. 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:

- Furnace oil or fuel oil is a dark viscous residual product of crude-oil distillation. It is used as a fuel in different types of combustion equipment. The emissions of oxides of sulphur are a direct result of the sulphur content of the fuel oil. **Hence, statements 1 and 3 are correct.**
- **Applications of Furnace oil**
- Marine engines and slow speed engines for power generation;
- Drying tea leaves;
- Thermic fluid heaters and hot air generators. **Hence, statement 2 is correct.**
- **Therefore, option (d) is the correct answer.**

29. What is blue carbon?

- (a) Carbon captured by oceans and coastal ecosystems
- (b) Carbon sequestered in forest biomass and agricultural soils
- (c) Carbon contained in petroleum and natural gas
- (d) Carbon present in atmosphere

Ans: (a)

Explanation:

- Blue carbon is the carbon captured by the world's ocean and coastal ecosystems. Coastal ecosystems such as mangroves, tidal marshes and seagrass meadows sequester and store more carbon per unit area than terrestrial forests and are now being recognised for their role in mitigating climate change.
- **Therefore, option (a) is the correct answer.**

30. In the nature, which of the following is/are most likely to be found surviving on a surface without soil?

1. Fern
2. Lichen
3. Moss
4. Mushroom

Select the correct answer using the code given below.

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

Ans: (c)

Explanation:

- There are four particular types of habitats that ferns are found in: moist, shady forests; crevices in rock faces, especially when sheltered from the full sun; acid wetlands including bogs and swamps; and tropical trees, where many species are epiphytes. **Hence, 1 is not correct.**
- Lichens are generally found on substrates like rock, tree bark, soil, houses, tombstones, cars, old

farm equipment, etc. Thus, lichen can be found surviving on surfaces without soil. **Hence, 2 is correct.**

- Mosses are non-vascular plants. They do not need soil to survive, instead they have a rhizoid multi-cell anchoring structure that is used to climb and grip over rocky surfaces. Moss thrives in moist and shady areas. **Hence, 3 is correct.**
- A mushroom is the fleshy, spore-bearing fruiting body of a fungus, typically grows above ground, on soil, etc. **Hence, 4 is not correct.**
- **Therefore, option (c) is the correct answer.**

31. Consider the following statements:

1. The Governor of the Reserve Bank of India (RBI) is appointed by the Central Government.
2. Certain provisions in the Constitution of India give the Central Government the right to issue directions to the RBI in public interest.
3. The Governor of the RBI draws his power from the RBI Act.

Which of the above statements 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:

- The RBI's affairs are governed by a central board of directors. The board is appointed by the Government of India in line with the Reserve Bank of India Act. **Hence, statement 1 is correct.**
- The Central Government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider it necessary in the public interest. **Hence, statement 2 is not correct.**
- The Governor of RBI draws his powers from Section 7(3) of the RBI Act. He can exercise all powers and do all things that may be exercised and done by the RBI. **Hence, statement 3 is correct.**
- **Therefore, option (c) is the correct answer.**

32. With reference to casual workers employed in India, consider the following statements:

1. All casual workers are entitled for Employees Provident Fund coverage.
2. All casual workers are entitled for regular working hours and overtime payment.
3. The government can by a notification specify that an establishment or industry shall pay wages only through its bank account.

Which of the above statements 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:

Applicability of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952

- The employees become eligible to participate in the fund on his/her joining the establishment covered under this Act. All casual/temporary workmen are to be covered. **Hence, statement 1 is correct.**
- Where an employee whose minimum rate of wages has been fixed under this Code by the hour, by the day or by such a longer wage-period as may be prescribed, works on any day in excess of the number of hours constituting a normal working day, the employer shall pay him for every hour or for part of an hour so worked in excess, at the overtime rate which shall not be less than twice the normal rate of wages. **Hence, statement 2 is correct.**
- The Code on Wages, 2019 provided that the appropriate Government may specify the industry or other establishment, the employer of which shall pay to every person employed in such industry or other establishment, the wages only by cheque or by crediting the wages in his bank account. **Hence, statement 3 is correct.**
- **Therefore, option (d) is the correct answer.**

33. Which among the following steps is most likely to be taken at the time of an economic recession?

- (a) Cut in tax rates accompanied by increase in interest rate.
- (b) Increase in expenditure on public projects.
- (c) Increase in tax rates accompanied by reduction of interest rate.
- (d) Reduction of expenditure on public projects.

Ans: (b)

Explanation:

- In order to tackle the economic recession, the money supply in the economy must be increased. There are various ways to boost money supply into the economy:
 - **Expansionary Monetary Policy:** It will increase the supply of money in the market. Banks and Financial Institutions will have more money to lend with leveraged interest rates. This will attract the borrowers to borrow money, thereby increasing the economic activities and expenditure such as investment, production, consumption etc.
 - **High Expenditure on Public Projects:** Increase in expenditure on public projects will lead to increase in money supply and will be helpful in bringing the country out of economic recession.
- **Therefore, option (b) is the correct answer.**

34. Consider the following statements:

Other things remaining unchanged, market demand for a good might increase if

1. price of its substitute increases
2. price of its complement increases
3. the good is an inferior good and income of the consumers increases
4. its price falls

Which of the above statements are correct?

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

(d) 1, 2 and 3

Ans: (a)

Explanation:

- Law of Demand states that other things being equal, there is a negative relation between demand for a commodity and its price. In other words, when price of the commodity increases, demand for it falls and when price of the commodity decreases, demand for it rises, other factors remaining the same. **Hence, statement 4 is correct.**
- The demand for a good usually increases if the price of its substitutes increases. **Hence, statement 1 is correct.**
- Goods which are consumed together are called complementary goods. In general, the demand for a good move in the opposite direction of the price of its complementary goods. **Hence, statement 2 is not correct.**
- There are some goods the demands for which move in the opposite direction of the income of the consumer. Such goods are called inferior goods. As the income of the consumer increases, the demand for an inferior good falls, and as the income decreases, the demand for an inferior good rises. Examples of inferior goods include food items like coarse cereals. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

35. With reference to 'Urban Cooperative Banks' in India, consider the following statements:

1. They are supervised and regulated by local boards set up by the State Governments.
2. They can issue equity shares and preference shares.
3. They were brought under the purview of the Banking Regulation Act, 1949 through an Amendment in 1966.

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:

- Urban Co-operative Banks (UCB) are regulated and supervised by State Registrars of Co-operative Societies (RCS) in case of single-state co-operative banks and Central Registrar of Co-operative Societies (CRCS) in case of multi-state co-operative banks and by the RBI. **Hence, statement 1 is not correct.**
- The banking related functions such as issue of license to start new banks/branches, matters relating to interest rates, loan policies, investments and prudential exposure norms are regulated and supervised by the Reserve Bank under the provisions of the Banking Regulation Act, 1949 after an amendment in 1966. **Hence, statement 3 is correct.**
- The UCBs could raise share capital by issue of equity to persons within their area of operation enrolled as members and also through additional equity shares to the existing members. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

36. Indian Government Bond Yields are influenced by which of the following?

1. Actions of the United States Federal Reserve

2. Actions of the Reserve Bank of India
3. Inflation and short-term interest rates

Select the correct answer using the code given below.

