

Q. 1) Consider the following statements about various types of biomes

1. Boreal biomes are characterised by acidic and mineral deficient soils
2. The predominant vegetation in the Tundra biome is evergreen coniferous trees.
3. Ebony and mahogany species are prominent in the tropical rainforest biome.

Which of the statements given above are correct?

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

Q.1) Solution: (d)

Explanation:

- Boreal biome soils are characterized by thin podzols which are acidic and mineral deficient. It is because the weathering of rocks proceeds slowly in cold environments and the litter is decomposed very slowly. The soil is acidic because of a large amount of water movement through the soil without a significant amount of evaporation and essential nutrients are leached beyond the reach of roots. **Hence statement 1 is correct.**
- The predominant vegetation in the Taiga biome is evergreen coniferous trees. Due to permafrost in Tundra, it is devoid of trees. **Hence statement 2 is incorrect.**
- Epiphytes along with ebony and mahogany are seen in the tropical rainforest biome. **Hence statement 3 is correct.**
- Epiphytes are plants that grow harmlessly upon another plant and derive their nutrients and moisture from air, rain, and debris accumulating around it.

Q. 2) Consider the following statements about various types of forests in India

1. The main species of tropical moist deciduous forests are neem, cactus, and spurge
2. The main species of tropical thorn forests are teak, sal, rosewood, and jamun.
3. The main species of sub-tropical pine forests are chir, oak, pine, and rhododendron.

4. The main species of tropical dry deciduous forests are acacia, red sanders, and satinwood.

Choose the correct code:

- a) Only one statement is correct
- b) Two statements are correct
- c) Three statements are correct
- d) Four statements are correct

Q.2) Solution: (b)

Explanation:

- The main species of tropical moist deciduous forests are teak, sal, rosewood, and jamun. **Hence statement 1 is incorrect.**
- The main species of tropical thorn forests are neem, cactus, and spurge. **Hence statement 2 is incorrect.**
- The main species of sub-tropical pine forests are chir, oak, pine, and rhododendron. **Hence statement 3 is correct.**
- The main species of tropical dry deciduous forests are acacia, red sanders, and satinwood. **Hence statement 4 is correct.**
- The main species of tropical wet evergreen forests are white cedar, mahogany, and meusa.
- The main species of tropical semi-evergreen forests are laurel, rosewood, and thorny bamboo.

Q.3) Which of the following contributes majorly to tropical deforestation?

- a) Logging
- b) Small-holder agriculture
- c) Large-scale agriculture
- d) Cattle pasture

Q.3) Solution: (b)

Explanation:

Deforestation is the felling of trees as a result of urbanization, industrialization, mining, use of wood for domestic purposes, shifting cultivation, etc.

Logging – 10 – 15%

Small-holder agriculture – 35 – 45%

Large-scale agriculture – 15 – 20%

Cattle pasture – 20 – 25%

Other – 5%

Hence option b is correct.

Q.4) Consider the following statements

1. Bonn Challenge is a global goal to restore 1500 million hectares of degraded land by 2030.
2. More than 50% of India's geographical area is affected by land degradation
3. Sustainable Development Goal 15 has provisions related to Land Degradation Neutrality.

Choose the correct code:

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

Q.4) Solution: (b)

Explanation:

- Bonn Challenge is a global goal to restore 150 million hectares of degraded land by 2020 and 350 million hectares by 2030. **Hence statement 1 is incorrect.**
- Bonn Challenge was launched by the Government of Germany and IUCN in 2011.
- India joined the challenge in 2015 and it has set the target of restoring 26 million hectares by 2030.

- State of India's Environment 2019 shows that 30% of India's total geographical area is being affected by land degradation. 82% of these degraded land lies in just nine states: Rajasthan, Maharashtra, Gujarat, Jammu & Kashmir, Karnataka, Jharkhand, Odisha, Madhya Pradesh and Telangana. **Hence statement 2 is incorrect.**
- LDN is a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems.
- Sustainable Development Goal 15 (SDG 15 or Global Goal 15) is about "Life on land". One of the 17 Sustainable Development Goals established by the United Nations in 2015, the official wording is: "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" **Hence statement 3 is correct.**

Q. 5) Consider the following statements regarding the Indian State of Forest Report 2021

1. It for the first time recorded the forest cover in tiger reserves and the Gir forest area.
2. Arunachal Pradesh has the largest area-wise forest cover.
3. The Forest Survey of India conducts this exercise every 5 years.
4. Nagaland has the highest forest cover in percentage terms

Which of the statements given above are correct?

