

QB365

Important Questions - Nature Resources

9th Standard CBSE

Science

Reg.No. :

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Time : 01:00:00 Hrs

Total Marks : 50

Section-A

- 1) Most of the water on the earth surface is found in 1
(a) lakes (b) rivers (c) oceans and seas (d) underground
- 2) The life supporting zone of the earth where the atmosphere the hydrosphere and the lithosphere interact is known as 1
(a) biotic zone (b) abiotic zone (c) biosphere (d) biome
- 3) Venus and Mars have no life because 1
(a) they have no atmosphere (b) their atmosphere has 95-97% oxygen
(c) their atmosphere has only oxygen (d) their atmosphere has 95-97% carbon dioxide
- 4) In large parts of India rains are mostly brought by the 1
(a) south-west or north-east (b) south-west or north-west (c) south-west or north-south
(d) south-west or south-east
- 5) Which one of the following is not an air pollutant? 1
(a) Oxides of nitrogen (b) Oxides of sulphur (c) Hydrocarbons (d) Carbon dioxide
- 6) Which of the following organisms are very sensitive to the levels of contaminants like sulphur dioxide in air? 1
(a) Microorganisms (b) Fungi (c) Algae (d) Lichens
- 7) Which one of the following factors are not responsible for formation of soil? 1
(a) Sun (b) Wind (c) Lichens and moss (d) Lightning
- 8) Which one of the following are not involved in nitrogen fixation? 1
(a) Free living bacteria (b) Rhizobium (c) Lightning (d) Parasitic bacteria
- 9) Which of the following does not contain nitrogen? 1
(a) Nucleic acids (b) Proteins (c) Alkaloids (d) Fats
- 10) Nitrogen fixing bacteria cannot fix N_2 in presence of 1
(a) CO_2 (b) N_2 (c) O_2 (d) light

Section-B

- 11) Why do terrestrial life forms require fresh water? 2
- 12) How is greenhouse effect related to global warming? Explain. 2
- 13) What are the two ways in which carbon dioxide is fixed to keep its percentage almost constant? 2
- 14) What is the role of the atmosphere in climate control? 2

- 15) What are the two factors that cause changes in our atmosphere? 2
- 16) What are the two things which are essential for all forms of life on the earth? 2
- 17) Mention a cause and a consequence of acid rain. 2
- 18) Briefly describe the mineral cycle. 2
- 19) What is humus? What is its function in the soil? 2
- 20) How is our atmosphere different from the atmosphere on Venus and Mars? 2

Section-C

- 21) What causes winds? 5
- 22) Why is water necessary for living organisms? 5
- 23) What is soil erosion? Give two methods of reducing it. 5
- 24) How the biosphere is a dynamic and stable system? 5

Section-A

- 1) (c) oceans and seas 1
- 2) (c) biosphere 1
- 3) (d) their atmosphere has 95-97% carbon dioxide 1
- 4) (a) south-west or north-east 1
- 5) (d) Carbon dioxide 1
- 6) (d) Lichens 1
- 7) (d) Lightning 1
- 8) (d) Parasitic bacteria 1
- 9) (d) Fats 1
- 10) (c) O₂ 1

Section-B

- 11) 2
 The osmotic concentration of terrestrial forms is low. They can neither store nor eliminate high amounts of dissolved salt present in sea water. Therefore, they require fresh water to maintain the balance of salts within the body.
- 12) 2
 Higher concentration of greenhouse gases, such as methane, nitrous oxide etc. in the atmosphere causes absorption of reflected heat (infrared radiations) or avoid their escape into the space. This phenomenon cause greenhouse effect. This leads to rise in the temperature of earth's atmosphere throughout the world causing global warming. This global warming caused by greenhouse gases like CO₂, CH₄, etc. leads to melting of glacier and polar ice. This would cause rise in level of sea and other climatic changes.

- 13) Carbon dioxide is fixed in two ways: 2
(i) Green plants convert carbon dioxide into glucose in the presence of sunlight.
(ii) Many marine animals (like *Unio* and *Pila*) use carbonates dissolved in sea-water to make their shells.
This fixation of carbon dioxide keeps its percentage almost constant in the atmosphere.
- 14) 2
The atmosphere prevents the sudden increase in temperature during the daylight hours. It slows down the escape of heat into outer space during the night. Thus, the atmosphere keeps the average temperature of the earth fairly steady.
- 15) (i) Heating of air and 2
(ii) Formation of water vapour.
- 16) (i) The three resources - the land, the water and the air available on the earth. 2
(ii) The energy which is provided by the sun.
- 17) 2
Cause of Acid Rain: Dissolution of different oxides of nitrogen (e.g., NO_2) and sulphur (e.g., SO_2) in rain water in the atmosphere causes Acid Rain. These oxides of nitrogen and sulphur are produced due to combustion of fossil fuels.
Consequences of Acid Rain
(i) Acid rain cause increase in acidity of the fertile soil and also damages chlorophyll of leaves of crops and other plants. Thus, indirectly reduces crop yield.
(ii) Acid rain corrodes metal, stones and marble, painted surfaces etc. Thus, harms our heritage monuments, statues and buildings.
(iii) By acidifying water, acid rain also harms aquatic life.
- 18) 2
Mineral cycle: Minerals such as sodium, potassium, iron, magnesium, etc. come directly from the earth's crust due to weathering of rocks. From soil they enter the ecosystem and are taken up by the plants. From plants, they pass into the herbivores and then into the carnivores. The excretion and decomposition of dead plants, herbivores and carnivores bring back these minerals into the soil.
- 19) Humus: The bits of decayed organisms present in the soil are called humus. 2
Function: Humus is the major factor in deciding the soil structure because:
(i) it causes the soil to become more porous.
(ii) allows water and air to penetrate deep underground to be available to the roots of plants.
- 20) 2
Atmosphere of our earth consists of many gases like nitrogen, oxygen, carbon dioxide and water vapour that helps life to exist on the earth. The percentage of in earth's atmosphere is very low. The major component of the atmosphere found on the Venus and Mars is carbon dioxide (95-97%), which does not support life.

Section-C

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The air above the land gets heated faster and being light start rising. As the air rises, a region of low pressure is created. Due to this air over the sea moves into this area of low pressure. The movement of air from one region to the other creates wind.

22)

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(i) All cellular processes take place in a water medium.

(ii) All the reactions that take place within our body or the cells occur between substances that are dissolved in water.

(iii) Substances are also transported from one part of the body to the other part in the dissolved form in water.

23) The removal of the top fertile soil by water, wind or by other means is called soil erosion.

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Measures for prevention of soil erosion:

(i) To retard the speed of flowing water in hilly or sloping areas, terracing practice should be adopted.

(ii) Trees should be planted on barren land.

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There is constant interaction between the biotic (living things) and abiotic (non-living things) environment. So, the biosphere is a dynamic system.

This system carry out the different processes in such a way that its basic composition and structure do not changes. So, the biosphere is a stable system.