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

Ans: (d)

Explanation:

- Fed tapering is the gradual reduction in the bond buying program of the US Federal Reserve. So, any actions of the United States Federal Reserve impact the bond yield in India. **Hence, 1 is correct.**
- The actions of the RBI plays a crucial role in determining the yield of government bonds. The sovereign yield curve has a special significance for monetary policy in influencing a wide array of interest rates in the economy. **Hence, 2 is correct.**
- Inflation and short-term interest rates also influence the yield of government bonds. **Hence, 3 is correct.**
- **Therefore, option (d) is the correct answer.**

37. Consider the following:

1. Foreign currency convertible bonds
2. Foreign institutional investment with certain conditions
3. Global depository receipts
4. Non-resident external deposits

Which of the above can be included in Foreign Direct Investments?

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

Ans: (a)

Explanation:

- Foreign Currency Convertible Bonds (FCCBs) are foreign currency convertible Bonds invested in Indian company. Since these bonds are convertible into equity shares over a period of time as provided in the instrument, therefore they are covered under FDI policy and inward remittances received by the Indian company vide issuance of FCCBs are treated as FDI and counted towards FDI. **Hence, 1 is correct.**
- Foreign Institutional Investor (FII) is not FDI in general as FIIs can invest up to a maximum of 10 percent of the total paid-up capital, however, if FII invest in convertible debenture then it is counted as FDI subject to certain limitations. **Hence, 2 is correct.**
- Indian companies can raise foreign currency resources abroad through the issue of American Depository Receipt (ADR)/Global Depository Receipts (GDRs) in accordance with the Scheme for issue of Foreign Currency Convertible Bonds and Ordinary Shares (through Depository Receipt

Mechanism) Scheme, 1993 and guidelines issued by the Government of India thereunder from time to time. Therefore, bonds cannot be FDI but Convertible Bond/Debenture could be converted to Equity and included under FDI. **Hence, 3 is correct.**

- Non-resident external deposits are not treated as FDI as banks can route these deposits for loans. NRIs can invest in shares on recognized stock exchanges under portfolio investment route. The investment can be repatriable or non-repatriable, but the maximum limit of investment is 10% of paid-up capital of the relevant company. **Hence, 4 is not correct.**
- **Therefore, option (a) is the correct answer.**

38. Consider the following statements:

The effect of devaluation of a currency is that it necessarily

1. improves the competitiveness of the domestic exports in the foreign markets
2. increases the foreign value of domestic currency
3. improves the trade balance

Which of the above statements is/are correct?

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

Ans: (a)

Explanation:

- Currency devaluation is the deliberate reduction in the value of a country's currency against another currency. A country pursues a policy of devaluation to boost its exports as its products and services become cheaper to buy. In other words, the competitiveness of domestic exports improves in the foreign markets. Devaluation will not increase the foreign value of domestic currency. **Hence, 1 is correct and 2 is not correct.**
- Devaluation of currency is often done by the monetary authorities when they need to improve the country's trade balance. However, it is not necessary that it will improve the trade balance as import can be expensive. **Hence, 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

39. Which one of the following effects of creation of black money in India has been the main cause of worry to the Government of India?

- (a) Diversion of resources to the purchase of real estate and investment in luxury housing.
- (b) Investment in unproductive activities and purchase of precious stones, jewellery, gold, etc.
- (c) Large donations to political parties and growth of regionalism.
- (d) Loss of revenue to the State Exchequer due to tax evasion.

Ans: (d)

Explanation:

- Taxation is the primary source of income for the government. Tax revenue can be regarded as one measure of the degree to which the government controls the economy's resources. Therefore, loss of revenue to the State Exchequer due to tax evasion is the main cause of worry to the

Government of India.

- **Therefore, option (d) is the correct answer.**

40. Which one of the following is likely to be the most inflationary in its effect?

- (a) Repayment of public debt
- (b) Borrowing from the public to finance a budget deficit
- (c) Borrowing from the banks to finance a budget deficit
- (d) Creation of new money to finance a budget deficit

Ans: (d)

Explanation:

- Printing new currency notes increases the flow of money in the economy. As the flow of money raises aggregate expenditure, the aggregate demand also increases and the danger of inflation becomes large.
- With the creation of new money, the amount of goods does not change. Therefore, if the money supply is increased, but the goods remain the same, everything will become more expensive.
- If the government keeps printing more, the economy will start experiencing hyperinflation. Moreover, the currency will also devalue against other currencies.
- So, among all the deficit financing methods creating more money will have the most inflationary effect.
- **Therefore, option (d) is the correct answer.**

41. 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:

- Lemongrass is a tall herb that is abundantly found in tropical and sub-tropical areas of Asia, Africa and Australia. It is known to be an excellent mosquito repellent. Around 95% of mosquitos from a specific range of species are either killed or completely repelled due to the intense odour of lemongrass oil.
- **Therefore, option (c) is the correct answer.**

42. Consider the following kinds of organisms:

1. Copepods
2. Cyanobacteria
3. Diatoms
4. Foraminifera

Which of the above are primary producers in the food chains of oceans?

- (a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Ans: (b)

Explanation:

- Cyanobacteria, also called blue-green algae, are microscopic organisms found naturally in all freshwater ecosystems. These single-celled organisms use sunlight to make their own food. They are said to be the primary producer as they produce food for higher levels of organisms. **Hence, 2 is correct.**
- Diatoms are a major group of algae, specifically microalgae, found in the oceans, waterways and soils of the world. They are one of the major primary producers in the ocean, responsible annually for ~20% of photosynthetically fixed CO₂ on Earth. **Hence, 3 is correct.**

43. Consider the following animals:

1. Hedgehog
2. Marmot
3. Pangolin

To reduce the chance of being captured by predators, which of the above organisms rolls up/roll up and protects/ protects its/their vulnerable parts?

(a) 1 and 2

(b) 2 only

(c) 3 only

(d) 1 and 3

Ans: (d)

Explanation:

- Hedgehogs are small mammals with short limbs and a body low to the ground. Their most distinctive characteristic is the thousands of stiff, sharp spines — harder and sharper than those of a porcupine, that cover the animal's back and sides. When attacked, they curl into a prickly and unappetizing ball that deters most predators. **Hence, 1 is correct.**
- A marmot is a rodent of medium size with brown fur on its head and back as well as yellow fur on its belly. This animal is a herbivore eating nuts, leaves, seeds, flowers, grass, and grains. **Hence, 2 is not correct.**
- Pangolins are the only mammals wholly-covered in scales and they use those scales to protect themselves from predators in the wild. If touched or grabbed, they roll up completely into a ball, while the sharp scales on the tail can be used to lash out. **Hence, 3 is correct.**
- **Therefore, option (d) is the correct answer.**

44. With reference to the 'New York Declaration on Forests', which of the following statements are correct?

1. It was first endorsed at the United Nations Climate Summit in 2014.
2. It endorses a global timeline to end the loss of forests.
3. It is a legally binding international declaration.
4. It is endorsed by governments, big companies and indigenous communities.
5. India was one of the signatories at its inception.

Select the correct answer using the code given below.