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

Q.5) Solution: (b)

Explanation:

- The Indian State of Forest Report 2021 for the first time has recorded the forest cover in tiger reserves, tiger corridors, and the Gir forest area. The Total Forest and Tree cover is 24.62% of the geographical area of the country. The total forest cover is 7,13,789 sq km which is 21.71% of the geographical area of the country. The tree cover is 2.91% of the geographical area of the country. Forest cover in tiger corridors has increased by 0.32% between 2011-2021. Forest cover in tiger corridors has decreased by 0.04% between 2011-2021. **Hence statement 1 is correct.**

- Madhya Pradesh has the largest area-wise forest cover. Madhya Pradesh>Arunachal Pradesh>Chhattisgarh>Odisha>Maharashtra – Area-wise forest cover.**Hence statement 2 is incorrect.**
- The Forest Survey of India (FSI) conducts this exercise every two years. **Hence statement 3 is incorrect.**
- **The Forest Survey of India**, is an organization under the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
- Mizoram with 84.53 % has the highest percentage wise forest cover, while Nagaland is 5th with 73.90% .**Hence statement 4 is incorrect.**

Q. 6) Consider the following statements

1. Lentic ecosystems include all ecosystems with static or still water.
2. Lotic ecosystems include all fast-moving water bodies.
3. Lentic ecosystems are also called the riverine ecosystem.
4. Lotic ecosystems are also called the lacustrine ecosystem.

Which of the statements given above are correct?

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

Q.6) Solution: (d)

Explanation:

- Lentic ecosystems include all ecosystems with static or still water. Ex: Lakes and Ponds. **Hence statement 1 is correct.**
- Lotic ecosystems include all fast-moving water bodies. Ex: Rivers and Streams. **Hence statement 2 is correct.**
- Lentic ecosystems are also called the lacustrine ecosystem. **Hence statement 3 is incorrect.**
- Lotic ecosystems are also called the riverine ecosystem. **Hence statement 4 is incorrect.**

Q. 7) Consider the following statements about Biorock

1. It refers to the substance formed by the electro-accumulation of minerals dissolved in seawater.
2. Its production can be powered by renewable energy.
3. Biorock technology can help in coral restoration.

Which of the statements given above are correct?

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

Q.7) Solution: (d)

Explanation:

- Biorock refers to the substance formed by the electro-accumulation of minerals dissolved in seawater. It is also known as Seacrete or Seament. **Hence statement 1 is correct.**
- Biorock projects **can be powered by** renewable energy like windmills, photovoltaic solar panels, and tidal current generators. This enables their construction in areas where conventional electric power is unavailable. **Hence statement 2 is correct.**
- Biorock technology helps in coral restoration.
- It is a method that applies safe, **low-voltage electrical currents** through seawater, causing **dissolved minerals to crystallize** on structures, growing into a white limestone (CaCO_3) similar to that which naturally makes up coral reefs and tropical white sand beaches. **Hence statement 3 is correct.**

Q. 8) Consider the following statements

1. Cultural Eutrophication is also known as natural eutrophication.
2. When compared to anthropogenic eutrophication, the natural eutrophication process is substantially slower.
3. Eutrophication leads to the transformation of the water body from a terrestrial ecosystem to an aquatic ecosystem.

Choose the correct code:

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

Q.8) Solution: (c)

Explanation:

- Eutrophication is the enrichment of natural waters with inorganic nutrients, increasing the production of algae and macrophytes.
- Anthropogenic or "cultural eutrophication" is often a much more rapid process in which nutrients are added to a water body from a wide variety of polluting inputs including untreated or partially treated sewage **Hence statement 1 is incorrect.**
- When compared to anthropogenic eutrophication, the natural eutrophication process is substantially slower. **Hence statement 2 is correct.**
- Eutrophication leads to the transformation of the water body from an aquatic ecosystem to a terrestrial ecosystem. It leads to excess growth of algae blooms in the water body. Algal blooms obstruct sunlight penetration, resulting in the mortality of aquatic plants and, as a result, oxygen replenishment. It also leads to an increase in invasive species in the water bodies due to an increase in nutrient levels in the water bodies. **Hence statement 3 is incorrect.**

Q. 9) Consider the following statements

1. Coral reefs in India are found only in the Andaman & Nicobar, and Lakshadweep Islands.
2. India has all three major prevailing types of coral reefs – atolls, fringing reefs, and barrier reefs.

