

Geography PYQs - Year-wise Explanations

Year: 2023

1. Consider the following statements:

Statement-I:

India, despite having uranium deposits, depends on coal for most of its electricity production.

Statement-II:

Uranium, enriched to the extent of at least 60%, is required for the production of electricity.

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

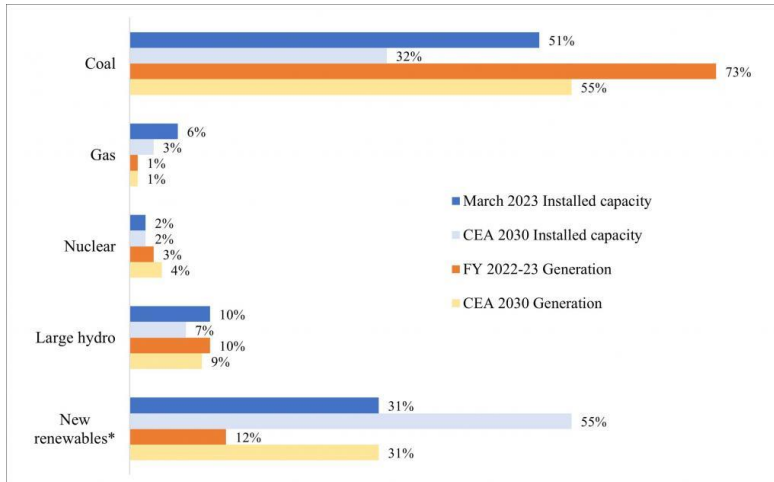
- (a) Both Statement-I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.
- (b) Both Statement-I and Statement-II are correct, but Statement-II is not the correct explanation for Statement-I.
- (c) Statement-I is correct, but Statement-II is incorrect.
- (d) Statement-I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

Correct Answer: c) Statement-I is correct, but Statement-II is incorrect.

Explanation:

India has uranium deposits, but they are not of the highest grade, which makes the country more dependent on coal for electricity production, accounting for more than 50% of its energy mix. Coal is abundant, and the infrastructure to support coal-based power generation is already well-established.

As for nuclear power, uranium used in reactors for electricity generation typically requires enrichment levels between 3-5%, not 60%. Enrichment levels of 60% or higher are generally used for military purposes, such as weapons-grade uranium. Civilian nuclear reactors operate at much lower enrichment levels, which are sufficient for sustained nuclear fission reactions.



2. Consider the following statements:

1. Jhelum River passes through Wular Lake.
2. Krishna River directly feeds Kolleru Lake.
3. Meandering of the Gandak River formed Kanwar Lake.

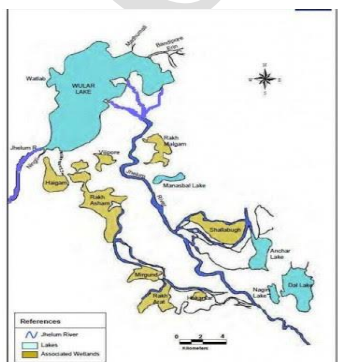
How many of the statements given above are correct?

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

Correct Answer: b) Only two.

Explanation:

Statement 1 is correct: The Jhelum River passes through Wular Lake, which is one of the largest freshwater lakes in Asia, located in the Union Territory of Jammu and Kashmir. The lake plays a crucial role in regulating the flow of the Jhelum River and acts as a flood basin.



Statement 2 is incorrect: The Krishna River does not directly feed Kolleru Lake. Kolleru Lake, located between the Krishna and Godavari deltas in Andhra Pradesh, is primarily fed by the seasonal **Budameru** and **Tammileru** rivers. The Krishna River flows nearby but does not directly contribute to the lake.

Statement 3 is correct: The Gandak River's meandering and floodplain dynamics have contributed to the formation of Kanwar Lake in Bihar. This lake, one of the largest freshwater oxbow lakes in India, was formed as part of the Gandak River's natural course alterations over time.

3. Consider the following pairs:

Port	Well Known for
1. Kamarajar	First port in India registered as a company
2. Mundra	Largest privately owned port in India
3. Visakhapatnam	Largest container port in India

How many of the above pairs are correctly matched?

- (a) Only one pair
- (b) Only two pairs
- (c) All three pairs
- (d) None of the pairs

Correct Answer: b) Only two pairs.

Explanation:

Kamarajar Port (formerly Ennore Port) is the first port in India to be registered as a company, and Mundra Port is the largest privately owned port in India. However, Visakhapatnam is not the largest container port in India; Jawaharlal Nehru Port Trust (JNPT) holds that distinction. Therefore, only two pairs are correct.



4. Ilmenite and rutile, abundantly available in certain coastal tracts of India, are rich sources of which one of the following?

- (a) Aluminium
- (b) Copper
- (c) Iron
- (d) Titanium

Correct Answer: d) Titanium.

Explanation:

Ilmenite and rutile are the primary sources of titanium, a metal known for its strength, light weight, and resistance to corrosion. Titanium is widely used in industries like aerospace, military, and medical devices. In India, ilmenite and rutile are abundantly found in the coastal sands of states like Tamil Nadu, Kerala, and Odisha.

5. Consider the following trees:

- 1) Jackfruit (*Artocarpus heterophyllus*)
- 2) Mahua (*Madhuca indica*)
- 3) Teak (*Tectona grandis*)

How many of the above are deciduous trees?

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

Correct Answer: b) Only two

Explanation:

Both Jackfruit (*Artocarpus heterophyllus*) and Teak (*Tectona grandis*) are deciduous trees, meaning they shed their leaves during a specific season each year to conserve water. Mahua (*Madhuca indica*), on the other hand, is an evergreen tree that retains its leaves throughout the year. Deciduous trees are typically found in regions with distinct wet and dry seasons, where shedding leaves helps them survive dry conditions.

6. Consider the following statements:

1. India has more arable area than China.
2. The proportion of irrigated area is more in India as compared to China.
3. The average productivity per hectare in Indian agriculture is higher than that in China.

How many of the above statements are correct?

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

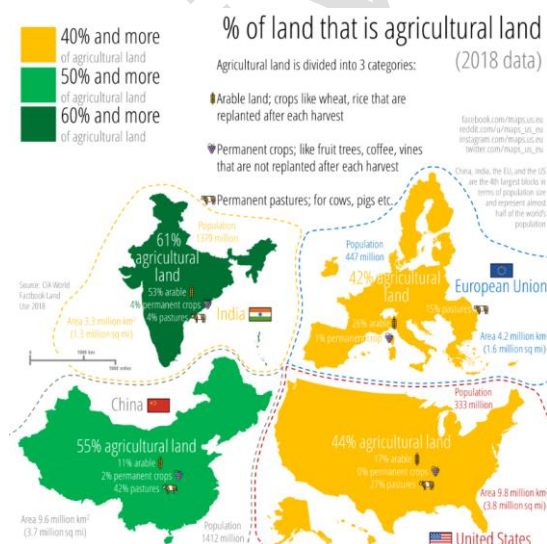
Correct Answer: (b)

Explanation:

Statement 1 is correct: India has a larger arable area compared to China, though China has a larger total land area.

Statement 2 is correct: India has a higher proportion of irrigated land compared to China.

Statement 3 is incorrect: China's agricultural productivity per hectare is generally higher than that of India, due to better mechanization and use of technology. Therefore, two statements are correct.



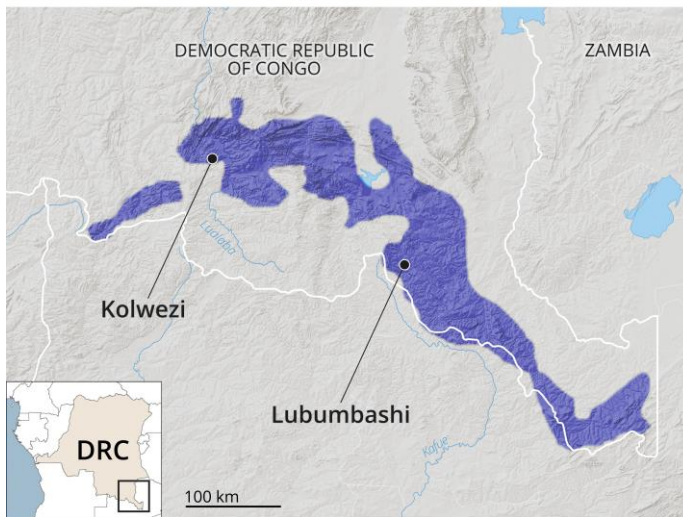
7. About three-fourths of the world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by which of the following?
- (a) Argentina
 - (b) Botswana
 - (c) The Democratic Republic of the Congo
 - (d) Kazakhstan

Correct Answer: c) The Democratic Republic of the Congo.

Explanation:

The Democratic Republic of the Congo (DRC) is the world's largest producer of cobalt, accounting for approximately 70-75% of global production. Cobalt is a critical component in lithium-ion batteries, which are used in electric vehicles, smartphones, and other electronics.

Copper-Cobalt Belt



Source: RAID

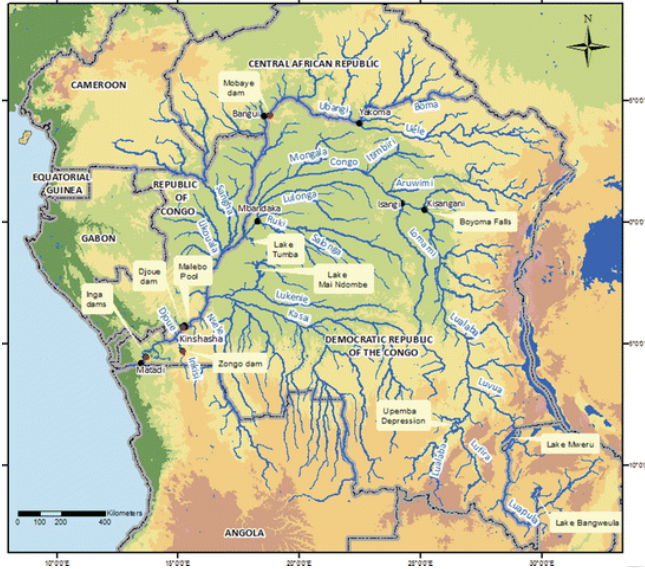
MONGABAY

8. Which one of the following is a part of the Congo Basin?
- (a) Cameroon
 - (b) Nigeria
 - (c) South Sudan
 - (d) Uganda

Correct Answer: (a)

Explanation:

Cameroon is part of the Congo Basin, which is a vast rainforest region in Central Africa. The Congo Basin also includes parts of several other countries, such as the Democratic Republic of the Congo, Republic of the Congo, and Gabon. Nigeria, South Sudan, and Uganda are not part of the Congo Basin.



9. Consider the following statements:

1. Amarkantak Hills are at the confluence of the Vindhya and the Sahyadri Ranges.
 2. Biligirirangan Hills constitute the easternmost part of the Satpura Range.
 3. Seshachalam Hills constitute the southernmost part of the Western Ghats.
- How many of the statements given above are correct?

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

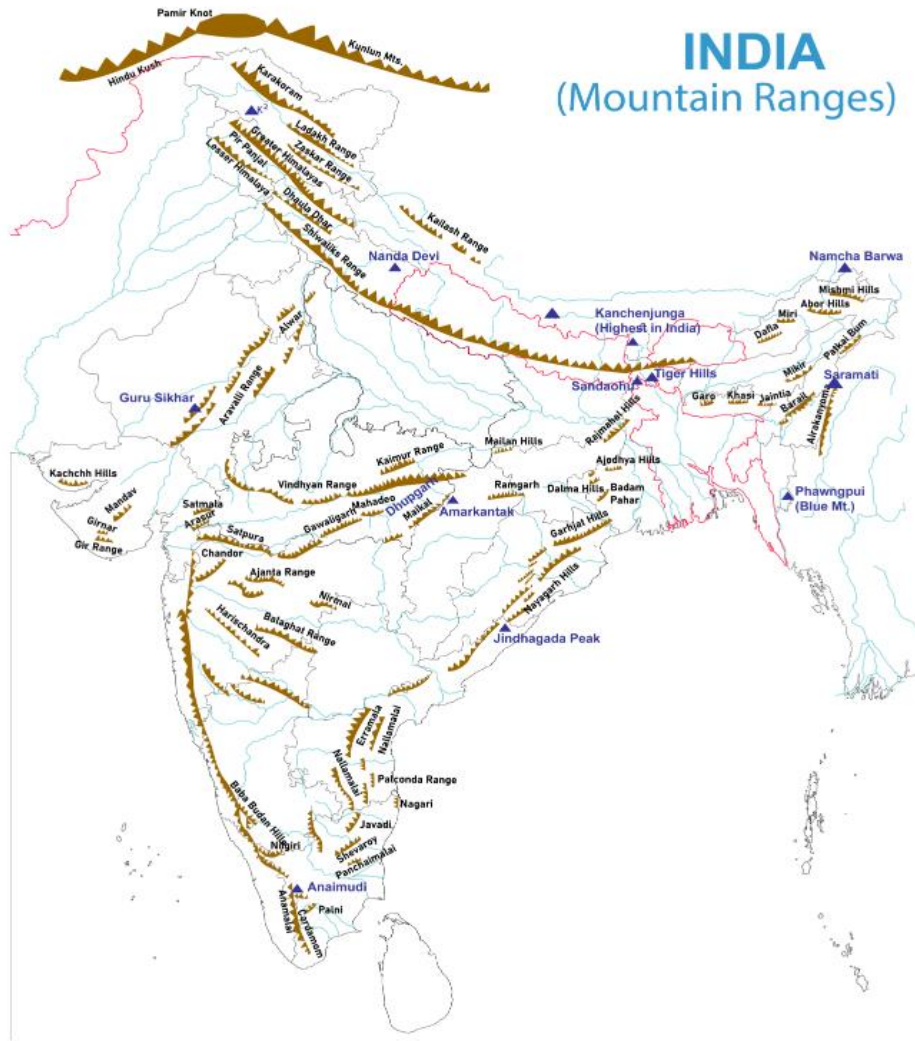
Correct Answer: (d)

Explanation:

Statement 1 is incorrect: The Amarkantak Hills are located at the meeting point of the Vindhya and Satpura Ranges, not the Sahyadri.

Statement 2 is incorrect: The Biligirirangan Hills are part of the Eastern Ghats, not the Satpura Range.

Statement 3 is incorrect: The Seshachalam Hills are part of the Eastern Ghats, not the Western Ghats. Therefore, none of the statements are correct.



10. With reference to India's projects on connectivity, consider the following statements:

1. East-West Corridor under Golden Quadrilateral Project connects Dibrugarh and Surat.
2. The Trilateral Highway connects Moreh in Manipur and Chiang Mai in Thailand via Myanmar.
3. Bangladesh-China-India-Myanmar Economic Corridor connects Varanasi in Uttar Pradesh with Kunming in China.

How many of the above statements are correct?

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

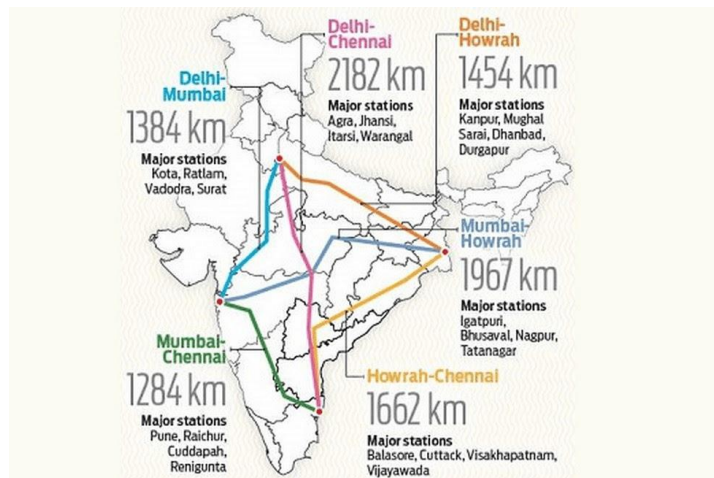
Correct Answer: (d)

Explanation:

Statement 1 is incorrect: The East-West Corridor under the Golden Quadrilateral Project connects Silchar in Assam to Porbandar in Gujarat, not Dibrugarh and Surat.

Statement 2 is incorrect: The Trilateral Highway connects Moreh in Manipur with Mae Sot in Thailand, not Chiang Mai.

Statement 3 is incorrect: The Bangladesh-China-India-Myanmar (BCIM) Economic Corridor connects Kolkata with Kunming, not Varanasi. Therefore, none of the statements are correct.



11. Which one of the following best describes the concept of 'Small Farmer Large Field'?

- (a) Resettlement of a large number of people, uprooted from their countries due to war, by giving them a large cultivable land which they cultivate collectively and share the produce
- (b) Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- (c) Many marginal farmers in an area together make a contract with a corporate body and surrender their land to the corporate body for a fixed term for which the corporate body makes a payment of agreed amount to the farmers
- (d) A company extends loans, technical knowledge and material inputs to a number of small farmers in an area so that they produce the agricultural commodity required by the company for its manufacturing process and commercial production

Correct Answer: (b)

Explanation:

The concept of 'Small Farmer Large Field' refers to a cooperative approach where many marginal farmers in an area organize themselves into groups. They harmonize and synchronize agricultural activities to increase efficiency, reduce costs, and improve productivity. This allows small farmers to benefit from the advantages typically available to large landholders, such as economies of scale and better access to technology and markets.

12. Consider the following statements:

1. The Government of India provides Minimum Support Price for niger (Guizotia abyssinica) seeds.
 2. Niger is cultivated as a Kharif crop.
 3. Some tribal people in India use niger seed oil for cooking.
- How many of the above statements are correct?