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

Ans: (a)

Explanation:

- The New York Declaration on Forests is a voluntary and non-legally binding political declaration which grew out of dialogue among governments, companies and civil society, spurred by the United Nations Secretary-General's Climate Summit in 2014. **Hence, statement 1 is correct and statement 3 is not correct.**
- The declaration pledges to halve the rate of deforestation by 2020, to end it by 2030 and to restore hundreds of millions of acres of degraded land. **Hence, statement 2 is correct.**
- The declaration currently has over 200 endorsers including, national governments, sub-national governments, multinational companies, indigenous peoples and local community organizations, non-government organizations, and financial institutions. **Hence, statement 4 is correct.**
- India was not one of the signatories at the time of New York Declaration on Forests inception. **Hence, statement 5 is not correct.**
- **Therefore, option (a) is the correct answer.**

45. Magnetite particles, suspected to cause neurodegenerative problems, are generated as environmental pollutants from which of the following?

1. Brakes of motor vehicles
2. Engines of motor vehicles
3. Microwave stoves within homes
4. Power plants
5. Telephone lines

Select the correct answer using the code given below.

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

Ans: (d)

Explanation:

- The automotive industry uses ceramic or ferrite magnets to make vehicles safer. This kind of use of magnets in motor vehicles can generate magnetic particles. **Hence, 1 is correct.**
- Engines of motor vehicles can generate magnetic particles as they use high powered magnets which generate magnetic flux. **Hence, 2 is correct.**
- In Microwave, a magnetic stirrer is used which can generate magnetic particles. **Hence, 3 is correct.**
- Power plants release metal content along with ash. Use of coal in power plants is a major source of combustion-associated magnetite fine particles. **Hence, 4 is correct.**
- Telephone lines produce low frequency, low energy electromagnetic fields which are the potential

source of magnetite particles. **Hence, 5 is correct.**

- **Therefore, option (d) is the correct answer.**

46. Which one of the following is a filter feeder?

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

Ans: (c)

Explanation:

- Filter feeders are a subdivision of suspension-feeding entities which feed by straining suspended matter and food particles from water, by passing the water over a specialized filtering structure. Some animals that use this method of feeding are clams, krill, sponges, oysters, baleen whales, and many fish (including some sharks). Some birds, such as flamingos and certain species of duck, are also filter feeders.
- **Therefore, option (c) is the correct answer.**

47. In case of which one of the following biogeochemical cycles, the weathering of rocks is the main source of release of nutrients to enter the cycle?

- (a) Carbon cycle
- (b) Nitrogen cycle
- (c) Phosphorus cycle
- (d) Sulphur cycle

Ans: (c)

Explanation:

- In nature, phosphorus is found mostly in the form of phosphate ions. Phosphate compounds are found in sedimentary rocks, and as the rocks weather down over long time periods, the phosphorus they contain slowly leaches into surface water and soils.
- Volcanic ash, aerosols and mineral dust can also be significant phosphate sources. Phosphorus has no real gas phase, unlike other elements such as carbon, nitrogen and sulphur.
- **Therefore, option (c) is the correct answer.**

48. Which of the following are detritivores?

1. Earthworms
2. Jellyfish
3. Millipedes
4. Seahorses
5. Woodlice

Select the correct answer using the code given below.

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

(c) 1, 3 and 5 only

(d) 1, 2, 3, 4 and 5

Ans: (c)

Explanation:

- A detritivore is a heterotrophic organism, which obtains its nutrition by feeding on detritus. Detritus is an organic matter made up of dead plant and animal materials.
- Detritivores are often invertebrate insects such as mites, beetles, butterflies and flies; molluscs such as slugs and snails; or soil-dwelling earthworms, millipedes and woodlice. **Hence, 1, 3 and 5 are correct.**
- Jellyfish are carnivorous and Seahorse is also a carnivorous animal. **Hence, 2 and 4 are not correct.**
- **Therefore, option (c) is the correct answer.**

49. The 'Common Carbon Metric', supported by UNEP, has been developed for

(a) assessing the carbon footprint of building operations around the world

(b) enabling commercial farming entities around the world to enter carbon emission trading

(c) enabling governments to assess the overall carbon footprint caused by their countries

(d) assessing the overall carbon foot-print caused by the use of fossil fuels by the world in a unit time

Ans: (a)

Explanation:

- Common Carbon Metric allows emissions from buildings around the world to be consistently assessed and compared. It does not include value-based interpretation of the measurements such as weightings or benchmarking.
- **Therefore, option (a) is the correct answer.**

50. Which of the following have species that can establish a 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

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: (d)

Explanation:

Symbiosis is a close ecological relationship between the individuals of two (or more) different species.

- The symbiotic association between the invertebrate phylum Cnidaria (Coelenterate) and the unicellular dinoflagellate algae, called zooxanthellae, is very common and symbolises mutualistic interaction. **Hence, 1 is correct.**
- Mycorrhizae are symbiotic relationships that are formed between fungi and plants. The fungi colonize the root system of a host plant, providing increased water and nutrient absorption capabilities while the plant provides the fungus with carbohydrates formed from photosynthesis. **Hence, 2 is correct.**
- 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. The termite itself cannot do this, and without the protozoa, it would not be able to obtain energy from its food (cellulose from the wood it chews and eats). **Hence, 3 is correct.**
- **Therefore, option (d) is the correct answer.**

51. Under the Indian Constitution, concentration of wealth violates

- (a) the Right to Equality
- (b) the Directive Principles of State Policy
- (c) the Right to Freedom
- (d) the Concept of Welfare

Ans: (b)

Explanation:

- The Directive Principles of State Policy (DPSPs) in Part IV of the Indian Constitution from Articles 36 to 51 are the ideals that are meant for promoting social and economic democracy. According to Articles 39, the State shall in particular, direct its policies towards securing:
 - The ownership and control of material resources shall be organised in a manner to serve the common good. The State shall avoid concentration of wealth in a few hands, among others.
- **Therefore, option (b) is the correct answer.**

52. What is the position of the Right to Property in India?

- (a) Legal right available to citizens only
- (b) Legal right available to any person
- (c) Fundamental Right available to citizens only
- (d) Neither Fundamental Right nor legal right

Ans: (b)

Explanation:

- Initially, the Right to Property under Articles 31 and Article 19 (1)(f) was given the fundamental status in Indian Constitution. However, with the 44th Amendment Act, 1978, the Right to Property was omitted as a fundamental right and made a legal right under Article 300-A in Part XII of Indian Constitution.
- **Therefore, option (b) is the correct answer.**

53. What was the exact constitutional status of India on 26th January, 1950?

- (a) A Democratic Republic

- (b) A Sovereign Democratic Republic
- (c) A Sovereign Secular Democratic Republic
- (d) A Sovereign Socialist Secular Democratic Republic

Ans: (b)

Explanation:

- The Constitutional status of India on 26th January, 1950 was a Sovereign Democratic Republic as the words- Socialist and Secular were added to the Preamble by the 42nd Constitutional Amendment Act, 1976.
- **Therefore, option (b) is the correct answer.**

54. Constitutional government means

- (a) a representative government of a nation with federal structure
- (b) a government whose Head enjoys nominal powers
- (c) a government whose Head enjoys real powers
- (d) a government limited by the terms of the Constitution

Ans: (d)

Explanation:

- Constitutional government is defined by the existence of a constitution, which may be a legal instrument or merely a set of fixed norms or principles generally accepted as the fundamental law of the polity that effectively controls the exercise of political power.
- **Therefore, option (d) is the correct answer.**

55. With reference to India, the terms 'Halbi, Ho and Kui' pertain to

- (a) dance forms of Northwest India
- (b) musical instruments
- (c) pre-historic cave paintings
- (d) tribal languages

Ans: (d)

Explanation:

Odisha's tribal language is divided into 3 main language families. They are Austro-Asiatic (Munda), Dravida and Indo-Aryan. Every tribe has its own language and language family. The languages include:

- **Austro-Asiatic:** Bhumij, Birhor, Rem (Bonda), Gatah (Didyai), Gutab (Gadaba), Sora(Saora), Gorum (Parenga), Khadia, Juang, Santali, **Ho**, Mundari, etc.
- **Dravida:** Gondi, Kui-Kondh, Kuvi-Kondh, Kisan, Koya, Olari, (Gadaba) Parja, Peng, Kudukh (Oraon) etc.
- **Indo Aryan:** Bathudi, Bhuyan, Kurmali, Sounti, Sadri, Kandhan, Aghria, Desia, Jharia, **Halbi**, Bhatiri, Matia, Bhunjia, etc.
- Out of these languages only 7 have scripts. They are Santali (Olchiki), Saora (Sorang Sampeng), **Ho (Warangchiti)**, **Kui (Kui Script)**, Oraon (Kukhud Tod), Mundari (Bani Hisir), Bhumij (Bhumij)

Anl). Santali language has been included in the 8th Schedule of the Indian Constitution.

- **Therefore, option (d) is the correct answer.**

56. Consider the following statements in respect of Bharat Ratna and Padma Awards:

1. Bharat Ratna and Padma Awards are titles under the Article 18(1) of the Constitution of India.
2. Padma Awards, which were instituted in the year 1954, were suspended only once.
3. The number of Bharat Ratna Awards is restricted to a maximum of five in a particular year.

Which of the above statements are not correct?

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

Ans: (d)

Explanation:

- Article 18(1) prohibits the State to confer titles on anybody whether a citizen or a non-citizen. Military and academic distinctions are, however, exempted from the prohibition. Bharat Ratna and Padma Awards are not titles under the Article 18(1). **Hence, statement 1 is not correct.**
- The Padma Awards were suspended during the years 1978, 1979 and 1993 to 1997. **Hence, statement 2 is not correct.**
- The recommendations for Bharat Ratna are made by the Prime Minister to the President of India. The number of Bharat Ratna Awards is restricted to a maximum of three in a particular year. **Hence, statement 3 is not correct.**
- **Therefore, option (d) is the correct answer.**

57. Consider the following statements:

Statement 1: The United Nations Capital Development Fund (UNCDF) and the Arbor Day Foundation have recently recognized Hyderabad as 2020 Tree City of the World.

Statement 2: Hyderabad was selected for the recognition for a year following its commitment to grow and maintain the urban forests.

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

- (a) Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1.
- (b) Both Statement 1 and Statement 2 are correct but Statement 2 is not the correct explanation for Statement 1.
- (c) Statement 1 is correct but Statement 2 is not correct.
- (d) Statement 1 is not correct but Statement 2 is correct.

Ans: (d)

Explanation:

- The Hyderabad city has been recognised as a '2020 Tree City of the World' by the Arbor Day Foundation and the Food and Agriculture Organisation (FAO). **Hence, statement 1 is not**

correct.

- Hyderabad is the only city in India to have been selected for this recognition in response to its commitment to growing and maintaining urban forestry through the Haritha Haram programme and Urban Forest Parks. **Hence, statement 2 is correct.**
- **Therefore, option (d) is the correct answer.**

58. Consider the following statements in respect of the Laureus World Sports Award which was instituted in the year 2000:

1. American golfer Tiger Woods was the first winner of this award.
2. The award was received mostly by 'Formula One' players so far.
3. Roger Federer received this award maximum number of times compared to others.

Which of the above statements 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:

- American golfer Tiger Woods was the first winner of this award. **Hence, statement 1 is correct.**
- The award has been received mostly by Men's Football Team (6 times) players so far. **Hence, statement 2 is not correct.**
- Roger Federer (5 times) has received this award, the maximum number of times compared to others followed by Usain Bolt (4 times) and Novak Djokovic (4 times). **Hence, statement 3 is correct.**
- **Therefore, option (c) is the correct answer.**

59. Consider the following statements in respect of the 32nd Summer Olympics:

1. The official motto for this Olympics is 'A New World'.
2. Sport Climbing, Surfing, Skateboarding, Karate and Baseball are included in this Olympics.

Which of the above statements is/are correct?

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

Ans: (b)

Explanation:

- The official motto for Olympics 2020 was "United by Emotion". **Hence, statement 1 is not correct.**
- A total of 46 Olympic Sports were contested at the Tokyo 2020 Games including Rugby, Sport Climbing, Fencing, Football, Skateboarding, Handball, Surfing, Karate, Baseball, among others. **Hence, statement 2 is correct.**

- **Therefore, option (b) is the correct answer.**

60. Consider the following statements in respect of the ICC World Test Championship:

1. The finalists were decided by the number of matches they won.
2. New Zealand was ranked ahead of England because it won more matches than England.

Which of the above statements is/are correct?

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

Ans: (d)

Explanation:

- The ICC announced in 2020, that the finalists would be decided by percentage of points earned. The amount of points available per Test has been made uniform. This system allows the relative performance of teams to be compared at any point in time, meaning the cancellation of any matches or series for any reason does not directly impact the points table. **Hence, statement 1 is not correct.**
- New Zealand was the first team to qualify for the inaugural final. It was ahead of England due to its ratings, i.e., points (126) after playing 22 matches. On the other hand, England after playing 35 matches has got a 107 rating. **Hence, statement 2 is not correct.**
- **Therefore, option (d) is the correct answer.**

61. Consider the following statements:

1. 'Right to the City' is an agreed human right and the UN-Habitat monitors the commitments made by each country in this regard.
2. 'Right to the City' gives every occupant of the city the right to reclaim public spaces and public participation in the city.
3. Right to the City' means that the State cannot deny any public service or facility to the unauthorized colonies in the city.

Which of the statements given above is/are correct?

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

Ans: (c)

Explanation:

- UN-Habitat's report, 'State of the World Cities 2010/2011: Bridging the Urban Divide', recommends giving every resident the "right to the city" in which they live. The UN-Habitat is the monitoring agency for the commitments made by each country in this regard. **Hence, statement 1 is correct.**
- The occupants have the right to reclaim public spaces and public participation. **Hence, statement**

2 is correct.

- Providing access to public services in unauthorized colonies depends on the State's discretion and influence of the political participation of people. **Hence, statement 3 is not correct.**
- **Therefore, option (c) is the correct answer.**

62. With reference to India, consider the following statements:

1. Judicial custody means an accused is in the custody of the concerned magistrate and such accused is locked up in a police station, not in jail.
2. During judicial custody, the police officer in charge of the case is not allowed to interrogate the suspect without the approval of the court.

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:

- In Judicial custody, an accused is in the custody of the concerned Magistrate and lodged in jail. **Hence, statement 1 is not correct.**
- During judicial custody, the police officer in charge of the case may interrogate the suspect but with prior permission from the magistrate. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

63. With reference to India, consider the following statements:

1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.

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:

- Although some criminal statutes carry a right to an eventual parole hearing, typical laws do not absolutely guarantee parole itself. Authorities retain the discretion to deny parole to prisoners they deem dangerous. **Hence, statement 1 is not correct.**
- The grant of parole is governed by rules made under Prison Act, 1894 and Prison Act, 1900. Many State governments have also formulated guidelines to facilitate decision-making to determine whether parole needs to be granted in a particular case or not. For example, the Rajasthan Prisoners Release on Parole Rules, 1958. **Hence, statement 2 is correct.**

- **Therefore, option (b) is the correct answer.**

64. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006?