Choose the correct code:

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

Q.9) Solution: (b)

Explanation:

- Coral reefs in India are found in a lot of areas including the Gulf of Kutch, Gulf of Mannar, Palk Bay, Andaman & Nicobar, and Lakshadweep Islands.
- Patches of coral reefs are also found in Ratnagiri, Malvan, Redi, South Bombay, and at the Gaveshani Bank located in the west of Mangalore. **Hence statement 1 is incorrect.**
- India has all three major prevailing types of coral reefs – atolls, fringing reefs, and barrier reefs. **Hence statement 2 is correct.**
- Fringing reefs evolve and develop near the continent and remain close to the coastline. These reefs are separated from the coastline by small, shallow lagoons. They are the most commonly found reefs in the world.
- Barrier reefs are found offshore on the continental shelf. They usually run parallel to the coastline at some distance. A deep and wide lagoon is located between the coastline and the barrier reef.
- Atolls are formed on mid-oceanic ridges. They are shaped circularly or elliptically and are surrounded by seas on all four sides and have shallow waters in the center called a lagoon.

Q. 10) Consider the following statements about the estuary ecosystem

1. It is an area where a river meets the sea
2. It is devoid of tidal variations and are calm zones
3. It is biologically the most productive area where diverse animals are found.

Choose the correct code:

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

Q.10) Solution: (c)

Explanation:

- The estuary ecosystem is an area where a river meets the sea and is subject to tidal variations. It is a place where freshwater mixes with salty ocean water. It is formed due to various factors like rising sea levels, glacial processes, and tectonic processes. **Hence statement 1 is correct.**
- Estuaries are greatly influenced by tidal action. They are periodically washed by sea water once or twice a day based on the number of tides. In some narrow estuaries, tidal bores are significant. Tidal bores cause great damage to the estuarine ecology. **Hence statement 2 is incorrect.**
- It is biologically the most productive area where diverse animals are found as it gets nutrients from both fresh and marine water. **Hence statement 3 is correct.**

Q. 11) Consider the following statements about the Mangrove ecosystem

1. They form the best example of an ecotone.
2. They are halophytes adapted to anoxic conditions.
3. The Mangroves for the Future initiative is led by the UNEP.

Choose the correct code:

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

Q.11) Solution: (a)

Explanation:

- The mangrove ecosystem forms the best example of an ecotone as they grow in estuaries, low-lying coasts, and mudflats. **Hence statement 1 is correct.**
- An ecotone is an area that acts as a boundary or a transition between two ecosystems.
- They are halophytes adapted to anoxic conditions. **Hence statement 2 is correct.**
- Halophytes mean salt-tolerant trees and anoxic means low oxygen conditions of waterlogged mud.

- They produce pneumatophores to overcome the respiration problem.
- The Mangroves for the Future initiative is led by the IUCN and UNDP. It promotes investment in coastal ecosystem conservation and India is part of it. **Hence statement 3 is incorrect.**

Q. 12) Consider the following statements

1. Black corals can be found growing only in shallow waters.
2. Hard corals extract calcium carbonate from seawater to build coral exoskeletons.
3. Soft coral does not produce a rigid calcium carbonate skeleton.