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

Correct Answer: (c)

Explanation:

Statement 1 is correct: The Government of India provides Minimum Support Price (MSP) for niger seeds to ensure price support for farmers.

Statement 2 is correct: Niger is cultivated as a Kharif crop in certain regions of India, particularly in tribal areas.

Statement 3 is correct: Some tribal communities use niger seed oil for cooking due to its availability and nutritional value. Thus, all three statements are correct.

13. Consider the following pairs:

Area of conflict mentioned in News

Country where it is located

1. Donbas

Syria

2. Kachin

Ethiopia

3. Tigray

North Yemen

How many of the above pairs are correctly matched?

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

Correct Answer: (d)

Explanation:

Pair 1 is incorrect: Donbas is a conflict area in Ukraine, not Syria.

Pair 2 is incorrect: Kachin is a conflict area in Myanmar, not Ethiopia.

Pair 3 is incorrect: Tigray is a region in northern Ethiopia, not North Yemen. Therefore, none of the pairs are correctly matched.

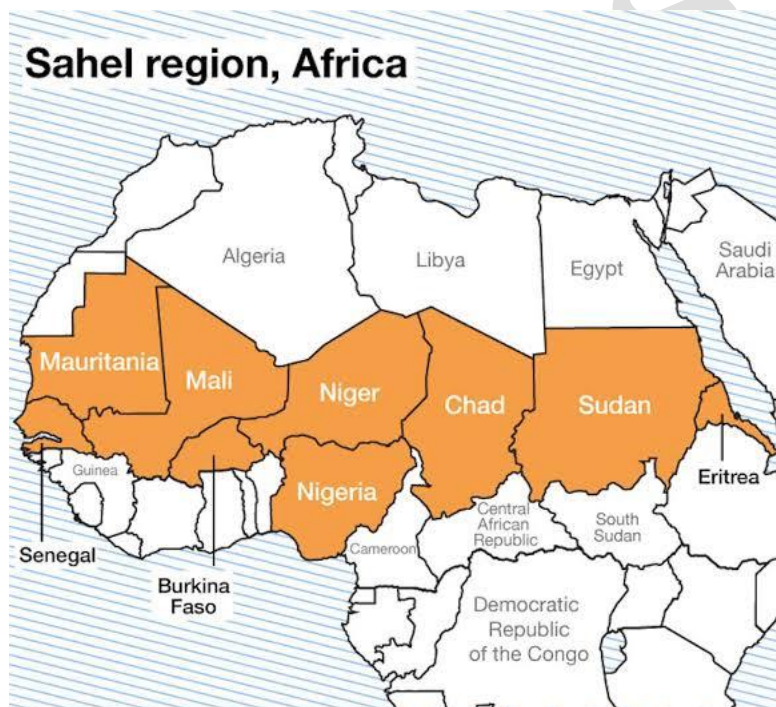
14. In the recent years, Chad, Guinea, Mali, and Sudan caught international attention for which one of the following reasons common to all of them?

- (a) Discovery of rich deposits of rare earth elements
- (b) Establishment of Chinese military bases
- (c) Southward expansion of the Sahara Desert
- (d) Successful coups

Correct Answer: (d)

Explanation:

In recent years, Chad, Guinea, Mali, and Sudan have all experienced military coups, which attracted international attention. These coups have led to political instability and transitions of power in these countries, often following dissatisfaction with the existing governments.



15. Consider the following statements:

Statement-I:

Switzerland is one of the leading exporters of gold in terms of value.

Statement-II:

Switzerland has the second largest gold reserves in the world.

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

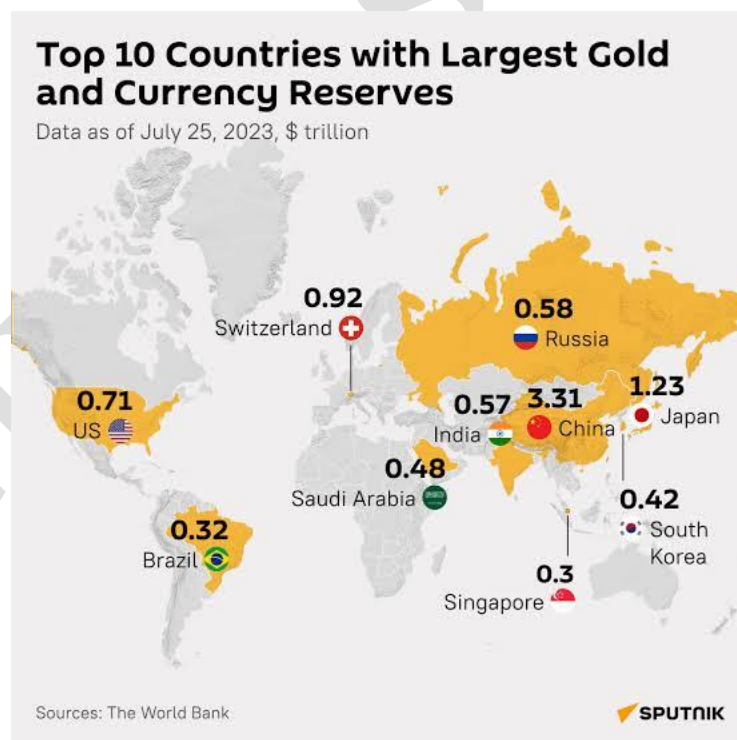
- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I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

Correct Answer: (c)

Explanation:

Statement-I is correct: Switzerland is a major exporter of gold, mainly because it acts as a refining hub for gold from around the world.

Statement-II is incorrect: Switzerland does not have the second-largest gold reserves; the United States holds the largest reserves, followed by Germany. Therefore, while Statement-I is correct, Statement-II is incorrect.



16. Consider the following countries:

1. Bulgaria
2. Czech Republic
3. Hungary
4. Latvia
5. Lithuania
6. Romania

How many of the above-mentioned countries share a land border with Ukraine?

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

Correct Answer: (a)

Explanation:

Among the listed countries, only Hungary and Romania share a land border with Ukraine. Therefore, only two of the countries (Hungary and Romania) border Ukraine.



17. With reference to the Earth's atmosphere, which one of the following statements is correct?

- (a) The total amount of insolation received at the equator is roughly about 10 times that received at the poles.
- (b) Infrared rays constitute roughly two-thirds of insolation.
- (c) Infrared waves are largely absorbed by water vapour that is concentrated in the lower atmosphere.

(d) Infrared waves are a part of the visible spectrum of electromagnetic waves of solar radiation.

Correct Answer: (c)

Explanation:

Infrared waves are absorbed by water vapor present in the lower atmosphere. Water vapor absorbs and re-emits infrared radiation, playing a key role in the Earth's energy balance and the greenhouse effect. The other statements are incorrect: infrared rays are not a part of visible light, and the difference in insolation between the equator and poles is not as high as tenfold.

18. Consider the following statements:

Statement-I:

The soil in tropical rain forests is rich in nutrients.

Statement-II:

The high temperature and moisture of tropical rain forests cause dead organic matter in the soil to decompose quickly.

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

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

Correct Answer: (d)

Explanation:

Statement-I is incorrect: The soil in tropical rain forests is generally poor in nutrients because the high rate of decomposition and leaching due to heavy rainfall depletes nutrients from the soil.

Statement-II is correct: The warm, moist environment of tropical rainforests accelerates the decomposition of organic matter, but most of the nutrients are quickly taken up by the dense vegetation, leaving the soil nutrient-poor.

19. Consider the following statements:

Statement-I:

The temperature contrast between continents and oceans is greater during summer than in winter.

Statement-II:

The specific heat of water is more than that of land surface.

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

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

Correct Answer: (b)

Explanation:

Both statements are correct. The specific heat of water is higher than that of land, meaning water heats and cools more slowly than land. This difference in heat absorption and retention causes a greater temperature contrast between land and ocean in summer than in winter. However, Statement-II does not directly explain the temperature contrast, making option (b) correct.

20. Consider the following statements:

1. In a seismograph, P waves are recorded earlier than S waves.
2. In P waves, the individual particles vibrate to and fro in the direction of wave propagation whereas in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.

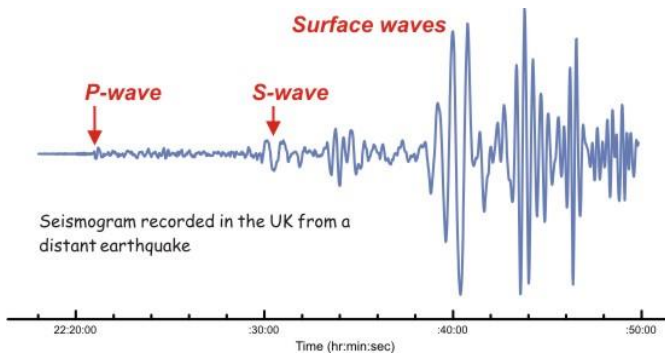
Which of the statements given above is/are correct?

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

Correct Answer: (c)

Explanation:

Both statements are correct. P waves, or primary waves, are the fastest seismic waves and are recorded first in a seismograph. In P waves, the particles of the medium move back and forth in the same direction as the wave propagation (longitudinal wave motion). In S waves, or secondary waves, the particles move perpendicular to the direction of the wave propagation (transverse wave motion).



21. With reference to coal-based thermal power plants in India, consider the following statements:

1. None of them uses seawater.
 2. None of them is set up in a water-stressed district.
 3. None of them is privately owned.
- How many of the above statements are correct?

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

Correct Answer: (d)

Explanation:

Statement 1 is incorrect: Many coastal thermal power plants, such as those in Gujarat and Tamil Nadu, use seawater for cooling purposes.

Statement 2 is incorrect: Several thermal power plants are located in water-stressed areas, which is one of the concerns for future energy sustainability.

Statement 3 is incorrect: There are many privately owned thermal power plants in India, such as those operated by Tata Power and Adani Power. Therefore, none of the statements are correct.

22. Consider the following statements:

Statement-I:

According to the United Nations 'World Water Development Report, 2022', India extracts more than a quarter of the world's groundwater withdrawal each year

Statement-II:

India needs to extract more than a quarter of the world's groundwater each year to satisfy the drinking water and sanitation needs of almost 18% of the world's population living in its territory.

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

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

Correct Answer: (c)

Explanation:

Statement-I is correct: India is the largest extractor of groundwater globally, withdrawing more than 25% of the world's groundwater resources annually.

Statement-II is incorrect: While India has a large population and significant groundwater use for agriculture, drinking water and sanitation needs do not account for the majority of this extraction. Agricultural irrigation is the main driver behind India's heavy groundwater withdrawal. Therefore, Statement-I is correct, but Statement-II is incorrect.

Year: 2022

1. Consider the following statements:

- 1. High clouds primarily reflect solar radiation and cool the surface of the Earth.
- 2. Low clouds have a high absorption of infrared radiation emanating from the Earth's surface and thus cause a warming effect.

Which of the statements given above is/are correct?

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

Correct Answer: d) Neither 1 nor 2

Explanation:

Both statements are incorrect. High clouds, especially cirrus clouds, tend to have a warming effect because they trap infrared radiation emitted from the Earth's surface, preventing heat

from escaping. Low clouds, such as stratus clouds, tend to have a cooling effect as they reflect solar radiation back into space. The behavior of clouds depends on their altitude, thickness, and type, and they can have both warming and cooling effects under different circumstances.

2. Consider the following statements:

1. Bidibidi is a large refugee settlement in north-western Kenya.
2. Some people who fled from the South Sudan civil war live in Bidibidi.
3. Some people who fled from the civil war in Somalia live in the Dadaab refugee complex in Kenya.

Which of the statements given above is/are correct?

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

Correct Answer: c) 2 and 3

Explanation:

Bidibidi is one of the largest refugee settlements in the world, located in Uganda, not Kenya. Many people from South Sudan live there after fleeing the civil war. Dadaab, in Kenya, hosts refugees from Somalia who escaped the civil conflict. Therefore, only statements 2 and 3 are correct.

3. Consider the following statements:

1. Gujarat has the largest solar park in India.
2. Kerala has a fully solar-powered International Airport.
3. Goa has the largest floating solar photovoltaic project in India.

Which of the statements given above is/are correct?

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

(c) 1 and 3

(d) 3 only

Correct Answer: b)2 only

Explanation:

Kerala's Cochin International Airport is the first fully solar-powered airport. However, the largest solar park is in Rajasthan (Bhadla Solar Park), not Gujarat. Goa does not have the largest floating solar project, which is located in Telangana. Therefore, only statement 2 is correct.

4. With reference to the United Nations Convention on the Law of Sea, consider the following statements:

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

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

Correct Answer: 1, 2 and 3

Explanation:

The United Nations Convention on the Law of the Sea (UNCLOS) establishes that coastal states can claim territorial waters up to 12 nautical miles. Ships of all states, including landlocked ones, enjoy innocent passage through these waters. The Exclusive Economic Zone (EEZ) can extend up to 200 nautical miles. Therefore, all the statements are correct.

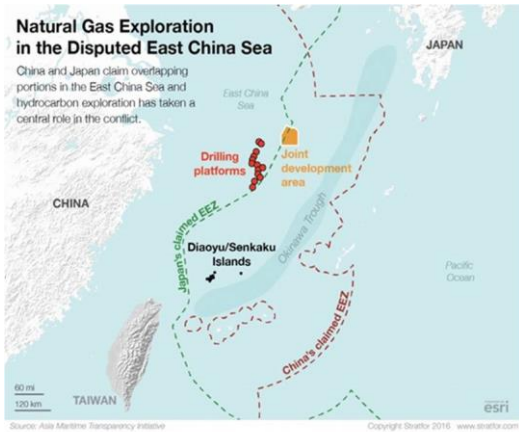
5. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?

- (a) It is generally believed that they are artificial islands made by a country around the South China Sea.
- (b) China and Japan engage in maritime disputes over these islands in the East China Sea.
- (c) A permanent American military base has been set up there to help Taiwan to increase its defense capabilities.
- (d) Though the International Court of Justice declared them as no man's land, some Southeast Asian countries claim them.

Correct Answer: b) China and Japan engage in maritime disputes over these islands in the East China Sea

Explanation:

The Senkaku Islands are a group of uninhabited islands in the East China Sea, which are at the center of a territorial dispute between China and Japan. The islands are controlled by Japan, but China claims sovereignty over them.



* The bulk of the resource development that has occurred so far in the East China Sea has been done by China*

6. Consider the following pairs:

Country Important reason for being in the news recently

- 1. Chad Setting up of permanent military base by China
- 2. Guinea Suspension of Constitution and Government by military
- 3. Lebanon Severe and prolonged economic depression
- 4. Tunisia Suspension of Parliament by President

How many pairs given above are correctly matched?

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

Correct Answer: c) Only three pairs

Explanation:

Pairs 2, 3, and 4 are correctly matched. Chad has not been in the news for a Chinese military base, so pair 1 is incorrect. The other three countries have been in the news for the reasons provided.

7. Consider the following pairs:

Country	Region often mentioned in the news
1. Anatolia	Turkey
2. Amhara	Ethiopia
3. Cabo Delgado	Spain
4. Catalonia	Italy

How many pairs given above are correctly matched?

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

Correct Answer: b) Only two pairs

Explanation:

Pairs 1 (Anatolia-Turkey) and 2 (Amhara-Ethiopia) are correctly matched. However, Cabo Delgado is in Mozambique, not Spain, and Catalonia is in Spain, not Italy. Therefore, only two pairs are correct.

8. Consider the following States:

- 1. Andhra Pradesh

2. Kerala
3. Himachal Pradesh
4. Tripura

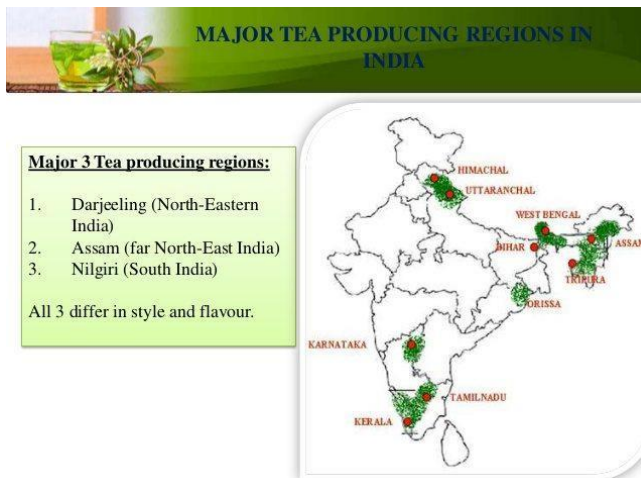
How many of the above are generally known as tea-producing States?

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

Correct Answer: Only three States

Explanation:

Andhra Pradesh, Kerala, and Tripura are tea-producing states, while Himachal Pradesh is not known for significant tea production. Therefore, three states are correct.



9. Consider the following pairs:

Reservoir States

1. Ghataprabha Telangana
2. Gandhi Sagar Madhya Pradesh
3. Indira Sagar Andhra Pradesh
4. Maithon Chhattisgarh

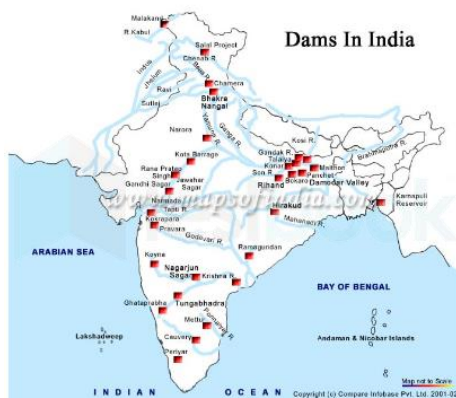
How many pairs given above are not correctly matched?