- (a) Ministry of Environment, Forest and Climate Change
- (b) Ministry of Panchayati Raj
- (c) Ministry of Rural Development
- (d) Ministry of Tribal Affairs

Ans: (d)

Explanation:

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, also referred to as the Forest Rights Act (FRA), 2006, recognizes the rights of the forest-dwelling tribal communities and other traditional forest dwellers to forest resources.
- As per the provisions of the Act and the rules framed thereunder, various schemes and projects are implemented under the Ministry of Tribal Affairs.
- **Therefore, option (d) is the correct answer.**

65. A legislation that confers on the executive or administrative authority an unguided and uncontrolled discretionary power in the matter of the application of law violates which one of the following Articles of the Constitution of India?

- (a) Article 14
- (b) Article 28
- (c) Article 32
- (d) Article 44

Ans: (a)

Explanation:

Article 14 ('Equality Before Law' and Equal Protection of Law)

- No person shall be denied treatment of equality before the law or the equal protection of the laws within the territory of India.
- Therefore, Article 14 acts as a shield against any arbitrary or discriminatory state action and the Court may declare a law ultra vires Article 14.
- **Therefore, option (a) is the correct answer.**

66. Which one of the following in Indian polity is an essential feature that indicates that it is federal in character?

- (a) The independence of judiciary is safeguarded.
- (b) The Union Legislature has elected representatives from constituent units.
- (c) The Union Cabinet can have elected representatives from regional parties.
- (d) The Fundamental Rights are enforceable by Courts of Law.

Ans: (a)

Explanation:

- Different sets of government with divided subjects of power and an independent judiciary are vital features of the federal system. Independent judiciary is a core feature of a federal system. The Indian Constitution has ensured the independence of the judiciary through a number of measures.
- **Therefore, option (a) is the correct answer.**

67. Which one of the following best defines the term 'State'?

- (a) A community of persons permanently occupying a definite territory independent of external control and possessing an organized government
- (b) A politically organized people of a definite territory and possessing an authority to govern them, maintain law and order, protect their natural rights and safeguard their means of sustenance
- (c) A number of persons who have been living in a definite territory for a very long time with their own culture, tradition and government
- (d) A society permanently living in a definite territory with a central authority, an executive responsible to the central authority and an independent judiciary

Ans: (a)

Explanation:

- A 'State' can be defined as a society of people politically organized within a definite territory, having its own government with the power to enforce obedience and which is free from external control.
- **Therefore, option (a) is the correct answer.**

68. With reference to the Indian judiciary, consider the following statements:

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with the prior permission of the President of India.
2. A High Court in India has the power to review its own judgement as the Supreme Court does.

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:

As per Article 128 of Indian Constitution, the Chief Justice of India may at any time, with the previous consent of the President, request any person to sit and act as a Judge of the Supreme Court with the following qualifications:

- Who has held the office of a Judge of the Supreme Court. **Hence, statement 1 is correct.**
- Being a Court of Record, the High Court can review its own judgments under Article 226 of the Constitution of India. Similarly, under Article 137, the Supreme Court shall have the power to

review any judgment pronounced or order made by it. **Hence, statement 2 is correct.**

- **Therefore, option (c) is the correct answer.**

69. With reference to India, consider the following statements:

1. There is only one citizenship and one domicile.
2. A citizen by birth only can become the Head of State.
3. A foreigner once granted citizenship cannot be deprived of it under any circumstances.

Which of the statements given above is/are correct?

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

Ans: (a)

Explanation:

- The term 'Domicile' means a permanent home. A person cannot have more than one domicile. According to the Article 9 of Indian Constitution, if any person voluntarily acquired the citizenship of a foreign State will no longer be a citizen of India. So In India, there is single citizenship and one domicile. **Hence, statement 1 is correct.**
- Article 58 signifies nowhere that citizenship should be by birth or naturalization. Similarly, to become a Prime Minister (Head of Government) one has to be: a citizen of India (irrespective of by birth or naturalization) and a member of either Rajya Sabha or Lok Sabha. **Hence, statement 2 is not correct.**
- The Provisions related to the termination of Citizenship are also mentioned in the Indian Citizenship Act, 1955. Under Section (10) of this Act, the Central Government of India may terminate the citizenship of an Indian citizen if;
 - The citizen has disrespected the Constitution.
 - Has obtained citizenship by fraud.
 - The citizen has unlawfully traded or communicated with the enemy during a war.
 - Within 5 years of registration or naturalisation, a citizen has been sentenced to 2 years of imprisonment in any country.
 - The citizen has been living outside India for 7 years continuously except for purposes other than educational or in service of a government or international organization of which India is a member or he has not registered annually at an Indian consulate expressing his intention to retain his citizenship. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

70. Which one of the following factors constitutes the best safeguard of liberty in a liberal democracy?

- (a) A committed judiciary
- (b) Centralization of powers
- (c) Elected government
- (d) Separation of powers

Ans: (d)

Explanation:

- Liberal democracy is a representative form of government that operates under the following principles:
 - Elections between multiple distinct political parties,
 - Separation of powers into different branches of government,
 - Rule of law protected by an independent judiciary, and
 - Equal protection of human rights, civil rights, civil liberties and political freedoms for all people.
 - The Separation of powers between the branches of government constitute an important safeguard of liberty in a liberal democracy.
 - **Therefore, option (d) is the correct answer.**

71. The vegetation of savannah consists of grassland with scattered small trees, but extensive areas have no trees. The forest development in such areas is generally kept in check by one or more or a combination of some conditions. Which of the following are such conditions.

1. Burrowing animals and termites
2. Fire
3. Grazing herbivores
4. Seasonal rainfall
5. Soil properties

Select the correct answer using the code given below.

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

Ans: (c)

Explanation:

- The forest development in such areas is kept in check due to certain conditions including:
 - **Fire:** Uncontrolled burning of grassland leads to wildfires. **Hence, 2 is correct.**
 - **Grazing Herbivores:** Overgrazing by animals leads to desertification and removal of vegetation cover. **Hence, 3 is correct.**
 - **Seasonal Rainfall:** Savanna regions have two distinct seasons - a wet season and a dry season. There is very little rain in the dry season. In the wet season vegetation grows, including lush green grasses and wooded areas. **Hence, 4 is correct.**
- **Therefore, option (c) is the correct answer.**

72. With reference to the water on the planet Earth, consider the following statements:

1. The amount of water in the rivers and lakes is more than the amount of groundwater.
2. The amount of water in polar ice caps and glaciers is more than the amount of groundwater.

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:

- There is more freshwater stored in the ground than rivers, lakes, ponds on the surface. Some of the water flowing in rivers also comes from seepage of groundwater into river beds. Water from precipitation continually seeps into the ground to recharge aquifers. **Hence, statement 1 is not correct.**
- Of total freshwater, over 68 percent is locked up in ice and glaciers mainly in the polar regions and Greenland. Another 30 percent of freshwater is in the ground. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

73. Consider the following statements:

1. Moringa (drumstick tree) is a leguminous evergreen tree.
2. Tamarind tree is endemic to South Asia.
3. In India, most of the tamarind is collected as minor forest produce.
4. India exports tamarind and seeds of moringa.
5. Seeds of moringa and tamarind can be used in the production of biofuels.

