

9th Social Science Lesson 23 Questions in English**23] Biosphere**

1. Which of the following statement is correct?

- 1) Biosphere, the fourth sphere of the Earth, is a life supporting layer that exists on the earth's surface
- 2) This layer on earth encompasses the Lithosphere, Hydrosphere and Atmosphere.
- 3) It includes flora and fauna that thrive on or near the earth's surface.
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) **All the above**

Explanation

Biosphere, the fourth sphere of the Earth, is a life supporting layer that exists on the earth's surface. This layer on earth encompasses the Lithosphere, Hydrosphere and Atmosphere. It includes flora and fauna that thrive on or near the earth's surface. The area in which an animal, plant or micro-organism lives is called its habitat. A wide variety of plants and animals live in a particular habitat known as biodiversity.

2. What is the approximate vertical range of Bio-sphere?

- a) 10 Kms
- b) **20 Kms**
- c) 30 Kms
- d) 15 Kms

Explanation

The vertical range of the biosphere is approximately 20 km, which is measured from the ocean floor to the troposphere. However, most plants and animals live in a very narrow section for about 1 km above and below the Mean Sea Level (MSL). Biosphere is made up of different ecosystems and biomes. All living things, large or small, are grouped into species.

3. Assertion(A): An ecosystem is a community, where all living organisms live and interact with one another and also with their non-living environment

Reason(R): Biosphere harbours all ecosystems on the earth and sustains life forms including
Mankind

- a) **Both (A) and (R) are correct, but (R) does not explain (A)**

- b) Both (A) and (R) are wrong
- c) Both (A) and (R) are correct and (R) explains (A)
- d) (A) is Correct and (R) is wrong

Explanation

An ecosystem is a community, where all living organisms live and interact with one another and also with their non-living environment such as land, soil, air, water etc. Ecosystems range in size from the smallest units (Eg: bark of a tree) that can sustain life to the global ecosystem or ecosphere. (Eg: Cropland, Pond ecosystem, Forest ecosystem, Desert ecosystem etc.). Biosphere harbours all ecosystems on the earth and sustains life forms including mankind.

4. The branch of science that deals about ecosystem is called_____

- a) Eulogy
- b) Ecology**
- c) Environmentology
- d) Economy

Explanation

The branch of science that deals about ecosystem is called Ecology. A person who studies ecology is referred to as an Ecologist.

5. Which of the following is/are Abiotic factor?

- 1) Soil
 - 2) Water
 - 3) Algae
 - 4) Land
- a) 1, 2, 3
 - b) 2, 3, 4**
 - c) 1, 3, 4
 - d) 1, 2, 4

Explanation

An ecosystem consists of three basic components, namely A) Abiotic components B) Biotic components and C) Energy component

Abiotic components include the non-living, inorganic, physical and chemical factors in the environment. Eg. Land, Air, Water, Calcium, Iron etc.

6. Which of the following statement is correct?

- 1) Biotic components include plants, animals and micro- organisms.
- 2) Producers are self- nourishing components of the ecosystem
- 3) Consumers are those that depend on producers, directly or indirectly.
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Biotic components include plants, animals and micro-organisms. Biotic components can be classified into three categories:

- Producers are self-nourishing components of the ecosystem. Hence, they are called Autotrophs. They are found both on land and water. Eg. Plants, Algae, Bacteria etc.
- Consumers are those that depend on producers, directly or indirectly. Hence, they are called Heterotrophs

7. Match the following

- | | |
|-------------------------|-------------|
| I. Primary consumers | 1. Lion |
| II. Secondary consumers | 2. Owl |
| III. Tertiary consumers | 3. Zebra |
| IV. Decomposer | 4. Mushroom |
- a) 4, 1, 3, 2
 - b) 2, 3, 1, 4
 - c) 3, 1, 2, 4
 - d) 4, 3, 2, 1

Explanation

The common categories of consumer are:

- Primary consumers depend on producers for their food. They are exclusively herbivores. Eg. zebra, goat etc.
- Secondary consumers are small carnivores i.e., they consume herbivores. Eg. lion, snake etc.
- Tertiary consumers are top carnivores that prey on both herbivores and carnivores. Eg. owl, crocodile etc.
- Decomposers are some organisms that are incapable of preparing its own food. They live on dead and decaying plants and animals. Hence, they are called Saprotrophs. Eg. fungus, mushrooms etc