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

Correct Answer: c) Only three pairs

Explanation:

- Ghataprabha is in Karnataka, not Telangana.
 - Indira Sagar is in Madhya Pradesh, not Andhra Pradesh.
 - Maithon is in Jharkhand, not Chhattisgarh.
- Only Gandhi Sagar in Madhya Pradesh is correctly matched. Hence, three pairs are incorrect.



10. Among the following crops, which one is the most important anthropogenic source of both methane and nitrous oxide?

- (a) Cotton
- (b) Rice
- (c) Sugarcane
- (d) Wheat

Correct Answer: Rice

Explanation:

Rice cultivation, particularly paddy fields, is a significant source of methane emissions due

to anaerobic decomposition in flooded fields. It also contributes to nitrous oxide emissions through the use of nitrogen-based fertilizers.

11. "System of Rice Intensification" of cultivation, in which alternate wetting and drying of rice fields is practiced, results in:

1. Reduced seed requirement
2. Reduced methane production
3. Reduced electricity consumption

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

Correct Answer: d) 1, 2 and 3

Explanation:

The System of Rice Intensification (SRI) is a method of rice cultivation that optimizes water usage by alternating wetting and drying, rather than continuous flooding. This approach reduces the need for water, which in turn reduces the energy required for irrigation, lowering electricity consumption. It also minimizes methane emissions because methane is produced under waterlogged conditions, which are less prevalent in the SRI method. Additionally, SRI reduces seed requirements, as it promotes wider spacing and healthier plants. Thus, all three outcomes—reduced seed requirement, methane production, and electricity consumption—are achieved with SRI.

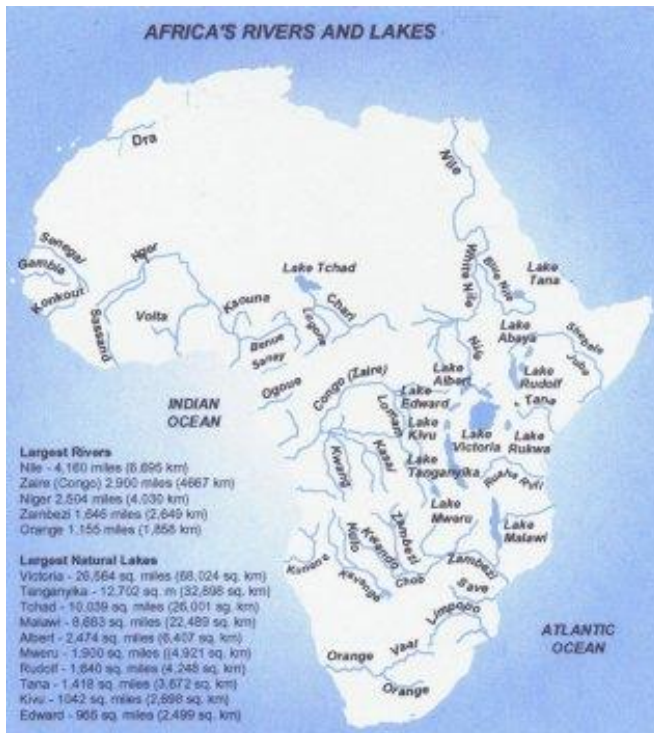
12. Which one of the following lakes of West Africa has become dry and turned into a desert?

- (a) Lake Victoria
- (b) Lake Faguibine
- (c) Lake Oguta
- (d) Lake Volta

Correct Answer: b) Lake Faguibine

Explanation:

Lake Faguibine, located in Mali, West Africa, has seen dramatic reductions in water levels over the years, primarily due to prolonged droughts and changes in the region's climate. Once a large lake, it has dried up and much of its basin has turned into desert, impacting local agriculture and livelihoods. In contrast, Lake Victoria is still one of Africa's largest freshwater lakes, Lake Oguta is located in Nigeria, and Lake Volta is a major reservoir in Ghana.



13. Gandikota canyon of South India was created by which one of the following rivers?

- (a) Cauvery
- (b) Manjira
- (c) Pennar
- (d) Tungabhadra

Correct Answer: c) Pennar

Explanation:

Gandikota, often referred to as the "Grand Canyon of India," is located in the Kadapa district of Andhra Pradesh. It was carved by the Pennar River over centuries. The gorge is known for its steep and rugged cliffs, which offer a spectacular landscape. The Pennar River flows through this canyon, making it a significant geographical and tourist landmark in the region.



14. Consider the following pairs:

Peak	Mountains
1. Namcha Barwa	Garhwal Himalaya
2. Nanda Devi	Kumaon Himalaya
3. Nokrek	Sikkim Himalaya

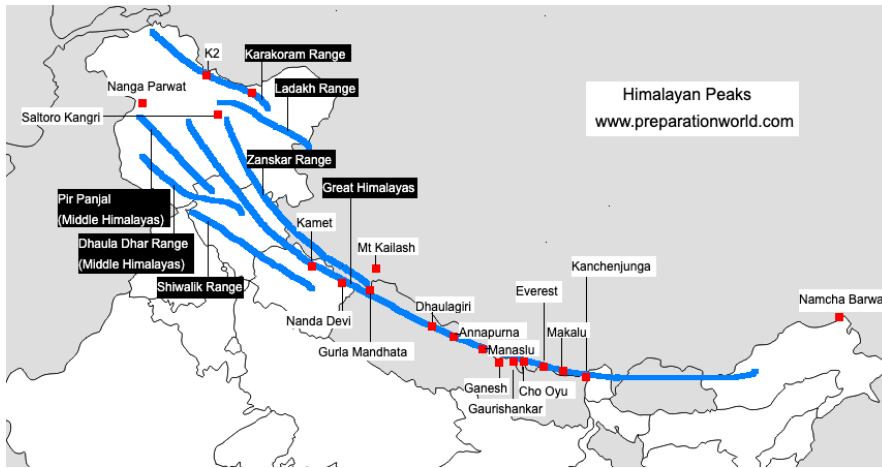
Which of the pairs given above is/are correctly matched?

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

Correct Answer: b) 2 only

Explanation:

- Namcha Barwa is located in the eastern Himalayas in Tibet, not in the Garhwal Himalayas.
- Nanda Devi is correctly matched and is located in the Kumaon Himalayas in Uttarakhand, India.
- Nokrek is part of the Garo Hills in Meghalaya, not the Sikkim Himalayas. Therefore, only the second pair is correct.



15. The term "Levant" often heard in the news roughly corresponds to which of the following regions?

- (a) Region along the eastern Mediterranean shores
- (b) Region along North African shores stretching from Egypt to Morocco
- (c) Region along Persian Gulf and Horn of Africa
- (d) The entire coastal areas of Mediterranean Sea

Correct Answer: a) Region along the eastern Mediterranean shores

Explanation:

The Levant is a historical and geographical term that refers to a large area in the Eastern Mediterranean. It includes modern-day countries such as Syria, Lebanon, Israel, Jordan, and parts of Turkey. The term is often used in geopolitical contexts, especially with regard to conflicts and cultural exchanges in the region. It is distinct from North African or Persian Gulf regions.



16. Consider the following countries:

1. Azerbaijan
2. Kyrgyzstan
3. Tajikistan
4. Turkmenistan
5. Uzbekistan

Which of the above have borders with Afghanistan?

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

Correct Answer: c) 3, 4 and 5 only

Explanation:

Afghanistan shares borders with three of the five Central Asian countries listed: Tajikistan, Turkmenistan, and Uzbekistan. It does not share borders with Azerbaijan (which is further west) or Kyrgyzstan. Tajikistan, Turkmenistan, and Uzbekistan play significant roles in the geopolitics of the region due to their proximity to Afghanistan.



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

1. Monazite is a source of rare earths.
2. Monazite contains thorium.
3. Monazite occurs naturally in the entire Indian coastal sands.
4. In India, Government bodies only can process or export monazite.

Which of the statements given above are correct?

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

Correct Answer: d) 1, 2 and 4 only

Explanation:

Monazite is an important source of rare earth elements and thorium. It is found in coastal sands, particularly along India's eastern and southern coasts. However, it does not occur uniformly across all coastal sands in India, which makes statement 3 incorrect. The Indian government regulates the processing and export of monazite due to its strategic importance, which supports statement 4. Therefore, statements 1, 2, and 4 are correct.

18. In the northern hemisphere, the longest day of the year normally occurs in the:

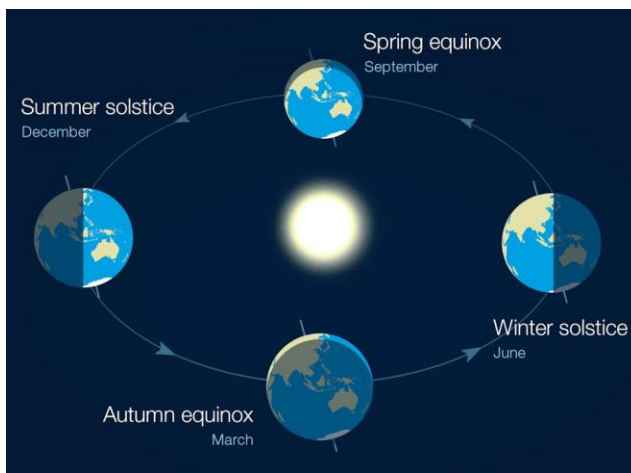
- (a) First half of the month of June

- (b) Second half of the month of June
- (c) First half of the month of July
- (d) Second half of the month of July

Correct Answer: b) Second half of the month of June

Explanation:

The longest day of the year in the northern hemisphere occurs on the summer solstice, which typically falls on June 21st. This marks the point when the North Pole is tilted closest to the Sun, resulting in the maximum daylight hours. Therefore, the longest day occurs in the second half of June.



Year: 2021

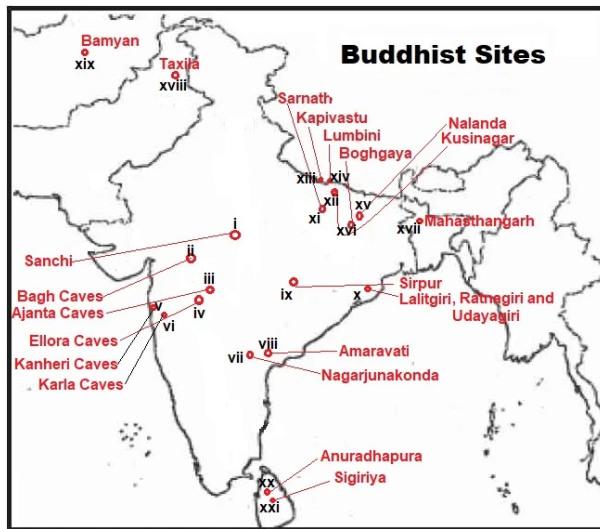
1. Which one of the following statements is correct?
 - (a) Ajanta Caves lie in the gorge of Waghora river.
 - (b) Sanchi Stupa lies in the gorge of Chambal river.
 - (c) Pandu-lena Cave Shrines lie in the gorge of Narmada river.
 - (d) Amaravati Stupa lies in the gorge of Godavari river.

Correct Answer: a) Ajanta Caves lie in the gorge of Waghora river.

Explanation:

The Ajanta Caves, known for their Buddhist rock-cut monuments, lie in the gorge of the Waghora River in Maharashtra. These caves are renowned for their murals and carvings,

dating back to the 2nd century BCE. The other options are incorrect as they misplace the geographic locations of the respective monuments.



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

1. The amount of water in 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) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Correct Answer: b) Only 2

Explanation:

Groundwater makes up a larger portion of Earth's freshwater than rivers and lakes combined. However, the majority of freshwater is locked in polar ice caps and glaciers, far exceeding both rivers and groundwater in terms of volume. Therefore, statement 1 is incorrect, and statement 2 is correct.

3. 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

Correct Answer: b) 3, 4, and 5

Explanation:

Moringa is not a leguminous tree, so statement 1 is incorrect. Tamarind is native to tropical Africa, though it is widely grown in South Asia, making statement 2 incorrect. Tamarind is mostly collected as minor forest produce, and India exports both tamarind and moringa seeds. Additionally, both moringa and tamarind seeds have applications in biofuel production.

4. 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

Correct Answer: b) Fissure volcanic rock

Explanation:

Black cotton soil, also known as Regur soil, is primarily found in the Deccan Plateau and is formed from the weathering of volcanic basalt rock. This soil is known for its moisture retention and is highly suitable for growing cotton, hence the name.

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

1. The palm oil tree is native to Southeast Asia.
2. Palm oil is a raw material for some industries producing lipstick and perfumes.
3. 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

Correct Answer: 2 and 3 only

Explanation:

The palm oil tree is not native to Southeast Asia; it originates from West Africa. However, palm oil is widely used as a raw material in cosmetics, including lipstick and perfumes. It is also used for the production of biodiesel, making statements 2 and 3 correct.

Year: 2020

1. What are the advantages of fertigation in agriculture?
 - 1) Controlling the alkalinity of irrigation water is possible.
 - 2) Efficient application of Rock Phosphate and all other phosphatic fertilizers is possible.
 - 3) Increased availability of nutrients to plants is possible.
 - 4) Reduction in the leaching of chemical nutrients is possible.
- (a) 1, 2, and 3 only
 - (b) 1, 2, and 4 only
 - (c) 1, 3, and 4 only
 - (d) 2, 3, and 4 only

Correct Answer: c) 1, 3, and 4 only

Explanation:

Fertigation allows controlling the alkalinity of irrigation water (statement 1), improves the availability of nutrients to plants (statement 3), and reduces nutrient leaching (statement 4). However, it is less efficient with phosphatic fertilizers like Rock Phosphate, making statement 2 incorrect.

2. Consider the following minerals:

1. Bentonite
2. Chromite
3. Kyanite
4. Sillimanite

In India, which of the above is/are officially designated as major minerals?

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

Correct Answer: d) 2, 3, and 4 only

Explanation:

Chromite, Kyanite, and Sillimanite are classified as major minerals under India's mining laws. Bentonite is not considered a major mineral; it falls under minor minerals.

3. With reference to Ocean Mean Temperature (OMT), which of the following statements is/are correct?
1. OMT is measured up to a depth of 26°C isotherm, which is 129 meters in the southwestern Indian Ocean during January-March.
 2. OMT collected during January-March can be used in assessing whether the amount of rainfall in monsoon will be less or more than a certain long-term mean.
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2

(d) Neither 1 nor 2

Correct Answer: b) 2 only

Explanation:

Statement 2 is correct because OMT data, collected during the January-March period, can be used to predict the upcoming monsoon's rainfall pattern. However, statement 1 is incorrect as the depth of 26°C isotherm may vary, and 129 meters is not a fixed depth for the southwestern Indian Ocean.

4. Siachen Glacier is situated to the:

- (a) East of Aksai Chin
- (b) East of Leh
- (c) North of Gilgit
- (d) North of Nubra Valley

Correct Answer: d) North of Nubra Valley

Explanation:

The Siachen Glacier lies to the north of the Nubra Valley in the Karakoram Range. It is one of the world's largest glaciers and has been a strategically significant region due to its proximity to the India-Pakistan border.



5. With reference to the history of India, consider the following pairs:

Famous Place	Present State
1. Bhilsa	Madhya Pradesh
2. Dwarasamudra	Maharashtra
3. Girinagar	Gujarat
4. Sthanesvara	Uttar Pradesh

Which of the pairs given above are correctly matched?

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

Correct Answer: a) 1 and 3 only

Explanation:

Bhilsa is in Madhya Pradesh, and Girinagar is in Gujarat. Dwarasamudra is located in Karnataka, not Maharashtra, and Sthanesvara is in Haryana, not Uttar Pradesh. Hence, only pairs 1 and 3 are correct.

Year: 2019

1. On 21st June, the Sun:
 - (a) Does not set below the horizon at the Arctic Circle
 - (b) Does not set below the horizon at the Antarctic Circle
 - (c) Shines vertically overhead at noon on the Equator
 - (d) Shines vertically overhead at the Tropic of Capricorn

Correct Answer: a) Does not set below the horizon at the Arctic Circle

Explanation:

On 21st June, the Northern Hemisphere experiences the summer solstice. During this time, the Sun does not set below the horizon at the Arctic Circle, creating 24 hours of daylight, commonly known as the "Midnight Sun." In the Antarctic Circle, this period marks the winter solstice with 24 hours of darkness.

2. Consider the following pairs:

Famous place River

1. Pandharpur Chandrabhaga
2. Tiruchirappalli Cauvery
3. Hampi Malaprabha

Which of the pairs given above are correctly matched?

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

Correct Answer: a) 1 and 2 only

Explanation:

Pandharpur is located on the banks of the Chandrabhaga River in Maharashtra, and Tiruchirappalli is situated on the banks of the Cauvery River in Tamil Nadu. However, Hampi is located on the Tungabhadra River, not the Malaprabha River, making only pairs 1 and 2 correct.

3. Consider the following states:

1. Chhattisgarh
2. Madhya Pradesh
3. Maharashtra
4. Odisha

With reference to the states mentioned above, in terms of percentage of forest cover to the total area of the state, which one of the following is the correct ascending order?

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

Correct Answer: c) 3-2-4-1

Explanation:

The correct ascending order in terms of forest cover percentage relative to the state's total area is Maharashtra (least), followed by Madhya Pradesh, Odisha, and Chhattisgarh (most).



4. Consider the following pairs:

- | Sea - | - | Bordering Country |
|----------------------|---|-------------------|
| 1. Adriatic Sea | - | Albania |
| 2. Black Sea | - | Croatia |
| 3. Caspian Sea | - | Kazakhstan |
| 4. Mediterranean Sea | - | Morocco |
| 5. Red Sea | - | Syria |

How many of the pairs given above are correctly matched?