Which of the statements given above are correct?

(a) 1, 2, 4 and 5

(b) 3, 4, and 5

(c) 1, 3 and 4

(d) 1, 2, 3 and 5

Ans: (b)

Explanation:

- Moringa (*Moringa oleifera*), also known as drumstick tree, belongs to the family Moringaceae and is a handsome softwood tree, native to India, occurring wild in the sub-Himalayan regions of Northern India and now grown world wide in the tropics and sub-tropics. The pod of moringa is a very popular vegetable in South Indian cuisine and valued for their distinctly inviting flavour. **Hence, statement 1 is not correct.**
- Tamarind (*Tamarindus indica*) is a hardwood tree. It is native to Africa but also grows in India, Pakistan, and many other tropical regions. **Hence, statement 2 is not correct.**
- Moreover, in India most of the Tamarind is collected as Minor Forest Produce with Minimum Support Price. Tamarind is also actively exported from India. **Hence, statements 3 and 4 are correct.**
- Biodiesel is derived from the tamarind seed through the transesterification process as potential alternative feedstock for the diesel engine. **Hence, statement 5 is correct.**
- **Therefore, option (b) is the correct answer.**

74. The black cotton soil of India has been formed due to the weathering of

(a) brown forest soil

(b) fissure volcanic rock

(c) granite and schist

(d) shale and limestone

Ans: (b)

Explanation:

- Black soil, also known as regur soil or black cotton soil, is ideal for growing cotton. Black soil is typical of the Deccan trap (Basalt) region spread over northwest Deccan plateau and is made up of lava flows (fissure volcanic rock).
- **Therefore, option (b) is the correct answer.**

75. With reference to recent developments regarding 'Recombinant Vector Vaccines', consider the following statements:

1. Genetic engineering is applied in the development of these vaccines.
2. Bacteria and viruses are used as vectors.

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:

- Recombinant vector vaccines are made through genetic engineering. The gene that creates the protein for a bacteria or virus is isolated and placed inside another cell's genes. **Hence, statement 1 is correct.**
- Numerous viral vectors are available for vaccine development, such as vaccinia, modified vaccinia virus Ankara, adenovirus, adeno-associated virus, retrovirus/lentivirus, alphavirus, herpes virus, etc. **Hence, statement 2 is correct.**
- **Therefore, option (c) is the correct answer.**

76. In the context of hereditary diseases, consider the following statements:

1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of the egg.
2. A child inherits mitochondrial diseases entirely from mother and not from father.

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:

- The technological development allows nearly complete replacement of the cytoplasm of egg/embryo, eliminating the transmission of undesired defective mitochondria for patients with

inherited mitochondrial diseases, which is called mitochondrial replacement therapy (MRT). These processes use assisted reproductive technology, including in vitro fertilization. The father's sperm can fertilize the patient egg before the maternal genetic material is removed or after the maternal genetic material has been transferred to the donor egg. **Hence, statement 1 is correct.**

- Mitochondrial diseases are chronic (long-term), genetic, often inherited disorders that occur when mitochondria fail to produce enough energy for the body to function properly. As the mitochondrial genome is inherited exclusively from the mother, the child inherits mitochondrial diseases entirely from mother and not from father. **Hence, statement 2 is correct.**
- **Therefore, option (c) is the correct answer.**

77. Bollgard I and Bollgard II technologies are mentioned in the context of

- (a) clonal propagation of crop plants
- (b) developing genetically modified crop plants
- (c) production of plant growth substances
- (d) production of biofertilizers

Ans: (b)

Explanation:

- Bollgard I - Bt cotton (single-gene technology) is first biotech crop technology approved for commercialization in India in 2002, followed by Bollgard II - double-gene technology in mid-2006, by the Genetic Engineering Approval Committee, the Indian regulatory body for biotech crops.
- **Therefore, option (b) is the correct answer.**

78. In a pressure cooker, the temperature at which the food is cooked depends mainly upon which of the following?

1. Area of the hole in the lid
2. Temperature of the flame
3. Weight of the lid

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:

- The Charles law states that pressure (P), volume (V) and temperature (T) is equal to a constant K i.e. $PVT = k$.
- From the above-given equation, we can infer that temperature is dependent on pressure and volume. Pressure in the cooker depends on the area of the hole in the lid, the bigger the hole in the lid, the lesser will be the pressure inside the cooker and hence temperature will be affected. **Hence, 1 is correct.**
- The more is the temperature of the flame the more will be the temperature inside the cooker. **Hence, 2 is correct.**
- The weight of the lid has a direct connection in relation to maintaining enough pressure in the lid,

heat release and heat-storing inside the cooker and hence can be linked with the temperature inside the cooker. **Hence, 3 is correct.**

- **Therefore, option (d) is the correct answer.**

79. Consider the following:

1. Bacteria
2. Fungi
3. Virus

Which of the above can be cultured in an artificial/synthetic medium?

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

Ans: (a)

Explanation:

- Bacteria and Fungi can be cultured in an artificial/synthetic medium. Whereas viruses require a living host cell for replication. Infected host cells (eukaryotic or prokaryotic) can be cultured and grown, and then the growth medium can be harvested as a source of the virus. **Hence, 1 and 2 are correct and 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

80. Consider the following statements:

1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.

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:

- Adenovirus is a type of virus that has no envelope whereas retroviruses are characterized as enveloped viruses. Adenoviruses have double-stranded linear DNA and are associated with two major core proteins. A retrovirus is a virus that uses RNA as its genetic material. When a retrovirus infects a cell, it makes a DNA copy of its genome that is inserted into the DNA of the host cell. **Hence, statement 1 is not correct.**
- Adenoviruses are common viruses that cause a range of illnesses. They can cause cold-like symptoms, fever, sore throat, bronchitis, pneumonia, diarrhoea, and pink eye (conjunctivitis). Whereas, retroviruses can cause several human diseases such as some forms of cancer and AIDS. **Hence, statement 2 is correct.**

- **Therefore, option (b) is the correct answer.**

81. How is permaculture farming different from conventional chemical farming?

1. Permaculture farming discourages monocultural practices but in conventional chemical farming, monoculture practices are predominant.
2. Conventional chemical farming can cause an increase in soil salinity but the occurrence of such phenomenon is not observed in permaculture farming.
3. Conventional chemical farming is easily possible in semi-arid regions but permaculture farming is not so easily possible in such regions.
4. Practice of mulching is very important in permaculture farming but not necessarily so in conventional chemical farming.

Select the correct answer using the code given below.