8. Which of the following statement is correct?

- 1) All organisms in the biosphere use energy to work and convert one form of energy into another.
- 2) Water is the ultimate source of energy for the biosphere as a whole
- 3) The producers, consumers and the decomposers contribute a lot to the energy flow in an ecosystem.
 - a) 1, 2
 - b) 1, 3**
 - c) 2, 3
 - d) All the above

Explanation

All organisms in the biosphere use energy to work and convert one form of energy into another. The Sun is the ultimate source of energy for the biosphere as a whole. The solar energy gets transformed into other forms of energy through the various components in the ecosystem. The producers, consumers and the decomposers contribute a lot to the energy flow in an ecosystem.

9. Assertion(A): The living organisms form an interacting set of flora and fauna which are organized into trophic levels, food chains and food webs

Reason(R): Energy flow generally takes place in a hierarchical order in an ecosystem through various levels.

- a) Both (A) and (R) are correct, but (R) does not explain (A)
- b) Both (A) and (R) are wrong
- c) Both (A) and (R) are correct and (R) explains (A)**
- d) (A) is Correct and (R) is wrong

Explanation

The living organisms form an interacting set of flora and fauna which are organized into trophic levels, food chains and food webs. The functioning of an ecosystem depends on the pattern of the energy flow, as it helps in the distribution and circulation of the organic and inorganic matter within an ecosystem. Energy flow generally takes place in a hierarchical order in an ecosystem through various levels. These levels are called trophic levels.

10. A system of interlocking and interdependent food chains is called a_____

- a) Food Path
- b) Food Web**
- c) Food Cycle
- d) Food Route

Explanation

The chain of transformation of energy from one group of organisms to another, through various trophic levels is called a food chain. A system of interlocking and interdependent food chains is called a food web.

11. Which of the following statement is correct?

- 1) Biodiversity or biological diversity refers to a wide variety of living organisms which live in a habitat.
 - 2) In biodiversity, each species, no matter how big or small, has an important role to play in the ecosystem.
 - 3) It maintains the ecological balance and facilitates social benefits such as tourism, education, research etc. over an area
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Biodiversity or biological diversity refers to a wide variety of living organisms (plants, animals and other micro-organisms) which live in a habitat. It is highly influenced by topography, climate as well as human activities. It represents the strength of the biological resources of a place on earth. In biodiversity, each species, no matter how big or small, has an important role to play in the ecosystem. It maintains the ecological balance and facilitates social benefits such as tourism, education, research etc. over an area.

12. Assertion(A): The extinction of species (flora and fauna) due to human and natural influences is called loss of biodiversity

Reason(R): A healthy eco system provides clean water, pure water, enriched soil, food, raw materials, medicines etc.

- a) Both (A) and (R) are correct, but (R) does not explain (A)
- b) Both (A) and (R) are wrong
- c) Both (A) and (R) are correct and (R) explains (A)
- d) (A) is Correct and (R) is wrong

Explanation

The extinction of species (flora and fauna) due to human and natural influences is called loss of biodiversity. A healthy eco system provides clean water, pure water, enriched soil, food, raw materials, medicines etc. Hence stable biosphere has to be conserved.

13. Which of the following statement is correct?

- 1) A biome is a geographically extensive ecosystem where all flora and fauna are found collectively.
- 2) Biomes are only defined by biotic factors
- 3) It is the total assemblage of plant and animal life interacting within the biosphere
 - a) 1, 2
 - b) 1, 3**
 - c) 2, 3
 - d) All the above

Explanation

A biome is a geographically extensive ecosystem where all flora and fauna are found collectively. It is the total assemblage of plant and animal life interacting within the biosphere. Biomes are defined by abiotic factors like, relief, climate, soils and vegetation. They are classified into two broad categories, terrestrial biomes and aquatic biomes.