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

Correct Answer: (b) 1, 3, and 4 only

Explanation: The Adriatic Sea borders Albania, and the Caspian Sea borders Kazakhstan, both correctly matched. The Mediterranean Sea also borders Morocco. However, Croatia does not border the Black Sea, and Syria does not border the Red Sea. Thus, pairs 2 and 5 are incorrect, and only pairs 1, 3, and 4 are correctly matched.



6. Among the following, which one is the largest exporter of rice in the world in the last five years?
- (a) China
 - (b) India
 - (c) Myanmar

(d) Vietnam

Correct Answer: (b) India

Explanation: India has been the largest exporter of rice for several consecutive years, significantly contributing to global rice trade, especially with its export of both basmati and non-basmati rice. While other countries like Vietnam and Myanmar are also key rice exporters, they do not surpass India in terms of export volume.

7. Consider the following pairs:

Glacier - River

1. Bandarpunch – Yamuna
2. Bara Shigri – Chenab
3. Milam – Mandakini
4. Siachen – Nubra
5. Zemu – Manas

Which of the pairs are correctly matched?

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

Correct Answer: (a) 1, 2, and 4

Explanation: The Bandarpunch Glacier feeds the Yamuna River, Bara Shigri Glacier feeds the Chenab River, and Siachen Glacier feeds the Nubra River. The Milam Glacier feeds the Gori Ganga, not the Mandakini, and the Zemu Glacier is located in Sikkim and feeds the Teesta River, not the Manas River. Therefore, pairs 1, 2, and 4 are correctly matched.

Name	State	Mountain Range
Batura Glacier	Jammu & Kashmir	Karakoram Mountain Range
Khurdopin Glacier	Jammu & Kashmir	Karakoram Mountain Range
Hispar Glacier	Jammu & Kashmir	Karakoram Mountain Range
Biafo Glacier	Jammu & Kashmir	Karakoram Mountain Range
Baltoro Glacier	Jammu & Kashmir	Karakoram Mountain Range
Chomolungma glacier	Jammu & Kashmir	Karakoram Mountain Range
Khurdapin glacier	Ladakh	Karakoram
Godwin Austen	Ladakh	Karakoram
Trango Glacier	Ladakh	Karakoram
Chong Kumdan	Ladakh	Karakoram
Diamir Glacier	Jammu & Kashmir	Karakoram Mountain Range
Siachen Glacier	Jammu & Kashmir	Karakoram Mountain Range
Bara Shigri Glacier	Himachal Pradesh	Pir Panjal Range of the Inner Himalayas.
Chhota Shigri Glacier	Himachal Pradesh	Pir Panjal
Sonapani Glacier	Himachal Pradesh	Pir Panjal
Rakhiot Glacier	Ladakh	Pir Panjal
Gangotri Glacier	Uttarkashi, Uttarakhand	Himalayas
Bandarpunch Glacier	Uttarakhand	Western edge of the high Himalayan range

8. What is common to the places known as Aliyar, Isapur, and Kangsabati?

- (a) Recently discovered uranium deposits
- (b) Tropical rain forests
- (c) Underground cave systems
- (d) Water reservoirs

Correct Answer: (d) Water reservoirs

Explanation: Aliyar (Tamil Nadu), Isapur (Maharashtra), and Kangsabati (West Bengal) are all well-known water reservoirs. These are important for irrigation, drinking water supply, and hydropower generation in their respective regions. None of these locations are associated with uranium deposits, rainforests, or underground cave systems.

9. Consider the following statements:

1. Coal sector was nationalized by the Government of India under Indira Gandhi.
2. Now, coal blocks are allocated on a lottery basis.
3. Till recently, India imported coal to meet the shortages of domestic supply, but now India is self-sufficient in coal production.

Which of the statements given above is/are correct?

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

Correct Answer: (a) 1 only

Explanation: The coal sector was indeed nationalized under the government of Indira Gandhi in the early 1970s. However, coal blocks are not allocated on a lottery basis; they are allocated through auctions. While India still imports some coal, it has made significant progress in coal production but is not yet fully self-sufficient. Therefore, only the first statement is correct.

10. With reference to the management of minor minerals in India, consider the following statements:

1. Sand is a 'minor mineral' according to the prevailing law in the country.
2. State Governments have the power to grant mining leases of minor minerals, but the powers regarding the formation of rules related to the grant of minor minerals lie with the Central Government.
3. State Governments have the power to frame rules to prevent illegal mining of minor minerals.

Which of the statements given above is/are correct?

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

(d) 1, 2, and 3

Correct Answer: (a) 1 and 3 only

Explanation: Sand is indeed classified as a minor mineral under Indian law. The State Governments have the authority to grant leases for mining minor minerals, as well as the power to prevent illegal mining. However, the power to form rules related to the grant of minor minerals also lies with the State Governments, not the Central Government. Therefore, statements 1 and 3 are correct, while statement 2 is incorrect.

Major Minerals in India

Mineral	Major States/Regions	Uses
Coal	Jharkhand, Odisha, Chhattisgarh, West Bengal	Energy generation, steel, and cement production
Iron Ore	Odisha, Karnataka, Chhattisgarh, Jharkhand	Steel and iron manufacturing
Bauxite	Odisha, Gujarat, Maharashtra	Aluminum production
Limestone	Rajasthan, Madhya Pradesh, Andhra Pradesh	Cement and lime industries
Copper Ore	Rajasthan, Madhya Pradesh, Jharkhand	Electrical industry, alloys
Manganese	Odisha, Karnataka, Madhya Pradesh	Steel production, batteries
Gold	Karnataka, Andhra Pradesh	Jewelry, electronics
Zinc	Rajasthan	Galvanization, alloys
Lead	Rajasthan, Andhra Pradesh	Batteries, lead sheets

Minor Minerals in India

Mineral	Major States/Regions	Uses
Sand	All states (riverbeds)	Construction, glass industry
Granite	Rajasthan, Andhra Pradesh, Tamil Nadu	Building materials, monuments
Marble	Rajasthan, Gujarat, Madhya Pradesh	Building materials, sculptures

Mineral	Major States/Regions	Uses
Dolomite	Madhya Pradesh, Chhattisgarh, Karnataka	Iron and steel industry, glass industry
Kaolin (China Clay)	Rajasthan, Gujarat, Kerala	Ceramics, paper industry
Silica Sand	Uttar Pradesh, Gujarat, Rajasthan	Glass manufacturing, foundries

Critical Minerals in India

Mineral	Major States/Regions	Uses
Lithium	Jammu & Kashmir (recent discovery)	Electric vehicle batteries, energy storage
Cobalt	Rajasthan, Odisha (trace amounts)	Batteries, superalloys
Rare Earth Elements (REEs)	Andhra Pradesh, Tamil Nadu, Kerala	Electronics, renewable energy technologies
Graphite	Arunachal Pradesh, Jharkhand, Odisha	Batteries, refractories
Tungsten	Rajasthan, Karnataka (limited reserves)	Tool making, electronics
Nickel	Odisha, Jharkhand, Karnataka	Stainless steel, batteries

Notes:

- **Major minerals** are those that have higher economic value and are heavily mined for industrial purposes.
- **Minor minerals** are typically used in **construction** and local industries.
- **Critical minerals** are those that are crucial for the country's strategic needs, particularly in sectors like **energy storage, renewable energy, and electronics**.

11. Consider the following statements:

1. Petroleum and Natural Gas Regulatory Board (PNGRB) is the first regulatory body set up by the Government of India.
2. One of the tasks of PNGRB is to ensure competitive markets for gas.
3. Appeals against the decisions of PNGRB go before the Appellate Tribunals for Electricity.

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

Correct Answer: (b) 2 and 3 only

Explanation: The PNGRB was not the first regulatory body set up by the Indian government. The first regulatory body was the Securities and Exchange Board of India (SEBI). However, PNGRB does ensure competitive markets for gas and its decisions can be appealed before the Appellate Tribunal for Electricity. Therefore, only statements 2 and 3 are correct.

12. In the context of any country, which one of the following would be considered as part of its social capital?
- (a) The proportion of literates in the population
 - (b) The stock of its buildings, other infrastructure, and machines
 - (c) The size of population in the working age group
 - (d) The level of mutual trust and harmony in the society

Correct Answer: (d) The level of mutual trust and harmony in the society

Explanation: Social capital refers to the networks of relationships, trust, and cooperation that facilitate societal functioning. It is intangible but essential for social cohesion, unlike physical or human capital, which are represented by infrastructure, machines, or literacy rates. Mutual trust and social harmony are indicators of strong social capital.

13. With reference to the cultivation of Kharif crops in India in the last five years, consider the following statements:

1. Area under rice cultivation is the highest.
2. Area under cultivation of jowar is more than that of oilseeds.
3. Area of cotton cultivation is more than that of sugarcane.
4. Area under sugarcane cultivation has steadily decreased.

Which of the statements given above are correct?

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

Correct Answer: (a) 1 and 3 only

Explanation: The area under rice cultivation in India is indeed the highest among all Kharif crops. Cotton has a larger cultivation area compared to sugarcane. However, jowar (sorghum) cultivation area is not larger than oilseeds, and sugarcane cultivation has not consistently decreased in recent years. Therefore, only statements 1 and 3 are correct.

14. Among the agricultural commodities imported by India, which one of the following accounts for the highest imports in terms of value in the last five years?

- (a) Spices
- (b) Fresh fruits
- (c) Pulses
- (d) Vegetable oils

Correct Answer: (d) Vegetable oils

Explanation: India is one of the largest importers of vegetable oils globally, including palm oil, soybean oil, and sunflower oil. The country imports large quantities to meet the domestic demand, and this has consistently been the highest agricultural import in terms of value over the past five years.

India's Imports And Exports



April-December 2022

Top 10 import source countries



Top 10 export destinations



Note: Some items clubbed

Source: Ministry of Commerce and Industry | Graphic: Dipu Rai, Sarfaraz



Year: 2018

1. As per the NSSO 70th Round "Situation Assessment Survey of Agricultural Households", consider the following statements:
 - 1) Rajasthan has the highest percentage share of agricultural households among its rural households.
 - 2) Out of the total agricultural households in the country, a little over 60 percent belong to OBCs.
 - 3) In Kerala, a little over 60 percent of agricultural households reported to have received maximum income from sources other than agricultural activities.

Which of the statements given above is/are correct?

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

Correct Answer: (c) 1 and 3 only

Explanation: According to the NSSO 70th Round, Rajasthan has the highest percentage of agricultural households among its rural households. In Kerala, a significant portion of agricultural households derives income from non-agricultural sources. However, the percentage of OBC households among agricultural households is not as high as 60%. Therefore, statements 1 and 3 are correct.

2. Consider the following statements:

1. In India, State Governments do not have the power to auction non-coal mines.
2. Andhra Pradesh and Jharkhand do not have gold mines.
3. Rajasthan has iron ore mines.

Which of the statements given above is/are correct?

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

Correct Answer: (d) 3 only

Explanation: State Governments do have the power to auction non-coal mines. Both Andhra Pradesh and Jharkhand have gold deposits. Rajasthan, however, is rich in mineral resources, including iron ore. Therefore, only the third statement is correct.

3. Among the following cities, which one lies on a longitude closest to that of Delhi?
- (a) Bengaluru
 - (b) Hyderabad
 - (c) Nagpur
 - (d) Pune

Correct Answer: (a) Bengaluru

Explanation: Bengaluru and Delhi are situated relatively close to the same longitude. The other cities, Hyderabad, Nagpur, and Pune, are either further east or west in comparison to Bengaluru. Thus, Bengaluru lies closest to Delhi in terms of longitude.

4. Consider the following pairs:

Town	- Country
1. Aleppo	- Syria
2. Kirkuk	- Yemen
3. Mosul	- Palestine
4. Mazar-i-Sharif	- Afghanistan

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

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

Correct Answer: (b) 1 and 4

Explanation: Aleppo is a city in Syria, and Mazar-i-Sharif is in Afghanistan. Kirkuk is in Iraq, not Yemen, and Mosul is also in Iraq, not Palestine. Therefore, only pairs 1 and 4 are correctly matched.

5. Which one of the following is an artificial lake?

- (a) Kodaikanal (Tamil Nadu)
- (b) Kolleru (Andhra Pradesh)
- (c) Nainital (Uttarakhand)
- (d) Renuka (Himachal Pradesh)

Correct Answer: (a) Kodaikanal (Tamil Nadu)

Explanation: Kodaikanal Lake is an artificial lake created by damming the Vaigai River. The other lakes mentioned are natural. Kolleru is a freshwater lake, Nainital is a natural freshwater body, and Renuka Lake is also natural.

6. With reference to agricultural soils, consider the following statements:
- 1. A high content of organic matter in soil drastically reduces its water holding capacity.
 - 2. Soil does not play any role in the sulphur cycle.
 - 3. Irrigation over a period of time can contribute to the salinization of some agricultural lands.

Which of the statements given above is/are correct?

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

Correct Answer: (b) 3 only

Explanation: Organic matter actually increases the water-holding capacity of soil, so statement 1 is incorrect. Soil plays a crucial role in the sulphur cycle as microorganisms help in the decomposition of organic matter, releasing sulphur, making statement 2 incorrect as well. However, long-term irrigation can lead to salinization of soils, especially in areas with poor drainage, as salts accumulate in the top layers, so statement 3 is correct.

7. Consider the following statements:

1. The Barren Island volcano is an active volcano located in Indian territory.
2. Barren Island lies about 140 km east of Great Nicobar.
3. The last time the Barren Island volcano erupted was in 1991 and it has remained inactive since then.

Which of the statements given above is/are correct?

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

Correct Answer: (a) 1 only

Explanation: Barren Island is indeed an active volcano located in Indian territory in the Andaman Sea. However, it is located about 140 km northeast of Port Blair, not east of Great Nicobar. Moreover, the volcano erupted several times after 1991, with recent eruptions occurring in 2017. Therefore, only the first statement is correct.

8. Consider the following pairs:

Region - Country

1. Catalonia – Spain
2. Crimea – Hungary
3. Mindanao – Philippines
4. Oromia – Nigeria

Which of the pairs given above are correctly matched?

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

Correct Answer: (c) 1 and 3 only

Explanation: Catalonia is a region in Spain known for its independence movement. Mindanao is an island in the Philippines. Crimea is part of Ukraine (though currently annexed by Russia), not Hungary, and Oromia is a region in Ethiopia, not Nigeria. Therefore, only pairs 1 and 3 are correctly matched.

Year: 2017

1. Mediterranean Sea is a border of which of the following countries?

1. Jordan
2. Iraq
3. Lebanon
4. Syria

Select the correct option from the code given below:

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

Correct Answer: (c) Lebanon and Syria

Explanation: The Mediterranean Sea borders Lebanon and Syria, but not Jordan or Iraq. Jordan is landlocked, and Iraq has a narrow coastline along the Persian Gulf. Therefore, the correct countries bordering the Mediterranean Sea from the options are Lebanon and Syria.



2. Consider the following statements:

1. In India, the Himalayas are spread over five states only.
2. Western Ghats are spread over five states only.
3. Pulicat Lake is spread over two States only.

Which of the statements given above is/are correct?

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

Correct Answer: (b) 3 only

Explanation: The Himalayas span over more than five states in India, and the Western Ghats also extend over more than five states. However, Pulicat Lake is indeed spread over two states, Andhra Pradesh and Tamil Nadu. Therefore, only the third statement is correct.



3. With reference to 'Indian Ocean Dipole (IOD)' sometimes mentioned in the news while forecasting Indian monsoon, which of the following statements is/are correct?

1. The IOD phenomenon is characterized by a difference in sea surface temperature between tropical Western Indian Ocean and tropical Eastern Pacific Ocean.
2. An IOD phenomenon can influence an El Niño's impact on the monsoon.

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

Correct Answer: (b) 2 only

Explanation: The Indian Ocean Dipole (IOD) is characterized by a difference in sea surface temperature between the western and eastern Indian Ocean, not between the Indian Ocean and the Pacific Ocean. An IOD event can influence the Indian monsoon and sometimes even offset the impact of El Niño. Therefore, only the second statement is correct.

4. Which of the following statements can help in water conservation in agriculture?

1. Reduced or zero tillage of the land
2. Applying gypsum before irrigating the field
3. Allowing crop residue to remain in the field

Select the correct answer using the code given below:

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

Correct Answer: (c) 1 and 3 only

Explanation: Reduced or zero tillage helps in conserving moisture in the soil, reducing water evaporation. Leaving crop residues on the field also helps in maintaining soil moisture, preventing erosion, and conserving water. While gypsum can help improve soil structure, it is not directly related to water conservation, making the second statement incorrect.

5. Consider the following statements:
 1. The nationwide 'Soil Health Card Scheme' aims at expanding the cultivable area under irrigation.
 2. It enables the banks to assess the quantum of loans to be granted to farmers on the basis of soil quality.
 3. It checks the overuse of fertilizers in farmlands.

Which of the above statements is/are correct?

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

Correct Answer: 3 only

Explanation: The Soil Health Card Scheme primarily aims to promote judicious use of fertilizers and nutrients based on soil health assessments, thereby checking overuse of

fertilizers. It does not directly expand irrigated areas or involve banks in assessing loans based on soil quality. Therefore, only the third statement is correct.

6. Which of the following is geographically closest to Great Nicobar?

- a) Sumatra
- b) Borneo
- c) Java
- d) Sri Lanka

Correct Answer: a) Sumatra

Explanation:

Great Nicobar is part of the Andaman and Nicobar Islands in the Indian Ocean, located close to Sumatra, Indonesia. Sumatra is the nearest landmass to Great Nicobar, while the other options (Borneo, Java, and Sri Lanka) are farther away.

7. With reference to river Teesta, consider the following statements:

- 1. The source of river Teesta is the same as that of Brahmaputra but it flows through Sikkim.
- 2. River Rangeet originates in Sikkim and it is a tributary of river Teesta.
- 3. River Teesta flows into the Bay of Bengal on the border of India and Bangladesh.