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

Ans: (b)

Explanation:

- Permaculture is a totally integrated design system that is modelled on nature. Permaculture farming promotes multi cropping and integrated farming systems, whereas chemical farming is more suitable for monoculture cropping due to use of crop specific inputs like irrigation, chemical fertiliser and harvesting methods. **Hence, 1 is correct.**
- Chemical farming makes the soil less fertile over time due to use of chemical fertilizers, which can lead to serious problems like soil salinisation. But such problems do not occur in permaculture farming as it relies on organic fertilizers. **Hence, 2 is correct.**
- The concept of permaculture involves well-designed systems that do not produce waste and tries to copy well-designed systems. Permaculture tries to take into account local conditions like arid climate, which helps in developing a suitable system to ensure sustainable production. In case of chemical farming, intense use of chemical fertilizers and irrigation make the soil less fertile over time, thus restricting its practice in semi-arid regions. Thus, conventional chemical farming is not suitable for semi-arid regions. **Hence, 3 is not correct.**
- Mulching is a long-established horticultural practice that involves spreading a layer of material on the ground around plants to protect their roots from heat, cold, or drought or to keep the fruit clean. The material used for covering is called 'mulch'. Mulching is usually practiced while cultivating commercially important crops, fruit trees, vegetables, flowers, nursery saplings, etc. Mulching is an important component of permaculture farming for promoting maximum efficiency. Whereas, conventional chemical farming does not consider it as essential. **Hence, 4 is correct.**
- **Therefore, option (b) is the correct answer.**

82. With reference to 'palm oil', consider the following statements:

1. The palm oil tree is native to Southeast Asia.
2. The palm oil is a raw material for some industries producing lipstick and perfumes.
3. The palm oil can be used to produce biodiesel.

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: (b)

Explanation:

- Palm oil is edible vegetable oil that comes from the fruit of oil palm trees. Oil palm trees are native to Africa but were brought to South-East Asia over 100 years ago as an ornamental tree crop. The tree grows best in tropical climates with abundant water. **Hence, statement 1 is not correct.**
- Palm oil is used in cosmetics products like lipstick and perfumes. It is one of the most cost-effective cosmetics ingredients. Due to its high fatty acid content, it can be used to make surfactants, emulsifiers and emollients. **Hence, statement 2 is correct.**
- Palm oil can be used to produce biodiesel, which can be used in compression ignition engines, i.e., diesel engines without any modifications. **Hence, statement 3 is correct.**
- **Therefore, option (b) is the correct answer.**

83. With reference to the Indus river system, of the following four rivers, three of them pour into one of them which joins the Indus directly. Among the following, which one is such a river that joins the Indus direct?

(a) Chenab

(b) Jhelum

(c) Ravi

(d) Sutlej

Ans: (d)

Explanation:

- The Jhelum joins the Chenab near Jhang in Pakistan. The Ravi joins the Chenab near Sarai Sidhu.
- Satluj is joined by the Chenab in Pakistan. Thus, Satluj receives the collective drainage of the Ravi, Chenab and Jhelum rivers. It joins the Indus a few kilometres above Mithankot.
- **Therefore, option (d) is the correct answer.**

84. With reference to India, Didwana, Kuchaman, Sargol and Khatu are the names of

(a) glaciers

(b) mangrove areas

(c) Ramsar sites

(d) saline lakes

Ans: (d)

Explanation:

- A salt lake or saline lake is a landlocked body of water that has a concentration of salts and other dissolved minerals significantly higher than most lakes. Didwana, Kuchaman, Sargol and Khatu are saline lakes of Rajasthan.
- **Therefore, option (d) is the correct answer.**

85. Consider the following rivers:

1. Brahmani
2. Nagavali
3. Subarnarekha
4. Vamsadhara

Which of the above rise from the Eastern Ghats?

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

Ans: (b)

Explanation:

- The Brahmani river, also known as South Koel, rises near Nagri village in Ranchi district of Jharkhand. **Hence, 1 is not correct.**
- The Nagavali river originates in the Eastern Ghats near Lakhbahal, located in the Kalahandi district of Odisha. Langulya is another name for Nagavali River. **Hence, 2 is correct.**
- Subarnarekha river originates in the Chota Nagpur Plateau near Nagri village in Ranchi district of Jharkhand. **Hence, 3 is not correct.**
- Vamsadhara river rises in the Eastern Ghats of Orissa and enters Srikakulam district in Bhamini Mandal and finally falls into the Bay of Bengal near Kalingapatnam. **Hence, 4 is correct.**
- **Therefore, option (b) is the correct answer.**

86. Consider the following statements:

1. The Global Ocean Commission grants licences for seabed exploration and mining in international waters.
2. India has received licences for seabed mineral exploration in international waters.
3. 'Rare earth minerals' are present on the seafloor in international waters.

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: (b)

Explanation:

- The Global Ocean Commission was an international initiative between 2013 and 2016 to raise awareness, promote action to address the degradation of the ocean and help restore it to full health and productivity.
- International Seabed Authority (ISA) is a UN body set up to regulate the exploration and exploitation of marine non-living resources of oceans in international waters. It considers applications for exploration and exploitation of deep-sea resources from contractors, assesses environmental impact assessments and supervises mining activities. **Hence, statement 1 is not correct.**
- India was the first country to receive the status of a 'Pioneer Investor' in 1987 and was given an

area of about 1.5 lakh sq. km in the Central Indian Ocean Basin (CIOB) for nodule exploration. India's exclusive rights to explore polymetallic nodules from seabed in the Central Indian Ocean Basin was extended in 2017 for five years. **Hence, statement 2 is correct.**

- Rare earth minerals are present on the seafloor in international waters. The sea floor of various oceans boasts one of the world's largest untapped collections of rare-earth minerals. **Hence, statement 3 is correct.**
- **Therefore, option (b) is the correct answer.**

87. Among the following, which one is the least water-efficient crop?

- (a) Sugarcane
- (b) Sunflower
- (c) Pearl millet
- (d) Red gram

Ans: (a)

Explanation:

- Sugarcane is an important cash crop cultivated in India. It is the least water efficient crop. The water requirement for sugarcane is 1800-2200 mm/season.
- **Therefore, option (a) is the correct answer.**

88. Consider the following statements:

1. In the tropical zone, the western sections of the oceans are warmer than the eastern sections owing to the influence of trade winds.
2. In the temperate zone, westerlies make the eastern sections of oceans warmer than the western sections.

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:

- Warmer water is transported westward in the ocean by the Northeast trade winds in the Northern hemisphere of the tropical zone. So, in tropical zones, the western section of ocean is warmer than eastern sections due to trade winds. **Hence, statement 1 is correct.**
- The Westerlies play an important role in carrying the warm, equatorial waters and winds to the western coasts of continents (that is eastern section of the Oceans in the temperate zone). Thus, in temperate zones, westerlies make the eastern section of the ocean warmer than the western sections. **Hence, statement 2 is correct.**
- **Therefore, option (c) is the correct answer.**

89. In the context of India's preparation for Climate -Smart Agriculture, consider the following statements:

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CAAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

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:

- The Climate-Smart Village project in India is a CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS). The CCAFS started piloting the Climate-Smart Village in 2012 in Africa (Burkina Faso, Ghana, Mali, Niger, Senegal, Kenya, Ethiopia, Tanzania, and Uganda) and South Asia (Bangladesh, India, and Nepal). **Hence, statement 1 is correct.**
- Climate Change, Agriculture and Food Security (CCFAS) is carried out under CGIAR (formerly the Consultative Group for International Agricultural Research). The Headquarters of CGIAR is in Montpellier, France. CGIAR is a global partnership that unites international organizations engaged in research about food security. **Hence, statement 2 is correct.**
- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a CGIAR Research Center. ICRISAT is a non-profit, non-political public international research organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. **Hence, statement 3 is correct.**
- **Therefore, option (d) is the correct answer.**

90. "Leaf litter decomposes faster than in any other biome and as a result the soil surface is often almost bare. Apart from trees, the vegetation is largely composed of plant forms that reach up into the canopy vicariously, by climbing the trees or growing as epiphytes, rooted on the upper branches of trees." This is the most likely description of

- (a) coniferous forest
- (b) dry deciduous forest
- (c) mangrove forest
- (d) tropical rainforest

Ans: (d)

Explanation:

- In tropical rainforest biomes, hot, moist atmosphere and all the dead plant material create the perfect conditions in which bacteria and other microorganisms can thrive. This leads to rapid decomposition of leaf litter material.
- **Therefore, option (d) is the correct answer.**

91. Water can dissolve more substances than any other liquid because

- (a) it is dipolar in nature
- (b) it is a good conductor of heat
- (c) it has a high value of specific heat
- (d) it has an oxide of hydrogen

Ans: (a)

Explanation:

- An important feature of the water molecule is its polar nature i.e., its polarity allows water to dissolve other polar substances very easily.
- **Therefore, option (a) is the correct answer.**

92. With reference to street lighting, how do sodium lamps differ from LED lamps?

1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.
2. As street lights, sodium lamps have a longer lifespan than LED lamps.
3. The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street lighting.