14. Which of the following region is considered as a hot-spot?

- a) An ecological region that has lost more than 70% of its original habitat**
- b) An ecological region that has lost more than 30% of its original habitat
- c) An ecological region that has lost more than 90% of its original habitat
- d) An ecological region that has lost more than 50% of its original habitat

Explanation

An ecological region that has lost more than 70% of its original habitat is considered a hotspot. Hotspots in India are the Himalayas, Western Ghats, Indo Burma Region and Sundaland. There are 34 areas around the world which are qualified as biodiversity hotspots.

15. Which of the following are Some of the major terrestrial biomes of the world?

- 1) Tropical Forest Biomes
- 2) Tropical Savanna Biomes
- 3) Tundra Biomes
- 4) Desert Biomes
 - a) 1, 2, 4
 - b) 1, 3, 4
 - c) 2, 3, 4
 - d) All the above**

Explanation

Terrestrial biomes are a group of living organisms that live and interact with one another on land. They are mainly determined by temperature and rainfall. Some of the major terrestrial biomes of the world are A. Tropical Forest Biomes B. Tropical Savanna Biomes C. Desert Biomes D. Temperate Grassland Biomes E. Tundra Biomes

16. Which of the following are included in Tropical Forest Biomes?

- 1) evergreen rainforest
 - 2) seasonal deciduous forest
 - 3) Sundarbans
- a) 1, 2
 - b) 1, 3
 - c) 2, 4
 - d) All the above

Explanation

The tropical forest biome is comprised of several sub-biomes, including evergreen rainforest, seasonal deciduous forest etc. Tropical forests have the highest biodiversity and primary productivity of any of the terrestrial biomes.

17. Which of the following are major of Tropical Forest Biomes?

- 1) Amazon basin
 - 2) Congo basin
 - 3) Nalathanithevu
 - 4) Indonesian islands
- a) 1, 3, 4
 - b) 2, 3, 4
 - c) 1, 2, 4
 - d) All the above

Explanation

The Amazon basin, Congo basin and Indonesian islands are the major regions of Tropical Forest Biomes. These regions have very dense forests and so have great economic importance. Human settlements are found scattered here. They sustain their livelihood through food gathering, fishing, lumbering and shifting cultivation.

18. Which of the following fever is/are common in Tropical Forest Biomes?

- a) Malaria
- b) Yellow fever

- c) Cancer
- d) a and b

Explanation

Due to the humid nature of Tropical Forest Biomes, the people get afflicted to tropical diseases like malaria, yellow fever etc. The chief trees found here are rubber, bamboo, ebony, etc. Bats, pheasants, jaguars, elephants, monkeys etc. are the important birds and animals found here.

19. Which of the following plant can be used to treat Cancer?

- a) Neem
- b) **Lapacho**
- c) Papaya
- d) All the above

Explanation

The U.S. National Cancer Institute has identified about 70% of the plants used for treating cancer. Which are found only in rain forests. E.g. Lapacho

20. Tropical grasslands are generally found between___ forests and_____

- a) Temperate, Desert
- b) **Tropical, Desert**
- c) Desert, Ocean
- d) Temperate, Ocean

Explanation

Tropical grasslands are generally found between tropical forests and deserts. Tropical Savanna biomes are found between 10° to 20° N and S latitudes. These grasslands are generally flat and are found in the Sahel, south of Sahara in East Africa and in Australia.

21. Which of the following are the features of Tropical Savanna (Grasslands) Biomes?

- 1) Hot
 - 2) Dry
 - 3) Wet
 - 4) Low rainfall
- a) **1, 2, 4**
 - b) 2, 3, 4
 - c) 1, 2, 3
 - d) All the above

Explanation

Tropical Savanna (Grasslands) Biomes is generally hot and dry and experiences moderate to low rainfall. So, the grass which grow here are tall and sharp. Hence the chief occupation of the people found here is herding. The primitive people living here are nomadic. The common animals found here are the lion, leopard, tiger, deer, zebra, giraffe etc. Flora such as Rhodes grass, red oats grass, lemon grass etc. are found in this biome.

22. Which of the following fauna are threatened by parts of the Savanna grasslands are being converted into farmland?

- 1) Lion
- 2) Grass
- 3) Chetah
- a) 1, 2
- b) 1, 3**
- c) 2, 3
- d) All the above

Explanation

Of late, parts of the Savanna grasslands are being converted into farmlands, which pose a great threat to the wide range of fauna. For E.g. The population of the big cats like cheetah, lion etc. are dwindling drastically.