Which of the statements given above is/are correct?

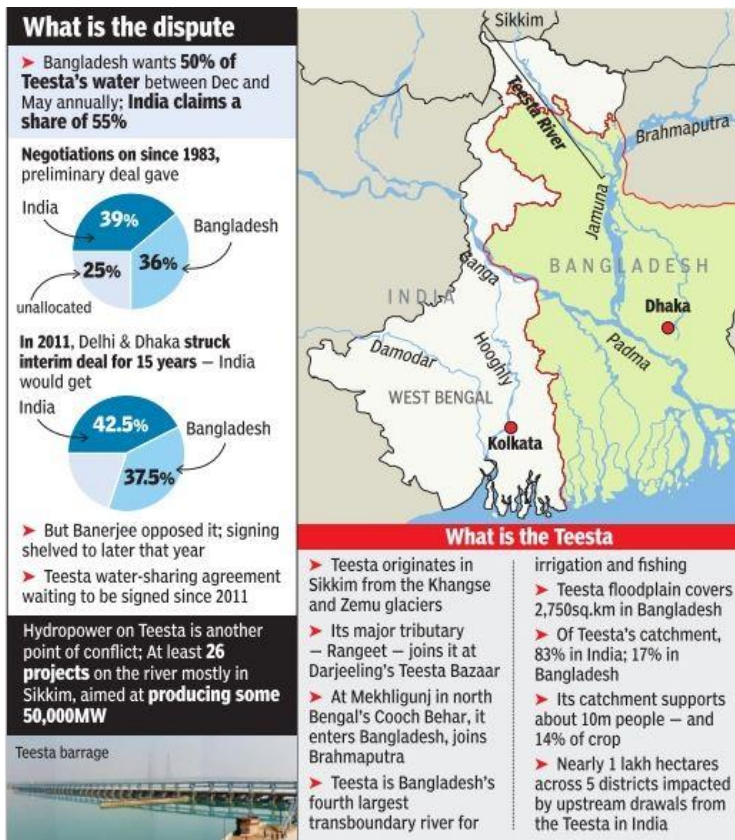
- a) 1 and 3 only
- b) 2 only
- c) 2 and 3 only
- d) 1, 2, and 3

Correct Answer: b) 2 only

Explanation:

- **Statement 1** is incorrect. The source of the Brahmaputra is in Tibet, while Teesta originates from the Tso Lhamo Lake in Sikkim.
- **Statement 2** is correct. River Rangeet is a tributary of the Teesta and originates in Sikkim.

- **Statement 3** is incorrect. The Teesta River merges with the Brahmaputra in Bangladesh before flowing into the Bay of Bengal, but not directly on the India-Bangladesh border.



8. If you travel by road from Kohima to Kottayam, what is the minimum number of States within India through which you can travel, including the origin and the destination?

- a) 6
- b) 7
- c) 8
- d) 9

Correct Answer: b) 7

Explanation:

To travel from Kohima (Nagaland) to Kottayam (Kerala), the most direct route would pass through at least seven states:

1. Nagaland
2. Assam
3. West Bengal

4. Odisha
5. Andhra Pradesh
6. Tamil Nadu
7. Kerala

Therefore, the correct answer is 7 states.

8. At one of the places in India, if you stand on the seashore and watch the sea, 'you will find that the sea water recedes from the shoreline a few kilometers and comes back to the shore, twice a day, and you can actually walk on the seafloor when the water recedes. This unique phenomenon is seen at:

- a) Bhavnagar
- b) Bheemunipatnam
- c) Chandipur
- d) Nagapattinam

Correct Answer: c) Chandipur

Explanation:

The unique phenomenon of the sea receding several kilometers from the shore and returning twice a day can be witnessed at **Chandipur Beach** in Odisha. This natural occurrence is caused by the extreme low and high tides in the region, allowing visitors to literally walk on the exposed seafloor during low tide. This is a rare and fascinating occurrence, making Chandipur Beach famous for this unique tidal behavior.

Year: 2016

1. Which of the following is/are tributary/tributaries of Brahmaputra?

1. Dibang
2. Kameng
3. Lohit

Select the correct answer using the code given below:

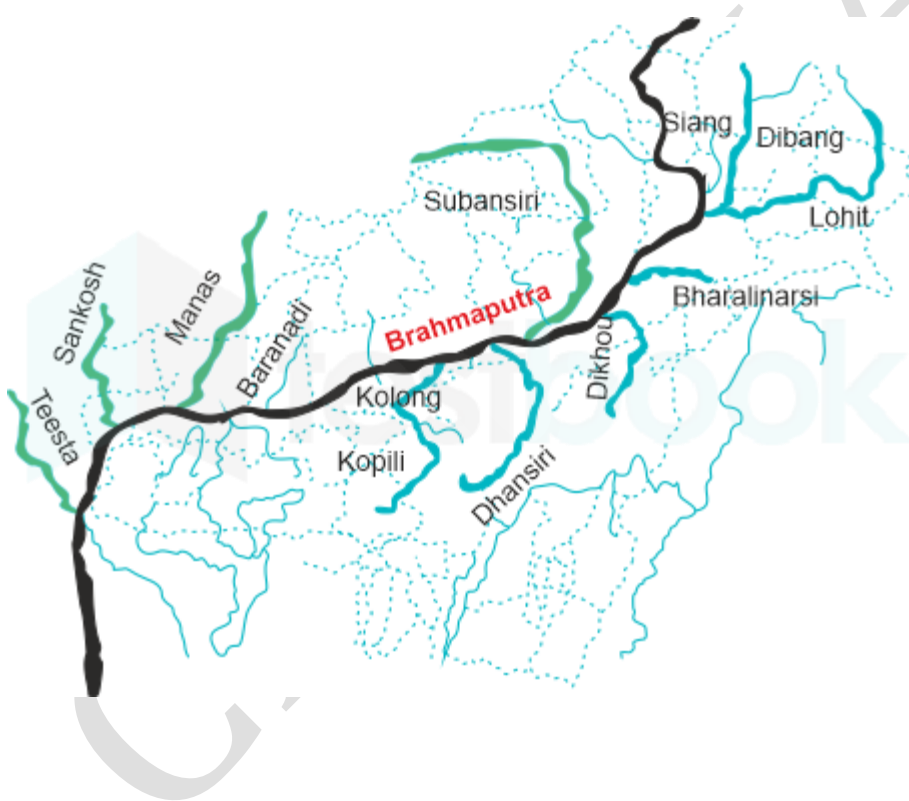
- a) 1 only

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

Correct Answer: d) 1, 2, and 3

Explanation:

- **Dibang, Kameng, and Lohit** are all important tributaries of the Brahmaputra River.
- The Brahmaputra originates in Tibet as the Yarlung Tsangpo River and flows into India, where it receives several tributaries from the Himalayan ranges before entering Bangladesh.
- Dibang and Lohit are major tributaries joining Brahmaputra in the eastern part of India, and Kameng joins Brahmaputra through the Assam plains.



2. In which of the following regions of India are shale gas resources found?

1. Cambay Basin
2. Cauvery Basin
3. Krishna-Godavari Basin

Select the correct answer using the code given below.

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

Correct Answer: d) 1, 2, and 3

Explanation:

Shale gas resources have been found in multiple regions across India, including the **Cambay Basin** in Gujarat, the **Cauvery Basin** in Tamil Nadu, and the **Krishna-Godavari Basin** in Andhra Pradesh. These basins have been identified as potential areas for shale gas exploration, given their geological formations and hydrocarbon potential.

3. Which of the following is/are the advantage(s) of practicing drip irrigation?

- 1. Reduction in weed
- 2. Reduction in soil salinity
- 3. Reduction in soil erosion

Select the correct answer using the code given below.

- a) 1 and 2 only
- b) 3 only
- c) 1 and 3 only
- d) None of the above is an advantage of practicing drip irrigation

Correct Answer: c) 1 and 3 only

Explanation:

- **Reduction in weed:** Drip irrigation delivers water directly to the plant roots, minimizing water availability for weeds and thus reducing their growth.
- **Reduction in soil erosion:** Since drip irrigation provides controlled and localized water supply, it prevents the excessive water runoff that can cause soil erosion.
- **Reduction in soil salinity** is not an advantage of drip irrigation. Drip irrigation can actually concentrate salts around the root zone if water is not applied correctly or if leaching is not practiced.

4. Recently, linking of which of the following rivers was undertaken?

- a) Cauvery and Tungabhadra
- b) Godavari and Krishna

- c) Mahanadi and Son
- d) Narmada and Tapti

Correct Answer: b) Godavari and Krishna

Explanation:

The **Godavari-Krishna river linkage** is a major interlinking project undertaken in India. The project aims to transfer surplus water from the Godavari River (which often floods) to the Krishna River to address water shortages in regions that depend on Krishna. The linkage helps in better water management, irrigation, and drinking water supply to drought-prone areas.

5. Recently, which of the following States has explored the possibility of constructing an artificial inland port to be connected to the sea by a long navigational channel?

- a) Andhra Pradesh
- b) Chhattisgarh
- c) Karnataka
- d) Rajasthan

Correct Answer: d) Rajasthan

Explanation:

Rajasthan, a landlocked state, has explored the possibility of constructing an **artificial inland port** connected to the sea by a navigational channel. This ambitious project aims to boost trade by providing direct access to the sea, despite the state's geographical constraints. The project includes plans to connect the inland port to Gujarat's Kandla port, improving Rajasthan's trade logistics and reducing transport costs.

Year: 2015

1. In the South Atlantic and South-Eastern Pacific regions in tropical latitudes, cyclone does not originate. What is the reason?

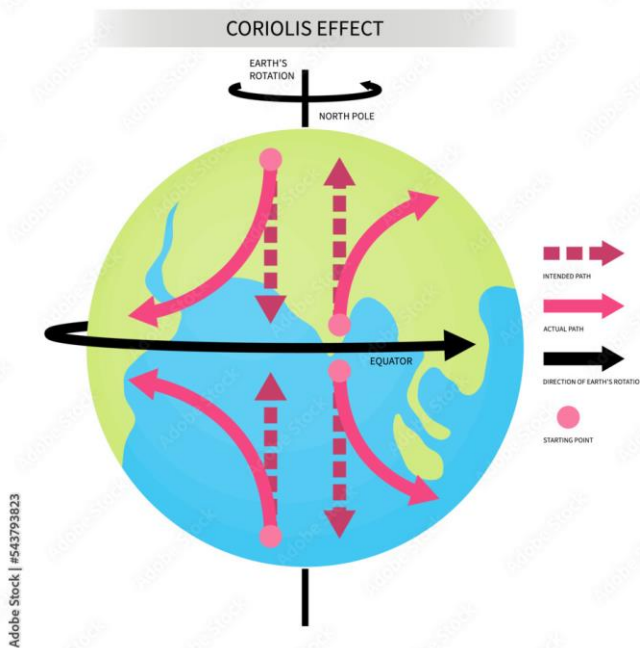
- a) Sea surface temperatures are low
- b) Inter-tropical Convergence Zone seldom occurs

- c) Coriolis force is too weak
- d) Absence of land in those regions

Correct Answer: c) Coriolis force is too weak

Explanation:

Cyclones require the **Coriolis force** to form and spin. In the **South Atlantic** and **South-Eastern Pacific** tropical regions, the Coriolis force is too weak near the equator to induce the cyclonic rotation necessary for the formation of cyclones. As a result, these regions rarely experience cyclone formation, even though other atmospheric conditions, such as warm sea surface temperatures, might be favorable.



2. Which one of the following pairs of States of India indicates the easternmost and westernmost State?

- a) Assam and Rajasthan
- b) Arunachal Pradesh and Rajasthan
- c) Assam and Gujarat
- d) Arunachal Pradesh and Gujarat

Correct Answer: d) Arunachal Pradesh and Gujarat

Explanation:

- **Arunachal Pradesh** is the easternmost state of India, situated near the eastern boundary of India.

- **Gujarat** is the westernmost state, particularly the **Kutch** region, which is located close to the western boundary of India. This combination makes Arunachal Pradesh and Gujarat the correct pair representing the easternmost and westernmost states of India.

3. What can be the impact of excessive/inappropriate use of nitrogenous fertilizers in agriculture?

1. Proliferation of nitrogen-fixing microorganisms in soil can occur.
2. Increase in the acidity of soil can take place.
3. Leaching of nitrate to the groundwater can occur.

Select the correct answer using the code given below.

Options:

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

Correct Answer: c) 2 and 3 only

Explanation:

- **Statement 1** is incorrect. Excessive use of nitrogenous fertilizers does not promote the proliferation of nitrogen-fixing microorganisms, which are generally inhibited by high levels of readily available nitrogen from fertilizers.
- **Statement 2** is correct. Overuse of nitrogenous fertilizers can cause soil acidification, as the excess nitrogen can be converted into acids by soil processes.
- **Statement 3** is correct. Nitrogen in the form of nitrates is highly soluble and can leach into groundwater, potentially contaminating water sources and posing risks to human health (such as causing methemoglobinemia or "blue baby syndrome").

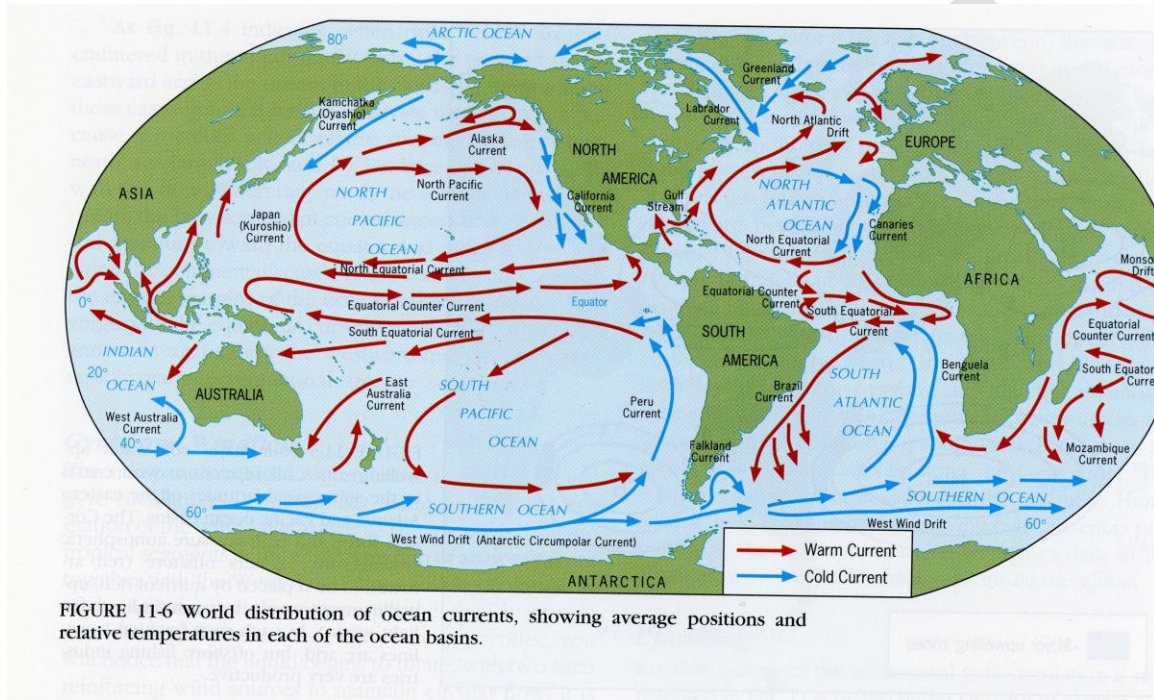
4. What explains the eastward flow of the equatorial counter-current?

- a) The Earth's rotation on its axis
- b) Convergence of the two equatorial currents
- c) Difference in salinity of water
- d) Occurrence of the belt of calm near the equator

Correct Answer: b) Convergence of the two equatorial currents

Explanation:

The **equatorial counter-current** flows eastward in the region between the north and south equatorial currents in the Pacific, Atlantic, and Indian Oceans. This eastward flow is primarily driven by the **convergence of the two equatorial currents**, which push water toward the equator. As these warm waters accumulate, they create a higher sea level, and the counter-current is a response to this buildup, flowing eastward to balance the water distribution.