Choose the correct code:

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

Q.12) Solution: (c)

Explanation:

- Black corals can be found growing **both in shallow and deep waters. They can live for over 4,000 years and** are branched and look like feathers, fans, or bushes, while others are straight like a whip. Black corals are filter feeders and eat tiny **zooplankton that is abundant in deep waters. Hence statement 1 is incorrect.**
- Hard corals extract calcium carbonate from seawater to build coral exoskeletons. Hard corals produce a rigid skeleton made of calcium carbonate (CaCO_3) in a crystal form called aragonite. They are the primary reef-building corals. Hard corals that form reefs are called hermatypic corals. **Hence statement 2 is correct.**
- Soft coral does **not produce a rigid calcium carbonate skeleton.** They do not form reefs, though they are present in a reef ecosystem. Soft corals are also mostly colonial; what appears to be a single large organism is a colony of individual polyps combined to form a larger structure. Visually, soft coral colonies tend to resemble trees, bushes, fans, whips, and grasses. **Hence statement 3 is correct.**

Q. 13) Consider the following statements about the International Coral Reef Initiative (ICRI)

1. It is a intergovernmental group under the aegis of UNEP
2. It was announced at the First Conference of the Parties of the Convention on Biological Diversity in 1994
3. India is a founding member of this initiative

Choose the correct code:

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

Q.13) Solution: (b)

Explanation:

- The International Coral Reef Initiative (ICRI) is an informal partnership among nations, international organisations and non-government organisations to help protect coral reefs globally. It aims to implement Chapter 17 of Agenda 21, Aichi Target 10 of the Convention on Biological Diversity's 10-year Strategic Plan, and other relevant internationally agreed objectives and targets. **Hence statement 1 is incorrect.**
- It was launched at the First Conference of the Parties of the Convention on Biological Diversity, held in the Bahamas in December 1994, and subsequently announced at the high level segment of the Intersessional Meeting of the United Nations Commission on Sustainable Development in April 1995. **Hence statement 2 is correct.**
- ICRI was established in 1994 at the initiative of eight founding nations: Australia, France, Japan, Jamaica, the Philippines, Sweden, the United Kingdom, and the United States. ICRI now has more than 60 members including India. **Hence statement 3 is incorrect.**

Q. 14) Consider the following statements

1. India has seven UNESCO-designated natural world heritage sites.
2. Khangchendzonga National Park is one of the natural world heritage sites.

Choose the correct code:

- e) 1 only
- f) 2 only
- g) Both 1 and 2
- h) Neither 1 nor 2

Q.14) Solution: (a)

Explanation:

- India has seven UNESCO-designated natural world heritage sites. **Hence statement 1 is correct.**
- **Khangchendzonga National Park** is the only mixed world heritage site in India. **Hence statement 2 is incorrect.**
- **The Natural World Heritage Sites in India-**
 1. **Great Himalayan National Park Conservation Area**
 2. Kaziranga National Park (1985)
 3. Keoladeo National Park (1985)
 4. **Manas Wildlife Sanctuary (1985)**
 5. **Nanda Devi and Valley of Flowers National Parks (1988, 2005)**
 6. Sundarban National Park (1987)
 7. Western Ghats (2012)

Q. 15) Consider the following statements

1. Lakes are never part of an Ocean
2. The Aral Sea is an endorheic lake
3. Lakes are temporary in nature and get eliminated eventually

Choose the correct code:

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

Q.15) Solution: (d)

Explanation:

- Lakes are never a part of the ocean they are defined as aquatic systems on land. Even lagoons are excluded from this definition. **Hence statement 1 is correct.**
- The lakes which do not have any outflow and rather lose their water with evaporation are known as endorheic lakes. The aral sea and the Caspian sea both are such lakes. **Hence statement 2 is correct.**
- Lakes are a temporary feature and get eventually eliminated due to silting and draining. **Hence statement 3 is correct.**

Q. 16) Consider the following

Ramsar Sites	State
1. Chandra Taal	a) Himachal Pradesh
2. Deepor Beel	b) Assam
3. Tampara Lake	c) Kerala
4. Shallbugh Wetland	d) Odisha

How many pairs are correctly matched?

- a) One pair
- b) Two pairs
- c) Three pairs
- d) Four pairs

Q.16) Solution: (b)

Explanation:

Ramsar Sites	State
1. Chandra Taal	a) Himachal Pradesh
2. Deepor Beel	b) Assam
3. Tampara Lake	c) Odisha
4. Shallbugh Wetland	d) Jammu and Kashmir
5. Hygam Wetland	e) Jammu and Kashmir
6. Thane Creek	f) Maharashtra
7. Kanjirankulam Bird Sanctuary	g) Tamil Nadu
8. Vaduvur Bird Sanctuary	h) Tamil Nadu
9. Ansupa Lake	i) Odisha

Hence option b is correct.