23. What is the annual rainfall of Desert biomes?

- a) Less than 100 cm
- b) More than 50 cm and less than 100 cm
- c) Less than 25 cm**
- d) Less than 50 cm

Explanation

Deserts are usually found on the western margins of the continents between 20° and 30° N and S latitudes. The annual rainfall is less than 25 cm in these regions.

24. Which of the following statement is correct?

- 1) Due to the lack of rainfall and arid conditions, these regions do not possess any vegetation
- 2) It has a special vegetation type called Xerophytes
- 3) Drought resistant thorny scrubs and bushes, palms are found here.
- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) All the above**

Explanation

Due to the lack of rainfall and arid conditions, these regions do not possess any vegetation but have special vegetation type called Xerophytes. As the soil is sandy and saline, deserts remain agriculturally unproductive. Drought resistant thorny scrubs and bushes, palms are found here.

25. Which of the following are mostly found in Desert biomes?

- 1) Lizard
- 2) Snake
- 3) Black Chetah
- 4) Scorpions
 - a) 1, 2, 3
 - b) 2, 3, 4
 - c) 1, 2, 4
 - d) All the above

Explanation

Tribal people who live here practice food gathering and hunting. They move their temporary settlements frequently in search of pastures. Transportation becomes very difficult here and is carried on by camels. Reptiles like snakes, lizards, scorpions etc., are most commonly found here.

26. Which of the following statement about Oases is correct?

- 1) Oases are fed by springs.
- 2) An oasis is a Salt water source found in deserts and semi-arid regions
- 3) Crops like date palms, figs, citrus fruits, maize etc. are cultivated near these oases.
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

An oasis is a fertile fresh water source found in deserts and semi-arid regions. Oases are fed by springs. Crops like date palms, figs, citrus fruits, maize etc. are cultivated near these oases.

27. Which of the following are the features of Temperate grassland biomes?

- 1) They are found near the coastal plains of the continent
- 2) They are characterized by large seasonal temperature variations
- 3) The type of grassland in these regions strongly depends upon precipitation
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3

d) All the above

Explanation

Temperate Grasslands are usually found in the interior of the continents and are characterized by large seasonal temperature variations, with warm summer and cold winter. The type of grassland in these regions strongly depends upon precipitation.

28. Which of the following cultivation is favoured by Temperate Grassland Biomes?

- a) Rice
- b) Wheat**
- c) Dates
- d) Cotton

Explanation

Higher precipitation leads to tall and soft grass and lower precipitation leads to short and soft grass. These regions favour wheat cultivation. Extensive mechanised agriculture is practised due to lack of farm labour. Pastoral industry becomes the main occupation, thereby facilitating slaughtering of animals, packing of raw and processed meat, dairy products etc. The common birds and animals are grass hopper, wolf, bison, prairie dog etc.

29. Match the following:

- | | |
|------------------|---------------|
| I. North America | 1. Prairies |
| II. Argentina | 2. Manchurian |
| III. Australia | 3. Pampas |
| IV. China | 4. Downs |
- a) 4, 1, 2, 3
 - b) 2, 1, 3, 4
 - c) 1, 3, 4, 2**
 - d) 1, 4, 3, 2

Explanation

Temperate grasslands are called differently in different parts of the world. Prairies -- North America, Steppes -- Eurasia, Pampas -- Argentina and Uruguay, Veld -- South Africa, Downs -- Australia, Canterbury -- New Zealand, Manchurian -- China

30. Which of the following falls in the Tundra biomes?

- 1) Iceland
- 2) Greenland
- 3) Arctic
- 4) Antarctic

- a) 1, 2, 4
- b) 2, 3, 4**
- c) 1, 2, 3
- d) All the above

Explanation

These vast lowlands are found where the ground remains frozen. Greenland, Arctic and Antarctic regions and Northern parts of Asia, Canada and Europe fall in this biome. These regions are also called Barren lands. This biome experiences long severe winter and short cool summer.