5. Consider the following pairs:

Place of Pilgrimage Location

- 1. Srisailam Nallamala Hills
- 2. Omkareshwar Satmala Hills
- 3. Pushkar Mahadeo Hills

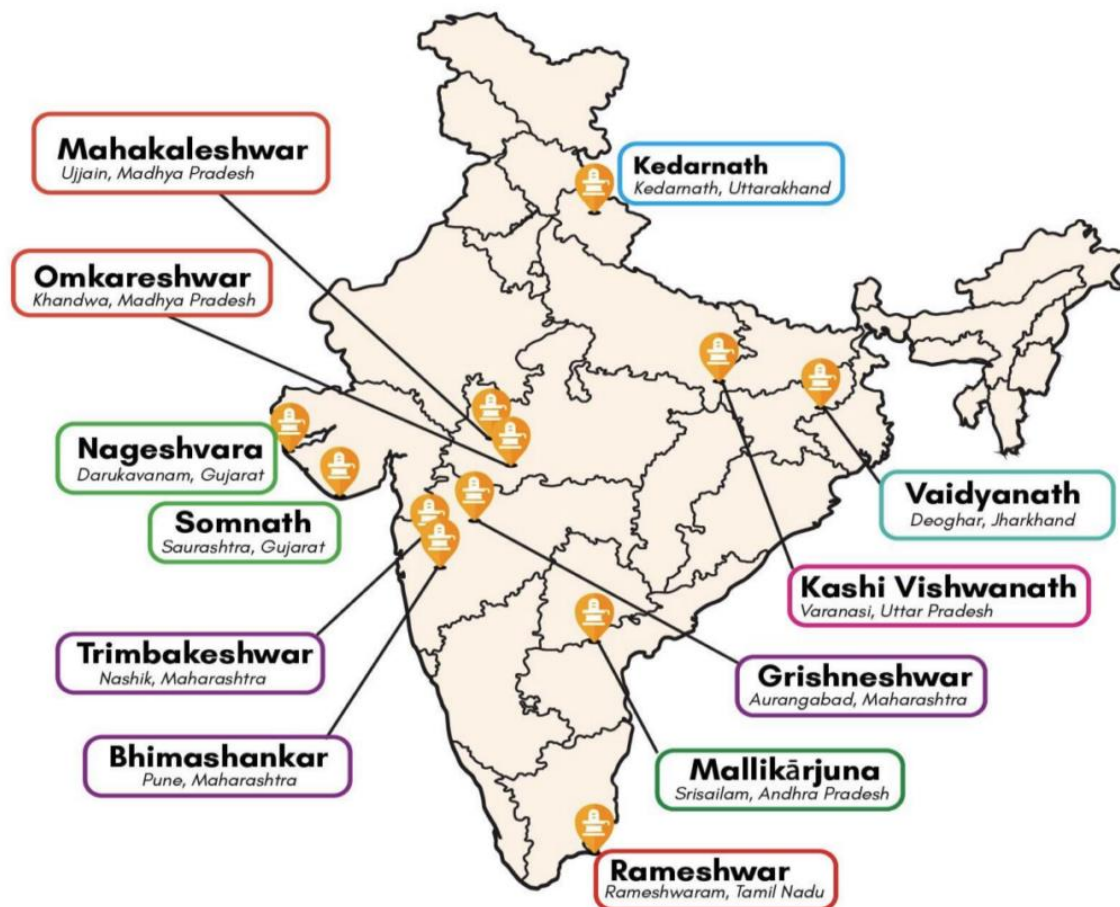
Which of the above pairs is/are correctly matched?

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

Correct Answer: a) 1 only

Explanation:

- **Srisailam** is correctly located in the **Nallamala Hills** of Andhra Pradesh.
- **Omkareshwar** is located in the **Vindhya Range**, not the Satmala Hills. It is a pilgrimage site along the Narmada River in Madhya Pradesh.
- **Pushkar** is located near the **Aravalli Range** in Rajasthan, not in the Mahadeo Hills.



6. Among the following, which were frequently mentioned in the news for the outbreak of Ebola virus recently?

- a) Syria and Jordan
- b) Guinea, Sierra Leone, and Liberia
- c) Philippines and Papua New Guinea
- d) Jamaica, Haiti, and Surinam

Correct Answer: b) Guinea, Sierra Leone, and Liberia

Explanation:

The **Ebola virus outbreak** that occurred between 2014 and 2016 was concentrated in **West Africa**, primarily affecting **Guinea, Sierra Leone, and Liberia**. These countries experienced the highest number of Ebola cases and deaths during the outbreak, which became a major global health concern due to the rapid spread of the virus and high mortality rates.

7. The area known as 'Golan Heights' sometimes appears in the news in the context of the events related to:

Options:

- a) Central Asia
- b) Middle East
- c) South-East Asia
- d) Central Africa

Correct Answer: b) Middle East

Explanation:

The **Golan Heights** is a region in the **Middle East** that has been the subject of conflict between Israel and Syria. It was captured by Israel from Syria during the 1967 Six-Day War and has been a disputed territory ever since. The strategic importance of the Golan Heights stems from its elevated terrain, which provides military advantage, and its water resources.

8. Consider the following rivers:

- 1. Vamsadhara
- 2. Indravati
- 3. Pranahita
- 4. Pennar

Which of the above are tributaries of Godavari?

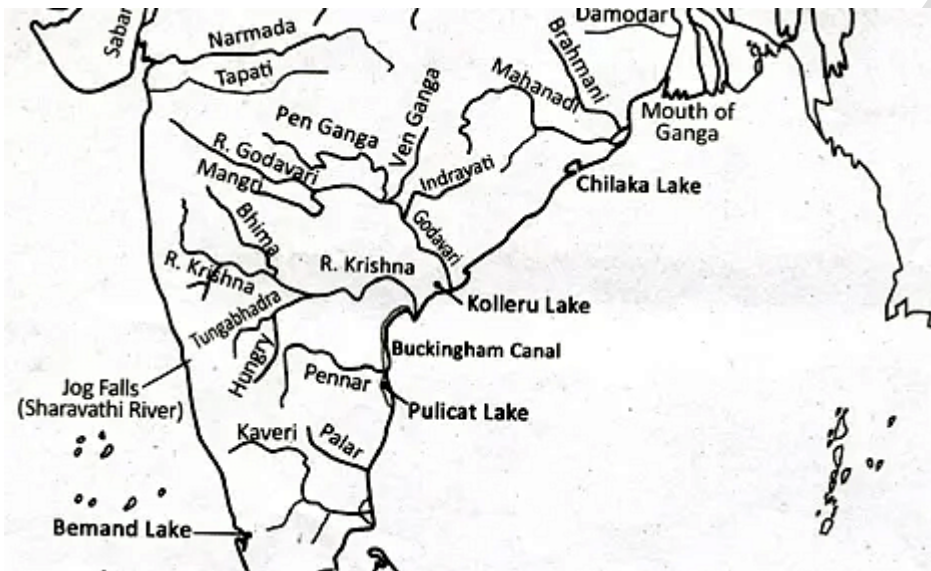
Options:

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

Correct Answer: d) 2 and 3 only

Explanation:

- **Indravati** and **Pranahita** are tributaries of the Godavari River. The Indravati River originates in Odisha and flows into the Godavari in Chhattisgarh. Pranahita is formed by the confluence of the Wardha and Wainganga rivers and joins the Godavari in Maharashtra.
- **Vamsadhara** is an independent river that flows through Odisha and Andhra Pradesh.
- **Pennar** is a separate river that flows through Karnataka and Andhra Pradesh and does not join the Godavari.



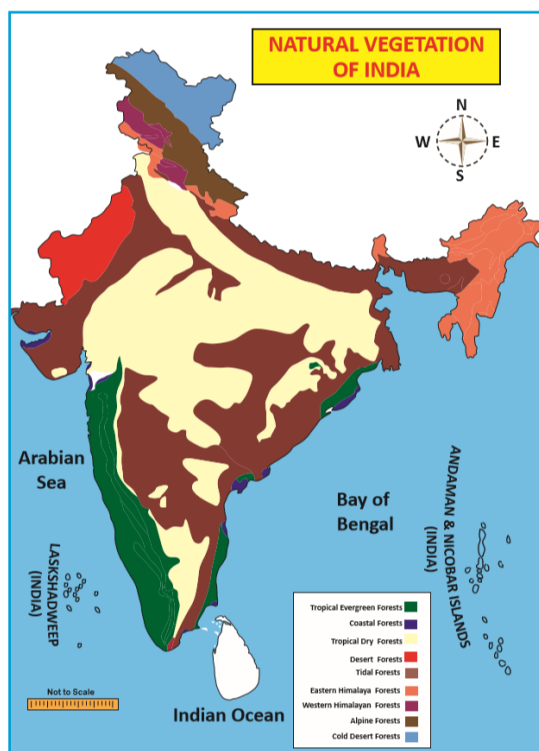
9. Which one of the following regions of India has a combination of mangrove forest, evergreen forest, and deciduous forest?

- North Coastal Andhra Pradesh
- South-West Bengal
- Southern Saurashtra
- Andaman and Nicobar Islands

Correct Answer: d) Andaman and Nicobar Islands

Explanation:

The **Andaman and Nicobar Islands** have a diverse ecosystem that includes **mangrove forests, evergreen forests, and deciduous forests**. The islands are home to rich biodiversity due to their tropical climate, heavy rainfall, and isolated location. Mangroves thrive in the coastal areas, while the interiors of the islands are covered with evergreen and deciduous forests.



10. In a particular region in India, the local people train the roots of living trees into robust bridges across streams. As time passes, these bridges become stronger. These unique 'living root bridges' are found in:

- a) Meghalaya
- b) Himachal Pradesh
- c) Jharkhand
- d) Tamil Nadu

Correct Answer: a) Meghalaya

Explanation:

The '**living root bridges**' are a unique feature of the Khasi and Jaintia Hills in **Meghalaya**. These bridges are made by training the roots of the **Ficus elastica** tree across streams and rivers, where they gradually become strong enough to support human passage. These natural bridges are an excellent example of traditional ecological knowledge and sustainable architecture, capable of lasting for hundreds of years.



11. Tides occur in the oceans and seas due to which among the following?

1. Gravitational force of the Sun
2. Gravitational force of the Moon
3. Centrifugal force of the Earth

Select the correct answer using the code given below:

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

Correct Answer: d) 1, 2, and 3

Explanation:

Tides in the oceans and seas are caused by:

- The **gravitational force of the Moon** (which has the greatest effect on tides).
- The **gravitational force of the Sun**, which contributes to spring and neap tides.
- The **centrifugal force of the Earth**, which affects the distribution of water across the planet and plays a role in the formation of tides. Together, these forces cause the regular rise and fall of sea levels.

12. Consider the following States:

1. Arunachal Pradesh
2. Himachal Pradesh
3. Mizoram

In which of the above States do 'Tropical Wet Evergreen Forests' occur?

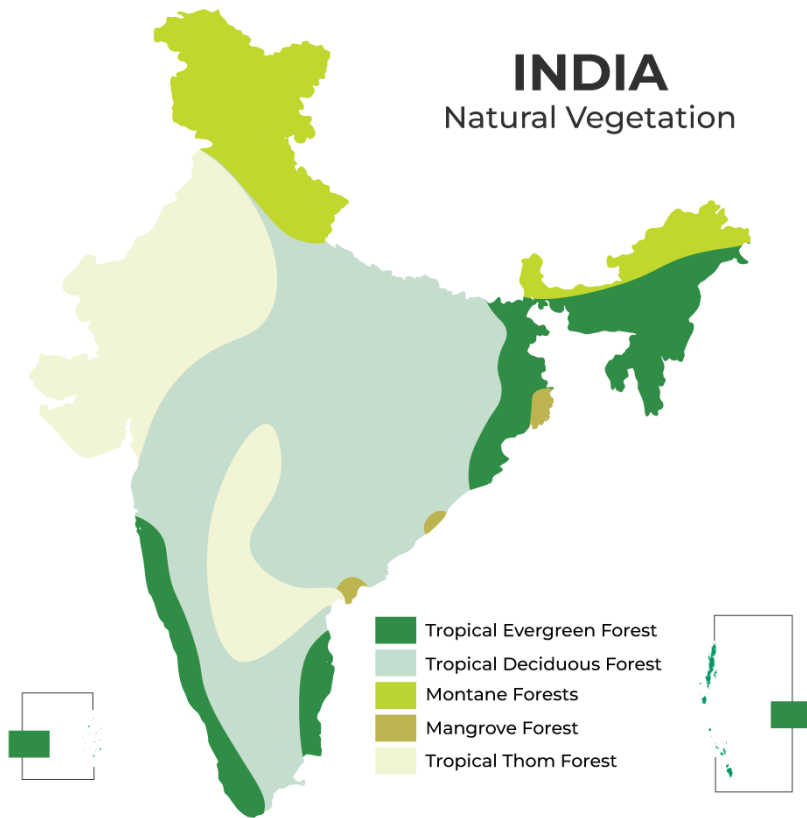
Options:

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

Correct Answer: c) 1 and 3 only

Explanation:

- **Tropical Wet Evergreen Forests** are found in regions with high rainfall and humidity, and they are primarily located in areas like **Arunachal Pradesh** and **Mizoram**.
- Arunachal Pradesh, being part of the Eastern Himalayas, has these forests due to the high rainfall it receives.
- Mizoram, located in the northeastern region, also supports tropical wet evergreen forests.
- **Himachal Pradesh** does not have tropical wet evergreen forests because it falls in the temperate zone and primarily has temperate forests.



13. Which one of the following countries of South-West Asia does not open out to the Mediterranean Sea?

- a) Syria
- b) Jordan
- c) Lebanon
- d) Israel

Correct Answer: b) Jordan

Explanation:

Jordan is a landlocked country, except for its small outlet to the Red Sea at the port of Aqaba. It does not have a coastline along the **Mediterranean Sea**. In contrast, Syria, Lebanon, and Israel all have coastlines along the Mediterranean.

14. In India, in which one of the following types of forests is teak a dominant tree species?

- a) Tropical moist deciduous forest
- b) Tropical rainforest
- c) Tropical thorn scrub forest
- d) Temperate forest with grasslands

Correct Answer: a) Tropical moist deciduous forest

Explanation:

Teak is predominantly found in **tropical moist deciduous forests**. These forests experience seasonal rainfall, which supports the growth of teak trees. Teak is widely grown in states like Madhya Pradesh, Maharashtra, and parts of southern India. It is a valuable hardwood species used for furniture and construction.

15. Each day is more or less the same; the morning is clear and bright with a sea breeze; as the Sun climbs high in the sky, heat mounts up, dark clouds form, then rain comes with thunder and lightning. But the rain is soon over.

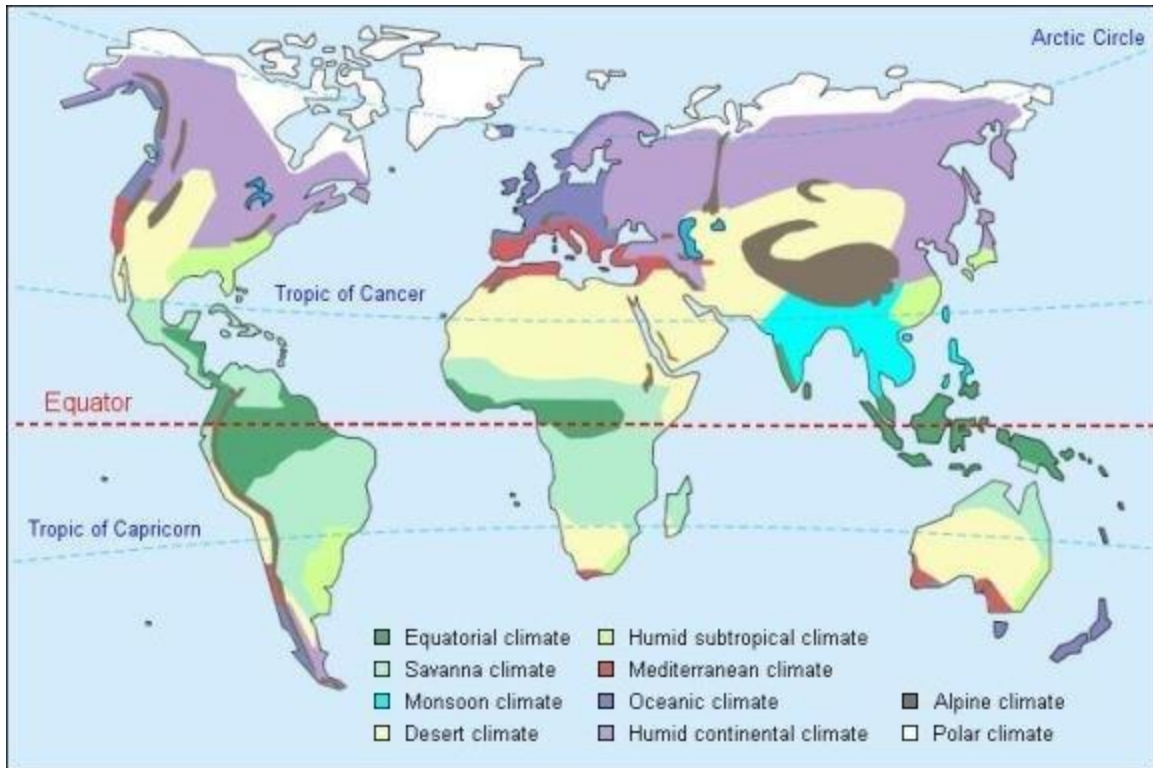
Which of the following regions is described in the above passage?

- a) Savannah
- b) Equatorial
- c) Monsoon
- d) Mediterranean

Correct Answer: b) Equatorial

Explanation:

The description matches the typical **equatorial climate**, where there is little variation in day-to-day weather. In equatorial regions, the mornings are usually clear, but as the day progresses, the intense heat causes convectional rainfall. These rains are often short but heavy, accompanied by thunder and lightning. The climate is found in regions around the equator, like the Amazon Basin, the Congo Basin, and parts of Southeast Asia.



16. Which one of the following best describes the main objective of the 'Seed Village Concept'?

- a) Encouraging the farmers to use their own farm seeds and discouraging them to buy the seeds from others
- b) Involving the farmers for training in quality seed production and thereby making quality seeds available to others at appropriate time and affordable cost
- c) Earmarking some villages exclusively for the production of certified seeds
- d) Identifying the entrepreneurs in villages and providing them technology and finance to set up seed companies

Correct Answer: b) Involving the farmers for training in quality seed production and thereby making quality seeds available to others at appropriate time and affordable cost

Explanation:

The **Seed Village Concept** involves training farmers in the production of high-quality seeds to ensure that good-quality seeds are available at the right time and affordable prices. The aim is to promote self-sufficiency in seed production, reduce dependence on external seed sources, and enhance productivity by ensuring access to quality seeds.

17. With reference to the Indian Renewable Energy Development Agency Limited (IREDA), which of the following statements is/are correct?

1. It is a Public Limited Government Company.
2. It is a Non-Banking Financial Company (NBFC).

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

Correct Answer: c) Both 1 and 2

Explanation:

The **Indian Renewable Energy Development Agency Limited (IREDA)** is a **Public Limited Government Company** under the administrative control of the Ministry of New and Renewable Energy (MNRE). It was established to promote and finance renewable energy projects in India. IREDA is also classified as a **Non-Banking Financial Company (NBFC)**, providing financial assistance for renewable energy and energy efficiency projects.