Q. 17) Consider the following statements about Montreux Record

1. It is a register of wetland sites in which changes in ecological character are occurring.
2. It is maintained as part of the Ramsar List.
3. Chilika lake of Odisha is on the list.

Choose the correct code:

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

Q.17) Solution: (a)

Explanation:

- Montreux Record is a **register of wetland sites in which changes in ecological character are occurring, have occurred, or are likely to occur. Hence statement 1 is correct.**
- It is maintained as part of the Ramsar List. **Hence statement 2 is correct.**
- **Chilika lake of Odisha was on the list but it's removed now. Hence statement 3 is incorrect.**
- Currently, two wetlands of India are in Montreux record: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).

Q. 18) Consider the following statements about layers of the ocean

1. The layer from the surface to 200 meters is known as the mesopelagic zone.
2. The layer from 200 meters to 1,000 meters is known as the epipelagic zone.
3. The layer from 1,000 meters to 4,000 meters is known as the bathypelagic zone.
4. The layer from 4,000 meters to 6,000 meters is known as the abyssal zone.

Choose the correct code:

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

Q.18) Solution: (c)

Explanation:

- The layer from the **surface to 200 meters** is known as the epipelagic zone. It is also known as the sunlight zone because this is where most of the visible light exists. **Hence statement 1 is incorrect.**
- The layer from **200 meters to 1,000 meters** is known as the **mesopelagic zone**. It is sometimes referred to as the twilight zone or the midwater zone. **Hence statement 2 is incorrect.**
- The layer from **1,000 meters to 4,000 meters** is known as the **bathypelagic zone**. It is referred to as the midnight zone or the dark zone. **Hence statement 3 is correct.**
- The layer from **4,000 meters to 6,000 meters** is known as the **abyssal zone**. **Hence statement 4 is correct.**
- The layer from 6,000 meters to the bottom of the deepest parts of the ocean is known as the **hadalpelagic zone**.

Q. 19) Which of the following are artificial lakes?

1. Sambhar Lake
2. Chembarambakkam Lake
3. Bhojtal Lake
4. Wular Lake
5. Hussain Sagar Lake

Choose the correct code:

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

- c) 1, 3 and 5
- d) 2, 3 and 5

Q.19) Solution: (d)

Explanation:

- Artificial lakes are often built by diverting a part of a river and storing the water in a reservoir behind a dam. They are also constructed by digging land or by using dykes to enclose the water.
- The artificial lakes in India –
 - ✓ Chembarambakkam Lake
 - ✓ Bhojtal Lake
 - ✓ Hussain Sagar Lake
 - ✓ Gobind Sagar Lake
 - ✓ Jaisamand Lake

Hence option d is correct.

Q. 20) Consider the following statements about the grassland ecosystem

1. They are found only in temperate areas.
2. They are an intermediate stage in ecological succession.
3. Jaguars, African wild dogs, pronghorns, and black-footed ferrets are found in grasslands.

Choose the correct code:

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

Q.20) Solution: (c)

Explanation:

- The grassland ecosystem is found in both tropical and temperate climates where the rainfall is insufficient to support tree growth. **Hence statement 1 is incorrect.**
- They are an intermediate stage in ecological succession as they encompass a portion of the land at all altitudes and latitudes when climatic and soil conditions prevent tree growth. **Hence statement 2 is correct.**
- Jaguars, African wild dogs, pronghorns, plains bison, mountain plover, African elephant, Sunda tiger, black rhinos, white rhinos, savanna elephants, bigger one-horned rhinos, Indian elephants, swift foxes, and black-footed ferrets are found in grasslands. **Hence statement 3 is correct.**

Q.21) Consider the following statements about Combined Maritime Forces

1. Combined Maritime Forces is a 34-nation maritime partnership based in Bahrain.
2. The grouping is commanded by a U.S. Navy Vice Admiral.
3. India is a founder member of Combined Maritime Forces.