31. Which of the following is the occupation of Tundra region?

- a) Poultry
- b) Farming
- c) Hunting and fishing**
- d) Cattle rearing

Explanation

Due to the prevailing of low temperature and short growing seasons, the net primary productivity is very low in tundra. People are nomadic. Hunting and fishing are their major occupations. The population here is extremely sparse and the harsh environment makes them change their settlement frequently. They live in igloos in winter and in tents during summer. Arctic moss, Arctic willow, lichens etc. grow here. Fauna like the polar bear, wolverine, reindeer, snowy owl are found here.

32. Which of the following statement is correct?

- 1) Aquatic biome is a group of living organisms that live and interact with one another and its aquatic environment for nutrients and shelter.
 - 2) Like terrestrial biomes, aquatic biomes are influenced by a series of abiotic factors
- a) 1 alone
 - b) 2 alone
 - c) 1, 2**
 - d) None

Explanation

Aquatic biome is a group of living organisms that live and interact with one another and its aquatic environment for nutrients and shelter. Like terrestrial biomes, aquatic biomes are influenced by a series of abiotic factors. It is broadly classified as fresh water biomes and marine biomes.

33. Which of the following plants grow in Fresh water Biomes?

- 1) Water lily

- 2) Lotus
- 3) duck weeds
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Water lily, lotus, duck weeds etc. are the common plants found Fresh water Biomes. Trout, salmon, turtles, crocodiles etc. are the animals found here.

34. Which of the following is not included in fresh water biomes?

- a) Lakes
- b) Ponds
- c) River
- d) Estuaries

Explanation

Fresh water Biomes comprises lakes, ponds, rivers, streams, wetlands etc. It is influenced by various abiotic components such as the volume of water, water flow, composition of oxygen, temperature, etc. Humans rely on freshwater biomes for drinking water, crop irrigation, sanitation and industry.

35. Which of the following statement is correct?

- 1) They are the largest aquatic biomes on earth
- 2) They are continuous bodies of salt water and provide a wide range of habitats for marine plants and animals.
- 3) Coral reefs are a second kind of marine biomes within the ocean
 - a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) All the above

Explanation

Marine Biomes are the largest aquatic biomes on earth. They are continuous bodies of salt water and provide a wide range of habitats for marine plants and animals. Coral reefs are a second kind of marine biomes within the ocean. Estuaries, coastal areas where salt water and fresh water mix, form a third unique marine biome.

36. Assertion(A): Aquatic biomes are not only important for plants and animals, but also for humans

Reason(R): Humans use aquatic biomes for water, food and leisure activities.

- a) Both (A) and (R) are correct, but (R) does not explain (A)
- b) Both (A) and (R) are wrong
- c) **Both (A) and (R) are correct and (R) explains (A)**
- d) (A) is Correct and (R) is wrong

Explanation

As water provides maximum mobility to marine organisms, nutrients are circulated more quickly and efficiently here than the terrestrial biomes. Apart from animals, plants such as kelp, algae, phytoplankton etc. also grow in water. Aquatic biomes are not only important for plants and animals, but also for humans. Humans use aquatic biomes for water, food and leisure activities. Some of the threats and issues to aquatic biomes are overfishing, pollution and rise in sea level.

37. Which of the following statement is correct?

- 1) The biosphere extends from the deep ocean trenches to lush rain forests.
 - 2) People play an important role in maintaining the flow of energy in the biosphere
 - 3) There are places on earth that are both biologically rich and deeply threatened
- a) 1, 2
 - b) 1, 3
 - c) 2, 3
 - d) **All the above**

Explanation

The biosphere extends from the deep ocean trenches to lush rain forests. People play an important role in maintaining the flow of energy in the biosphere. At the same time, the primary cause of today's loss of biodiversity is habitat alteration caused by human activities. The ever-increasing population results in over exploitation of biological resources. This has an adverse impact on flora and fauna on earth. There are places on earth that are both biologically rich and deeply threatened. Hence it is man's duty to conserve and care for the earth and make it a better place to live in.

38. How many Biosphere reserves are there in India?

- a) 11
- b) 12
- c) **18**
- d) 22

Explanation

A Biosphere Reserve is a special ecosystem or specialized environment with flora and fauna that require protection and nurturing. There are 18 Biosphere Reserves in India.

winmeen.com