Year: 2014

1. **What are the significance of a practical approach to sugarcane production known as the 'Sustainable Sugarcane Initiative'?**
 1. Seed cost is very low in this compared to the conventional method of cultivation.
 2. Drip irrigation can be practiced very effectively in this.
 3. There is no application of chemical/inorganic fertilizers at all in this.
 4. The scope for intercropping is more in this compared to the conventional method of cultivation.

Select the correct answer using the code given below:

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

Correct Answer: b) 1, 2, and 4 only

Explanation:

- The **Sustainable Sugarcane Initiative (SSI)** aims to improve sugarcane productivity while reducing water use and input costs.
- **Statement 1** is correct: SSI reduces seed costs by using fewer seedlings.
- **Statement 2** is correct: Drip irrigation is promoted in SSI to ensure efficient water usage.
- **Statement 3** is incorrect: Chemical fertilizers are used in some cases but in reduced amounts, and organic inputs are promoted.
- **Statement 4** is correct: SSI allows more scope for intercropping due to better spacing and water management practices.

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

- Andaman and Nicobar
- Nicobar and Sumatra
- Maldives and Lakshadweep
- Sumatra and Java

Correct Answer: a) Andaman and Nicobar

Explanation:

The **Ten Degree Channel** separates the **Andaman Islands** from the **Nicobar Islands** in the Bay of Bengal. It is called the "Ten Degree Channel" because it is located along the 10-degree latitude north of the equator. This channel plays an important role in marine navigation and the geography of the Andaman and Nicobar Islands.

3. Which of the following phenomena might have influenced the evolution of organisms?

- Continental drift
- Glacial cycles

Select the correct answer using the code given below:

Options:

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

Correct Answer: c) Both 1 and 2

Explanation:

- **Continental drift** has influenced the evolution of organisms by changing the geographical distribution of species. As continents moved, populations of organisms were separated, leading to speciation.
- **Glacial cycles** also influenced evolution, as climatic changes during glacial periods forced organisms to adapt, migrate, or face extinction.

4. If you travel through the Himalayas, you are likely to see which of the following plants naturally growing there?

1. Oak
2. Rhododendron
3. Sandalwood

Select the correct answer using the code given below:

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

Correct Answer: a) 1 and 2 only

Explanation:

- **Oak** and **Rhododendron** are common in the **Himalayas**. They are found in the temperate forests at various altitudes.
- **Sandalwood** is not naturally found in the Himalayas; it is native to the dry deciduous forests of southern India.

5. Consider the following pairs:

No. Region often in news Country

1. Chechnya Russian Federation
2. Darfur Mali

No. Region often in news Country

3. Swat Valley Iraq

Which of the above pairs is/are correctly matched?

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

Correct Answer: a) 1 only

Explanation:

- **Chechnya** is part of the **Russian Federation** and has been in the news due to conflicts between Chechen separatists and the Russian government.
- **Darfur** is located in **Sudan**, not Mali. It has been the site of a humanitarian crisis due to ongoing conflict.
- The **Swat Valley** is located in **Pakistan**, not Iraq. It has been in the news due to conflict involving the Taliban.

6. With reference to two non-conventional energy sources called 'coalbed methane' and 'shale gas', consider the following statements:

1. Coalbed methane is the pure methane gas extracted from coal seams, while shale gas is a mixture of propane and butane only that can be extracted from fine-grained sedimentary rocks.
2. In India, abundant coalbed methane sources exist, but so far no shale gas sources have been found.

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

Correct Answer: d) Neither 1 nor 2

Explanation:

- **Statement 1** is incorrect: **Coalbed methane (CBM)** is indeed methane gas extracted from coal seams, but **shale gas** is not a mixture of propane and butane. Shale gas is primarily methane, similar to coalbed methane, and is found trapped within fine-grained sedimentary rocks called shales.
- **Statement 2** is also incorrect: India has both **coalbed methane** and **shale gas** resources. CBM is found in coal-rich areas such as Jharkhand, West Bengal, and Madhya Pradesh. Shale gas reserves have also been identified, and exploration is ongoing, particularly in regions like the Cambay Basin and the Krishna-Godavari Basin.

7. With reference to the 'Changpa' community of India, consider the following statements:

1. They live mainly in the State of Uttarakhand.
2. They rear the Pashmina goats that yield fine wool.
3. They are kept in the category of Scheduled Tribes.

Which of the statements given above is/are correct?

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

Correct Answer: b) 2 and 3 only

Explanation:

- **Statement 1** is incorrect: The **Changpa** community primarily resides in the **Ladakh** region of **Jammu & Kashmir**, not Uttarakhand. They are a nomadic pastoralist community.
- **Statement 2** is correct: The Changpa rear **Pashmina goats**, which produce the fine wool used to make Pashmina shawls.
- **Statement 3** is correct: The Changpa community is recognized as a **Scheduled Tribe (ST)** in India.

8. In India, the problem of soil erosion is associated with which of the following?

1. Terrace cultivation

2. Deforestation
3. Tropical climate

Select the correct answer using the code given below:

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

Correct Answer: b) 2 only

Explanation:

- **Statement 1** is incorrect: **Terrace cultivation** helps in reducing soil erosion, especially in hilly areas. It slows down water runoff and conserves soil.
- **Statement 2** is correct: **Deforestation** is a major cause of soil erosion as it removes the protective cover of trees, leading to increased runoff and loss of topsoil.
- **Statement 3** is incorrect: While tropical climates experience heavy rainfall, the climate itself does not directly cause soil erosion. It is human activities like deforestation that exacerbate soil erosion in tropical regions.

9. The seasonal reversal of winds is the typical characteristic of:

- a) Equatorial climate
- b) Mediterranean climate
- c) Monsoon climate
- d) All of the above climates

Correct Answer: c) Monsoon climate

Explanation:

The **monsoon climate** is characterized by the **seasonal reversal of winds**. During the summer, winds blow from the ocean toward the land (onshore winds), bringing heavy rainfall. In winter, the winds reverse direction, blowing from the land toward the ocean (offshore winds), leading to dry conditions. This is typical of regions like South Asia, where the Indian monsoon is a major climatic feature.

10. Consider the following rivers:

1. Barak
2. Lohit
3. Subansiri

Which of the above flows through Arunachal Pradesh?

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

Correct Answer: b) 2 and 3 only

Explanation:

- **Lohit** and **Subansiri** are rivers that flow through **Arunachal Pradesh**. The Lohit River is a tributary of the Brahmaputra, originating in Tibet, and the Subansiri is one of the largest tributaries of the Brahmaputra, flowing through both Arunachal Pradesh and Assam.
- **Barak River** flows through **Manipur, Mizoram, and Assam**, not Arunachal Pradesh.

11. Consider the following pairs:

Hills	Region
1. Cardamom Hills	Coromandel Coast
2. Kaimur Hills	Konkan Coast
3. Mahadeo Hills	Central India
4. Mikir Hills	North-East India

Which of the above pairs are correctly matched?

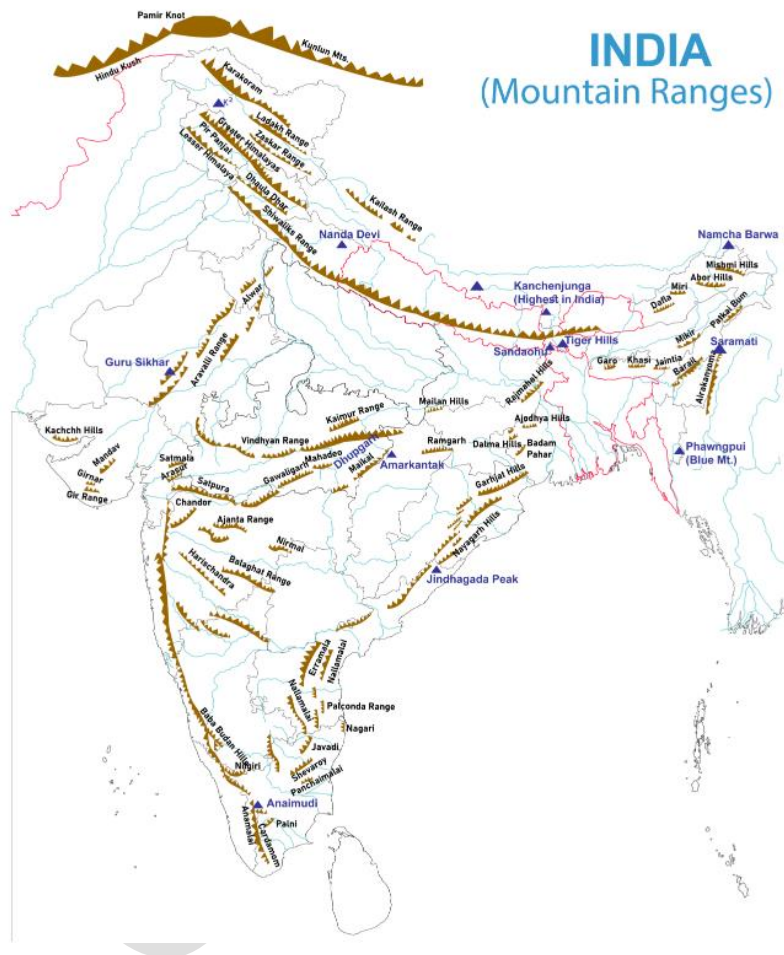
- a) 1 and 2
- b) 2 and 3
- c) 3 and 4
- d) 2 and 4

Correct Answer: c) 3 and 4

Explanation:

- **Cardamom Hills** are located in the Western Ghats, not along the **Coromandel Coast**.
- **Kaimur Hills** are part of the Vindhya Range in Central India, not on the **Konkan Coast**.
- **Mahadeo Hills** are located in **Central India**, in Madhya Pradesh.
- **Mikir Hills** are located in **Assam**, part of **North-East India**.

Thus, pairs 3 (Mahadeo Hills) and 4 (Mikir Hills) are correctly matched.



12. Turkey is located between:

- Black Sea and Caspian Sea
- Black Sea and Mediterranean Sea
- Gulf of Suez and Mediterranean Sea
- Gulf of Aqaba and Dead Sea

Correct Answer: b) Black Sea and Mediterranean Sea

Explanation:

Turkey is geographically positioned between the **Black Sea** to the north and the **Mediterranean Sea** to the south. This strategic location has made Turkey an important historical and geopolitical bridge between Europe and Asia.

13. What is the correct sequence of occurrence of the following cities in South-East Asia as one proceeds from south to north?

1. Bangkok
2. Hanoi
3. Jakarta
4. Singapore

Select the correct answer using the code given below:

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

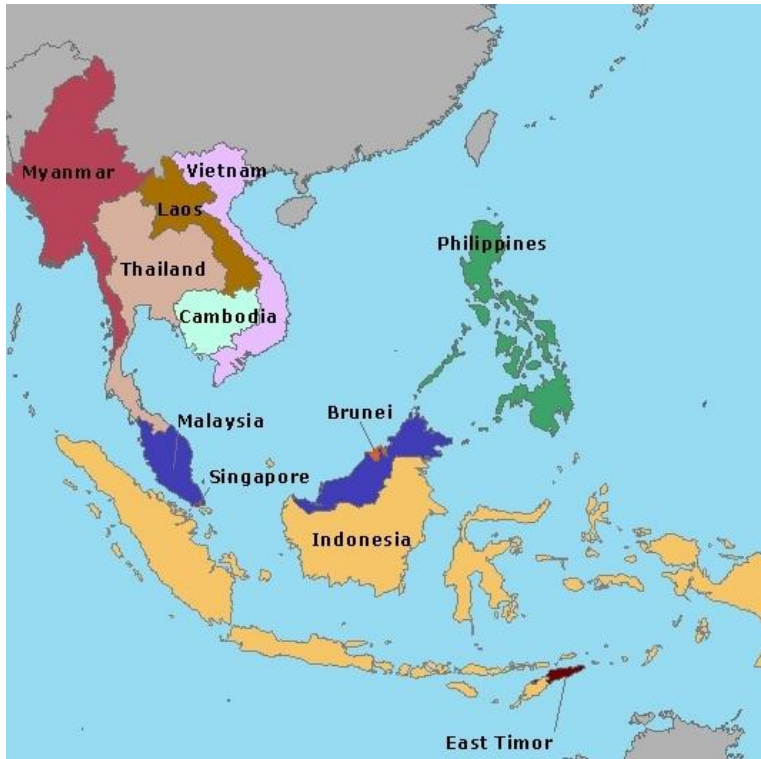
Correct Answer: c) 3-4-1-2

Explanation:

The correct sequence of cities from south to north is:

- **Jakarta** (Indonesia)
- **Singapore** (city-state)
- **Bangkok** (Thailand)
- **Hanoi** (Vietnam)

Thus, the correct order is **3 (Jakarta) - 4 (Singapore) - 1 (Bangkok) - 2 (Hanoi)**.



14. Consider the following pairs:

No.	Region	Well-known for the production of
1.	Kinnaur	Areca nut
2.	Mewat	Mango
3.	Coromandel	Soya bean

Which of the above pairs is/are correctly matched?

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

Correct Answer: d) None

Explanation:

- **Kinnaur** in Himachal Pradesh is known for producing **apples**, not areca nuts.
- **Mewat** (now Nuh) in Haryana is not known for mango production; it is mainly an agriculturally backward region.

- **Coromandel** region along the southeastern coast of India is not known for **soya bean** production. Soya bean is mainly grown in central India (Madhya Pradesh and Maharashtra).

Therefore, none of the pairs is correctly matched.

15. Consider the following statements:

1. Maize can be used for the production of starch.
2. Oil extracted from maize can be a feedstock for biodiesel.
3. Alcoholic beverages can be produced by using maize.

Which of the statements given above is/are correct?

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

Correct Answer: d) 1, 2, and 3

Explanation:

- **Statement 1** is correct: **Maize** is widely used for the production of **starch**.
- **Statement 2** is correct: **Maize oil** (extracted from corn kernels) can be used as a **feedstock for biodiesel**.
- **Statement 3** is correct: **Maize** can also be used in the production of **alcoholic beverages** like **corn whiskey** and other spirits.

All the statements are correct.

16. Consider the following pairs:

No. National Highway Cities connected

1. NH4 Chennai and Hyderabad
2. NH6 Mumbai and Kolkata
3. NH15 Ahmedabad and Jodhpur

Which of the above pairs is/are correctly matched?

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

Correct Answer: b) 3 only

Explanation:

- **NH4** (now renumbered as NH48) does not connect Chennai and Hyderabad. It connects **Mumbai to Pune and Bengaluru**.
- **NH6** (now part of NH53) does not directly connect Mumbai and Kolkata. It runs from **Hazira (Gujarat) to Kolkata**, but not via Mumbai.
- **NH15** (now renumbered as NH62) connects **Ahmedabad and Jodhpur**, making this the correctly matched pair.

Therefore, only pair 3 is correct.

17. In the context of food and nutritional security of India, enhancing the 'Seed Replacement Rates' of various crops helps in achieving the food production targets of the future. But what is/are the constraint(s) in its wider/greater implementation?

1. There is no National Seeds Policy in place.
2. There is no participation of private sector seed companies in the supply of quality seeds of vegetables and planting materials of horticultural crops.
3. There is a demand-supply gap regarding quality seeds in the case of low-value and high-volume crops.

Select the correct answer using the code given below:

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

Correct Answer: b) 3 only

Explanation:

- **Statement 1** is incorrect: India has a **National Seed Policy** (formulated in 2002), which aims to ensure timely availability of quality seeds to farmers.
- **Statement 2** is incorrect: The **private sector** actively participates in the seed industry, especially in the supply of quality seeds for vegetables and horticultural crops.
- **Statement 3** is correct: There is a **demand-supply gap** regarding quality seeds, especially for **low-value, high-volume crops** like pulses and oilseeds. This is one of the major constraints to improving seed replacement rates in these crops.

Year: 2013

1. With reference to the usefulness of the by-products of the sugar industry, which of the following statements is/are correct?

1. Bagasse can be used as biomass fuel for the generation of energy.
2. Molasses can be used as one of the feedstocks for the production of synthetic chemical fertilizers.
3. Molasses can be used for the production of ethanol.

Select the correct answer using the codes given below:

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

Correct Answer: c) 1 and 3 only

Explanation:

- **Bagasse**, a by-product of the sugar industry, is the fibrous residue left after crushing sugarcane. It can be used as **biomass fuel** to generate electricity, making **statement 1 correct**.
- **Molasses** is a by-product that can be used to produce **ethanol**, which is used as a biofuel, making **statement 3 correct**.
- **Statement 2** is incorrect: Molasses is not used as a feedstock for producing synthetic chemical fertilizers. It is primarily used in ethanol production, animal feed, and certain industrial processes.

2. Variations in the length of daytime and nighttime from season to season are due to:

- a) The Earth's rotation on its axis
- b) The Earth's revolution around the sun in an elliptical manner
- c) The latitudinal position of the place
- d) The revolution of the Earth on a tilted axis

Correct Answer: d) The revolution of the Earth on a tilted axis

Explanation:

Variations in the length of daytime and nighttime occur because the **Earth's axis is tilted** at an angle of approximately 23.5 degrees relative to its orbital plane around the Sun. As the Earth revolves around the Sun, different parts of the planet receive varying amounts of sunlight, leading to longer or shorter days depending on the season.

3. The Narmada river flows to the west, while most other large peninsular rivers flow to the east. Why?

- 1. It occupies a linear rift valley.
- 2. It flows between the Vindhyas and the Satpuras.
- 3. The land slopes to the west from Central India.