Select the correct answer using the code given below.

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

Ans: (c)

Explanation:

- LEDs emit light for 180 degrees. This is typically an advantage because the light is usually desired over a target area (rather than all 360 degrees around the bulb). Whereas Sodium lamps emit light omnidirectionally. This means they emit light for 360 degrees, requiring fixture housings or reflectors to direct a large portion of the emissions to the desired target area. **Hence, 1 is correct.**
- LEDs have an extremely long lifespan relative to every other lighting technology. New LEDs can last 50,000 to 100,000 hours or more. **Hence, 2 is not correct.**
- Sodium lamps have the worst colour rendering of any bulb. They produce a dark yellow glow which is generally a very low-quality light. LEDs are available in a wide range of colour temperatures that generally span from 2200K-6000K (ranging from “warm” yellow to light or “cool” blue). **Hence, 3 is correct.**
- **Therefore, option (c) is the correct answer.**

93. The term ‘ACE2’ is talked about in the context of

- (a) genes introduced in the genetically modified plants
- (b) development of India’s own satellite navigation system
- (c) radio collars for wildlife tracking
- (d) spread of viral diseases

Ans: (d)

Explanation:

- 'ACE2' is a proteinaceous enzyme on the surface of many cell types that stands for Angiotensin Convertase Enzyme-2. It is an enzyme that generates small proteins by cutting up the larger protein angiotensinogen that then goes on to regulate functions in the cell.
- Using the spike-like protein on its surface, the SARS-CoV-2 virus binds to ACE2 like a key being inserted into a lock – prior to entry and infection of cells. Hence, ACE2 acts as a cellular doorway or a receptor for the virus that causes COVID-19.
- **Therefore, option (d) is the correct answer.**

94. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics?

- (a) Low-density polyethylene
- (b) Polycarbonate
- (c) Polyethylene terephthalate
- (d) Polyvinyl chloride

Ans: (b)

Explanation:

- Bisphenol A (BPA) is a chemical produced in large quantities, primarily for the use in the production of polycarbonate plastics and epoxy resins.
- **Therefore, option (b) is the correct answer.**

95. 'Triclosan', considered harmful when exposed to high levels for a long time, is most likely present in which of the following?

- (a) Food preservatives
- (b) Fruit-ripening substances
- (c) Reused plastic containers
- (d) Toiletries

Ans: (d)

Explanation:

- Triclosan is an ingredient added to many consumer products intended to reduce or prevent bacterial contamination. It is added to toiletries like antibacterial soaps and body washes, toothpaste, and some cosmetics.
- **Therefore, option (d) is the correct answer.**

96. Which one of the following is a reason why astronomical distances are measured in light-years?

- (a) Distances among stellar bodies do not change.
- (b) Gravity of stellar bodies does not change.
- (c) Light always travels in a straight line.

(d) Speed of light is always the same.

Ans: (d)

Explanation:

- A light-year is the distance a beam of light travels in a single Earth year, or 6 trillion miles (9.7 trillion kilometers).
- The reason for using light years to measure distance in space is because throughout the universe, light travels at exactly the same speed.
- **Therefore, option (d) is the correct answer.**

97. We adopted parliamentary democracy based on the British model, but how does our model differ from that model?

1. As regards legislation, the British Parliament is supreme or sovereign but in India, the power of the Parliament to legislate is limited.
2. In India, matters related to the constitutionality of Amendment of an Act of the Parliament are referred to the Constitution Bench by the Supreme Court.

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:

- In India there is no Parliament sovereignty rather there is constitutional sovereignty and the authority and jurisdiction of Parliament are limited. The Judiciary can declare any law or ordinance passed by the legislature void, if any of its provisions violate one or more of the constitutional provisions. **Hence, 1 is correct.**
- The case involves a substantial question of law pertaining to the interpretation of the Constitution under Article 145(3) of the Constitution, which mandates that such matters be heard by a bench of not less than five judges]. **Hence, 2 is correct.**
- **Therefore, option (c) is the correct answer.**

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

1. N. Gopalaswamy Iyengar Committee suggested that a minister and a secretary be designated solely for pursuing the subject of administrative reform and promoting it.
2. In 1970, the Department of Personnel was constituted on the recommendation of the Administrative Reforms Commission, 1966, and this was placed under the Prime Minister's charge.

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:

- Gopaldaswamy Iyengar Committee submitted a 'Report on Reorganisation of the Machinery of Government' in 1950. This report has not mentioned setting up a minister and a secretary for administrative reforms. **Hence, statement 1 is not correct.**
- Constituted in 1966, the first Administrative Reforms Commission (ARC) presented a report on Personnel Administration in 1969. The ARC suggested setting up a separate Department of Personnel, to be directly under the control of the Prime Minister. The DoPT was established in 1970 following this report and works under the Ministry Of Personnel, Public Grievances And Pensions. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

99. 'Right to Privacy' is protected under which Article of the Constitution of India?

- (a) Article 15
- (b) Article 19
- (c) Article 21
- (d) Article 29

Ans: (c)

Explanation:

- Right to Privacy is protected as an intrinsic part of the Right to Life and Personal Liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Indian Constitution.
- **Therefore, option (c) is the correct answer.**

100. Consider the following statements:

1. In India, there is no law restricting the candidates from contesting in one Lok Sabha election from three constituencies.
2. In the 1991 Lok Sabha Election, Shri Devi Lal contested from three Lok Sabha constituencies.
3. As per the existing rules, if a candidate contests in one Lok Sabha election from many constituencies, his/her party should bear the cost of bye-elections to the constituencies vacated by him/her winning in all the constituencies.

Which of the statements given above is/are correct?

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

Ans: (b)

Explanation:

- In 1996, the Representation of the People Act, 1951 was amended to restrict from 'three' to 'two' the number of seats one candidate could contest in Lok Sabha and Assembly elections. **Hence, statement 1 is not correct.**
- In 1991, Shri Devi Lal contested three Lok Sabha seats, Sikar, Rohtak and Ferozepur seats. **Hence,**

statement 2 is correct.

- Whenever a candidate contests from more than one seat and wins more than one, the candidate has to retain only one, forcing by polls in the rest. It results in an unavoidable financial burden on the public exchequer, government manpower and other resources for holding by-election against the resultant vacancy. **Hence, statement 3 is not correct.**
- **Therefore, option (b) is the correct answer.**

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