Choose the correct statements:

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

Q.21) Solution (a)

Explanation:

- Combined Maritime Forces is a **34-nation maritime partnership** based in Bahrain that undertakes counter-terrorism, counter-piracy and regional cooperation. **Hence statement 1 is correct.**
- It is **commanded by U.S. Navy Vice Admiral**. **Hence statement 2 is correct.**
- 34 member nations: Australia, Bahrain, Belgium, Brazil, Canada, Denmark, Egypt, France, Germany, Greece, Italy, Iraq, Japan, Jordan, Republic of Korea, Kuwait, Malaysia, the Netherlands, New Zealand, Norway, Pakistan, The Philippines, Portugal, Qatar, Saudi Arabia, Seychelles, Singapore, Spain, Thailand, Turkey, UAE, United Kingdom, United States and Yemen. **Hence statement 3 is not correct.**

Source: [CLICK HERE](#)

Q.22) Consider the following statements about Indian Bureau of Mines (IBM)

1. Indian Bureau of Mines (IBM) is a statutory body established under Mines & Minerals (Regulation & Development) Act, 1948.
2. It aims to promote systematic and scientific development and optimum utilization of mineral resources of the country.
3. IBM is headed by Union Minister of Mines.

Choose the incorrect statements:

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

Q.22) Solution (c)

Explanation:

- The **Indian Bureau of Mines (IBM) established in 1948, is a multi-disciplinary government organisation** under the Department of Mines, Ministry of Mines, engaged in promotion of conservation, scientific development of mineral resources and protection of environment in mines other than coal, petroleum & natural gas, atomic minerals and minor minerals. **Hence statement 1 is not correct.**
- The objective of the IBM is to promote **systematic and scientific development** and **optimum utilisation of mineral resources** of the country (both on-shore and off-shore). **Hence statement 2 is correct.**
- Headed by the **Controller General, IBM** has six technical divisions with its head quarters at Nagpur. **Hence statement 3 is not correct.**
- IBM has 4 Zonal Offices, 13 Regional Offices, 2 Regional Ore Dressing Laboratories and Pilot Plants spread over the Country.

Source: [CLICK HERE](#)

Q.23) Consider the following statements about Small Cells in 5G

1. Small Cells are low-powered radio access nodes that have a coverage range from a few metres to a few hundred metres.
2. They are portable, easy to deploy and help provide localised coverage.
3. Small Cells are needed for deploying 5G as opposed to earlier generations such as 4G, because of the frequency.

Choose the incorrect statements:

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

Q.23) Solution (d)

Explanation:

- Small Cells are **low-powered radio access nodes or base stations** that have a coverage range from a few metres to a few hundred metres. **Hence statement 1 is correct.**
- They are **portable, easy to deploy and help provide localised coverage.** **Hence statement 2 is correct.**
- Small Cells are needed for deploying 5G as opposed to earlier generations such as 4G, because of the frequency. **Hence statement 3 is correct.**
- The higher the frequency, the lower the wavelength, which means that the distance they travel is less.
- To expedite the roll out of 5G, telecom operators in the country will leverage street furniture such as poles, advertisement hoardings and bus shelters for deploying the Small Cells.

Source: [CLICK HERE](#)

Q.24) Consider the following statements about Grameen Udyami Project

1. It is a unique multiskilling project funded by the National Skill Development Corporation
2. The project aims to train 5 lakh tribal students in rural India
3. It is implemented under Sansadiya Parisankul Yojana.

Choose the correct statements:

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

Q.24) Solution (d)

Explanation:

- To augment **skill training in tribal communities** for their inclusive and sustainable growth, **National Skill Development Corporation (NSDC)** in partnership with Seva Bharti and Yuva Vikas Society, launched the second phase of Grameen Udyami Project. Under the initiative, the endeavour is to multiskill India's youth and impart functional skills to them for enabling livelihoods. **Hence statement 1 is correct.**
- It aims to train **450 tribal students** in Madhya Pradesh and Jharkhand. The project is being implemented in six states— Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat. **Hence statement 2 is not correct.**
- Grameen Udyami Yojana is implemented under **Sansadiya Parisankul Yojana**. **Hence statement 3 is correct.**

Source: [CLICK HERE](#)

Q.25) Consider the following statement about Katchal island

1. It is part of the Nicobar Islands and is located to the south of Sentinel Island.
2. Mangrove forest on the Island is of propagule type, meaning they can become detached from a plant and give rise to a new plant.