Select the correct answer using the codes given below:

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

Correct Answer: a) 1 only

Explanation:

- The **Narmada River** flows westward through a **linear rift valley**, which is a depression between the **Vindhya Range** to the north and the **Satpura Range** to the south, making **statement 1 correct**.
- While it does flow between the Vindhyas and Satpuras, the westward flow is primarily due to the rift valley structure, not the slope of the land or its position relative to the mountain ranges, so **statement 2 is irrelevant**.

- The land in Central India does not uniformly slope to the west, making **statement 3 incorrect**.

4. On the planet Earth, most of the freshwater exists as ice caps and glaciers. Out of the remaining freshwater, the largest proportion:

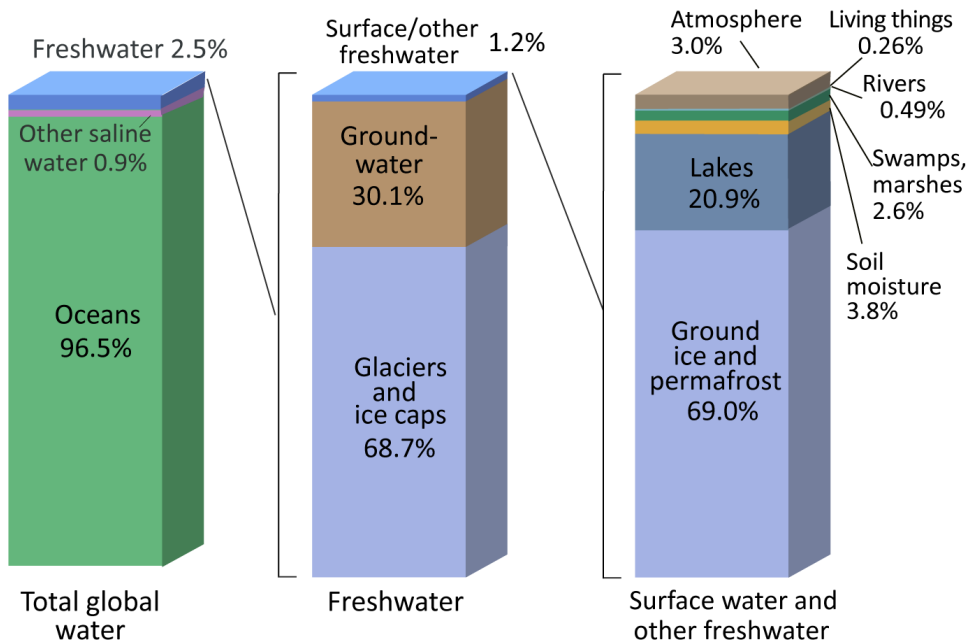
- Is found in the atmosphere as moisture and clouds
- Is found in freshwater lakes and rivers
- Exists as groundwater
- Exists as soil moisture

Correct Answer: c) Exists as groundwater

Explanation:

Most of Earth's freshwater is locked up in **ice caps and glaciers**. Of the remaining freshwater, the majority exists as **groundwater**, which is found beneath the Earth's surface. Lakes and rivers contain only a small fraction of Earth's freshwater, while the amount of water in the atmosphere and soil moisture is even smaller.

Where is Earth's Water?



Credit: U.S. Geological Survey, Water Science School. <https://www.usgs.gov/special-topic/water-science-school>
 Data source: Igor Shiklomanov's chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, Water in Crisis: A Guide to the World's Fresh Water Resources. (Numbers are rounded).

5. Consider the following:

1. Electromagnetic radiation
2. Geothermal energy
3. Gravitational force
4. Plate movements
5. Rotation of the Earth
6. Revolution of the Earth

Which of the above are responsible for bringing dynamic changes on the surface of the Earth?

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

Correct Answer: d) 1, 2, 3, 4, 5, and 6

Explanation:

All of the listed factors contribute to **dynamic changes on the Earth's surface:**

- **Electromagnetic radiation** (from the Sun) drives weathering, climate, and photosynthesis.
- **Geothermal energy** powers volcanic activity and contributes to plate tectonics.
- **Gravitational force** influences tides and the Earth's structure.
- **Plate movements** cause earthquakes, volcanic eruptions, and mountain building.
- The **rotation of the Earth** affects ocean currents and atmospheric circulation.
- The **revolution of the Earth** around the Sun causes seasonal changes.

6. The most important fishing grounds of the world are found in the regions where:

- a) Warm and cold atmospheric currents meet
- b) Rivers drain out large amounts of fresh water into the sea

- c) Warm and cold oceanic currents meet
- d) Continental shelf is undulating

Correct Answer: c) Warm and cold oceanic currents meet

Explanation:

The most productive **fishing grounds** are found where **warm and cold oceanic currents** meet. This mixing of currents brings nutrient-rich waters from the deep to the surface, promoting the growth of plankton, which forms the base of the marine food chain. Examples include the **Grand Banks** off the coast of Newfoundland and the **Peruvian coast**, where the convergence of cold and warm currents creates ideal conditions for fish populations.

7. Which of the following is/are unique characteristic(s) of equatorial forests?

- 1. Presence of tall, closely set trees with crowns forming a continuous canopy
- 2. Coexistence of a large number of species
- 3. Presence of numerous varieties of epiphytes

Select the correct answer using the code given below:

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

Correct Answer: d) 1, 2, and 3

Explanation:

Equatorial forests (also called tropical rainforests) have several unique characteristics:

- **Tall, closely set trees** with a dense canopy that prevents sunlight from reaching the forest floor, making **statement 1 correct**.
- **High biodiversity:** These forests are home to a wide variety of species, making **statement 2 correct**.
- The presence of many **epiphytes** (plants that grow on other plants), such as orchids and ferns, is another feature, making **statement 3 correct**.

Thus, all the statements are correct.

8. The annual range of temperature in the interior of the continents is high as compared to coastal areas. What is/are the reason(s)?

1. Thermal difference between land and water
2. Variation in altitude between continents and oceans
3. Presence of strong winds in the interior
4. Heavy rains in the interior as compared to coasts

Select the correct answer using the codes given below:

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

Correct Answer: a) 1 only

Explanation:

The **high annual range of temperature** in the interior of continents compared to coastal areas is mainly due to the **thermal difference between land and water**:

- Land heats up and cools down more quickly than water, leading to more extreme temperature variations in inland areas. This makes **statement 1 correct**.
- **Altitude** and **winds** are not major contributors to temperature variations between the interior and coastal areas.
- **Heavy rains** are typically associated with coastal areas, not the interior.

Thus, only statement 1 is correct.

9. Which of the following is/are characteristic(s) of Indian coal?

1. High ash content
2. Low sulfur content
3. Low ash fusion temperature

Select the correct answer using the codes given below:

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

Correct Answer: a) 1 and 2 only

Explanation:

- **Indian coal** is known for its **high ash content**, which reduces its energy efficiency, making **statement 1 correct**.
- Indian coal generally has **low sulfur content**, which makes it less polluting in terms of sulfur emissions, making **statement 2 correct**.
- **Low ash fusion temperature** is not a typical characteristic of Indian coal. Indian coal generally has a high ash fusion temperature, making **statement 3 incorrect**.

Therefore, statements 1 and 2 are correct.

10. Which of the following statements regarding laterite soils of India are correct?

1. They are generally red in color.
2. They are rich in nitrogen and potash.
3. They are well-developed in Rajasthan and Uttar Pradesh.
4. Tapioca and cashew nuts grow well on these soils.

Select the correct answer using the codes given below:

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

Correct Answer: c) 1 and 4

Explanation:

- **Laterite soils** are typically **red** in color due to the presence of iron oxides, making **statement 1 correct**.
- They are **poor in nitrogen and potash**, making **statement 2 incorrect**.
- Laterite soils are **not well-developed in Rajasthan and Uttar Pradesh**; instead, they are found in regions with high rainfall such as the Western Ghats, Kerala, and parts of Karnataka and Odisha, making **statement 3 incorrect**.
- **Tapioca and cashew nuts** grow well on these soils, making **statement 4 correct**.

Thus, statements 1 and 4 are correct.

11. Consider the following statements:

1. Natural gas occurs in the Gondwana beds.
2. Mica occurs in abundance in Kodarma.
3. Dharwar rocks are famous for petroleum.

Which of the statements given above is/are correct?

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

Correct Answer: b) 2 only

Explanation:

- **Statement 1** is incorrect: Natural gas is not typically associated with the **Gondwana beds**. The Gondwana formations are primarily known for their coal reserves, not natural gas.
- **Statement 2** is correct: **Kodarma** (in Jharkhand) is well-known for its large deposits of **mica**, a mineral used in the electrical and electronics industry.
- **Statement 3** is incorrect: The **Dharwar rocks** are ancient rock formations known for their rich deposits of minerals such as iron ore and manganese, but they are not famous for petroleum. Petroleum is typically found in younger sedimentary basins.

12. Consider the following crops:

1. Cotton
2. Groundnut
3. Rice
4. Wheat

Which of these are **Kharif crops**?

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

Correct Answer: c) 1, 2, and 3

Explanation:

- **Kharif crops** are sown at the beginning of the monsoon and harvested at the end of the monsoon season.
- **Cotton, groundnut, and rice** are typical **Kharif crops** because they are sown during the rainy season.
- **Wheat** is a **Rabi crop**, sown in winter and harvested in spring.

Therefore, **cotton (1), groundnut (2), and rice (3)** are Kharif crops.

S. No	Cropping Season	Time Period	Crops	States
1.	Rabi	Sown: October-December Harvested: April-June	Wheat, barley, peas, gram, mustard etc.	Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh
2.	Kharif	Sown: June-July Harvested: September-October	Rice, maize, jowar, bajra, tur, moong, urad, cotton, jute, groundnut, soybean etc.	Assam, West Bengal, coastal regions of Odisha, Andhra Pradesh, Telangana, Tamil Nadu, Kerala and Maharashtra
3.	Zaid	Sown and harvested: March-July (between Rabi and Kharif)	Seasonal fruits, vegetables, fodder crops etc.	Most of the northern and northwestern states

13. "Climate is extreme, rainfall is scanty, and the people used to be nomadic herders." The above statement best describes which of the following regions?

- a) African Savannah
- b) Central Asian Steppe
- c) North American Prairie
- d) Siberian Tundra

Correct Answer: b) Central Asian Steppe

Explanation:

The **Central Asian Steppe** is characterized by **extreme climate** (very hot summers and cold winters), **scanty rainfall**, and traditionally supported **nomadic herders** who raised livestock such as sheep, horses, and camels. This description fits the steppe regions of countries like Mongolia and Kazakhstan.

The other regions have different climatic and ecological characteristics:

- **African Savannah** is warm with seasonal rains and supports a wide range of wildlife and some agriculture.
- **North American Prairie** has fertile soils and is known for agriculture, especially wheat farming.
- **Siberian Tundra** has a cold, permafrost landscape, with very short growing seasons.

14. During a thunderstorm, the thunder in the skies is produced by:

1. Meeting of cumulonimbus clouds in the sky
2. Lightning that separates the nimbus clouds
3. Violent upward movement of air and water particles

Select the correct answer using the codes given below:

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

Correct Answer: d) None of the above produces the thunder

Explanation:

Thunder is produced by the **rapid expansion and contraction of air** surrounding a **lightning bolt**. When lightning occurs, it heats the surrounding air to a very high temperature almost instantly, causing the air to expand rapidly, which creates a shockwave

that we hear as thunder. None of the options accurately describe the cause of thunder, making **statement d (None of the above)** the correct answer.

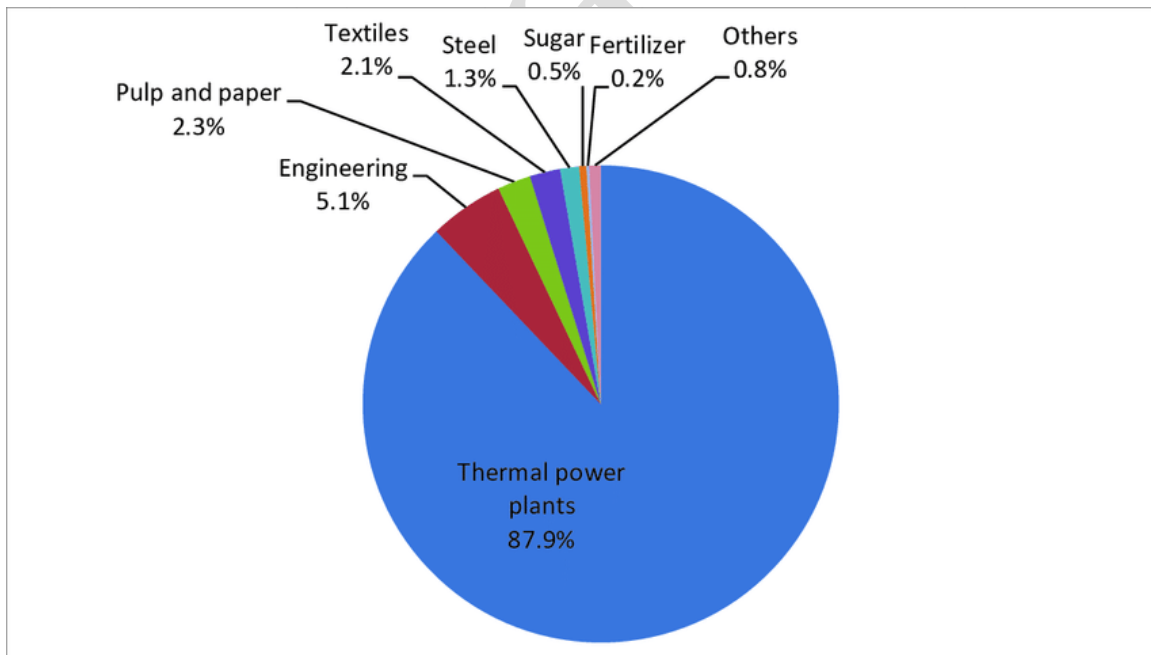
15. Which one among the following industries is the maximum consumer of water in India?

- a) Engineering
- b) Paper and pulp
- c) Textiles
- d) Thermal power

Correct Answer: d) Thermal power

Explanation:

The **thermal power** industry is the largest consumer of water in India. Thermal power plants require significant amounts of water for cooling processes and other operational needs. This is especially true for coal-fired and nuclear power plants. Other industries like paper and pulp, textiles, and engineering also use water, but their consumption is much lower compared to the thermal power industry.



Trend Analysis:

Current Affairs & Contemporary Issues

- **Recent Focus:** From 2021 onwards, there is a clear shift towards **current-affairs-driven geography** questions, especially those related to **global issues** like **climate change, renewable energy, and international treaties** (e.g., UN conventions).
- **Examples:** Questions on **Senkaku Islands (2022), Ebola outbreak (2014), and Tigray conflict** highlight the integration of **geopolitical geography** with **international relations**.

2. Conceptual Understanding Over Factual Knowledge

- **Early Years:** From **2013-2016**, questions primarily focused on **factual knowledge** such as identifying rivers, mountain ranges, and crops (e.g., mica in Kodarma).
- **Later Years:** Post-2017, there is a shift towards **application-based** questions, testing **conceptual understanding** of **atmospheric phenomena, ocean currents, and monsoon variability**.
- **Example:** **2023's** questions on **monsoons and oceanic currents** require deeper knowledge beyond basic facts.

3. Environmental Geography and Climate Change

- **Growth Post-2016:** There's an increasing number of questions on **environmental geography**, focusing on **climate change, biodiversity, deforestation, and water conservation**.
- **Examples:** Topics like the **Indian Ocean Dipole (2017), impact of nitrogenous fertilizers (2017), and the Sustainable Sugarcane Initiative (2014)** reflect the importance of **sustainability** and environmental concerns.

4. Geopolitical Geography

- **Rise After 2015:** There's a notable rise in questions linked to **geopolitical regions and conflict zones**.
- **Examples:** Questions on regions like **Golan Heights, Senkaku Islands, and Donbas** focus on geography's role in **contemporary global issues and international politics**.

5. Emphasis on Indian Geography

- **Consistent Focus:** Indian geography remains a core theme, covering **rivers, mountains, and agricultural practices** like **Kharif/Rabi crops**.

- **Shift in Pattern:** While early years asked factual questions, recent years focus on **policy implications, resource management, and environmental concerns** (e.g., **drip irrigation and natural disaster management**).

6. Regional Geography and Localization

- **Local Resource Use & Cultures:** Increased attention on **region-specific geography**, emphasizing **local resources, agricultural practices, and communities**.
- **Examples:**
 - **Tapioca and cashew in laterite soils (2013).**
 - **Changpa community and Pashmina goats in Ladakh (2014).**
 - **Terrace cultivation and soil erosion impacts.**

7. Climatology and Atmospheric Phenomena

- **Growing Focus:** Questions on **climatology** have become frequent, with topics covering **monsoons, cyclones, and El Niño**.
- **Examples:**
 - **Indian Ocean Dipole (2017)** and its effect on **monsoon variability**.
 - **Global warming impacts (2022)**, such as the role of **cloud types** in **surface temperatures**.

8. Shift from Physical to Applied & Human Geography

- **Transition:** Earlier years focused on **physical geography** (e.g., rivers, soils). Recent years emphasize **applied geography** with a connection to **human geography**.
- **Examples:**
 - Questions like **Seed Village Concept (2017)** and **Small Farmer Large Field (2023)** address the relationship between **geography, agriculture, and rural economies**.

9. Interdisciplinary Approach

- **Integration with Other Disciplines:** Questions increasingly combine **geography** with **economics, environmental science, and international relations**.
- **Examples:**
 - **Economic geography** questions (e.g., **port locations, agricultural productivity**).

- **Environmental policies** like the **Soil Health Card Scheme (2017)**.
- **Global geography** focusing on **boundary disputes** and **environmental impacts** of global warming.

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