Choose the correct statements:

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

Q.25) Solution (a)

Explanation:

- It is part of the Nicobar Islands and **is located to the south of Sentinel Island**. Hence statement 1 is correct. **Hence statement 1 is correct.**
- The United States National Aeronautics and Space Administration (NASA) recently highlighted the loss of mangrove cover on Katchal island, a part of India's Nicobar archipelago.
- The mangrove cover on Katchal will not come back as it lacks propagules.
- A **propagule is a vegetative structure** that can become detached from a plant and give rise to a new plant. **Hence statement 2 is not correct.**

Source: [CLICK HERE](#)

Q.26) An athlete runs 200 meters race in 24 seconds. His speed in km/h is

- a) 20
- b) 24
- c) 28.5
- d) 30

Q.26) Solution (d)

Explanation:

Speed of athlete,

$$= 200\text{m}/24 \text{ secs}$$

$$= (200 \times 18)/(5 \times 24)$$

$$= 30\text{km}/\text{hour}$$

Q.27) If A travels to his school from his house at the speed of 3 km/h, then he reaches the school 5 minutes late. If he travels at the speed of 4 km/h, he reaches the school 5 minutes earlier than school time. The distance of his school from his house is

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

Q.27) Solution (b)

Explanation:

Let the distance between school and home be x km.

The difference of time when A goes school to school with these two different speed is 10 min

$$= 10/60 \text{ hour}$$

Now,

$$x/3 - x/4 = 10/60$$

$$\text{Or, } x/12 = 1/6$$

Or, $x = 12/6$

= 2km

Q.28) In a 100m race, Kamal defeats Bimal by 5 seconds. If the speed of Kamal is 18 kmph, then the speed of Bimal is:

- a) 15.4 kmph
- b) 14.5 kmph
- c) 14.4 kmph
- d) 14 kmph

Q.28) Solution (c)

Explanation:

Time taken by Kamal

$$= 100 / (18 \times 5) / 18$$

$$= 20 \text{ seconds}$$

Hence, Time taken by Bimal

$$20 + 5 = 25 \text{ seconds}$$

So, Bimal's speed

$$= 100 / 25$$

$$= 4$$

$$= (4 \times 18) / 5$$

$$= 14.4 \text{ kmph}$$

Q.29) A, B and C start together from the same place to walk round a circular path of length 12km. A walks at the rate of 4km/h, B 3km/h and C $3/2$ km/h. They will meet together at the starting place at the end of:

- a) 10 hrs
- b) 12 hrs
- c) 15hrs

d) 24 hrs

Q.29) Solution (d)

Explanation:

Time taken to complete the revolution:

A → $12/4 = 3$ hrs

B → $12/3 = 4$ hours

C → $12 \times (2/3) = 8$ hrs

Required time,

= LCM of 3, 4, 8.

= 24 hours.

Read the following passage and answer the item that follow. Your answer to these items should be based on the passages only

Passage 1

Take 'the birthday problem', for instance. It simply asks: how many people would you need to get into the same room in order to statistically assure that at least two share the exact birth month and day? Given that there are 365 days in a non-leap year, and that most people you know probably don't have the same birthday, you might reasonably suppose that you'd need quite a high number to find an exact match. Hundreds, perhaps, and even then you'd be lucky to find two people with the same birth month and day. Statistically, however, you need only 23 people in the room for a greater than 50 per cent (hence 'statistically probable') chance of finding two people with the exact same birth month and day. For a 99.9 per cent chance, you need only 70 people.

Q.30) Which of the following options puts forth the main idea of this paragraph best?

- a) Coincidences aren't as low probability as commonly thought.
- b) Often, coincidences are given a significance disproportionate to their relative commonness.
- c) Coincidences can be explained by probabilistic and statistical reasoning.
- d) Coincidences are bound to happen and are void of greater meaning.

Q.30) Solution (a)

Explanation:

The 'birthday problem' talked about in this paragraph serves to highlight the fact that coincidences are more common and more probable than we think. Option a states this idea clearly, and is hence the correct option.

Options b and d are similar. They talk of the significance of / meaning attributed to coincidences. This is not what the paragraph discusses.

While it is true that the paragraph explains the probability of coincidences occurring, that is not the main idea of the paragraph. So, option b is not the right one.