

Science

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(Chapter – 6) (Life Processes) (Practice Test 5)

(Class X)

Time: 60 minutes

M. M.: 25

General Instructions:

- This question paper contains four sections – A, B, C, and D. Each part is compulsory.
- Section – A has 4 MCQ of one mark each.
- Section – B has 5 questions of two mark each.
- Section – C has 2 questions of three mark each.
- Section – D has 1 question of five mark.
- There is no negative marking.

Section - A

1. B cells which help in antibody formation are present in
 - (A) Spleen
 - (B) Bone marrow
 - (C) Blood
 - (D) None of these
2. How do aquatic animals breathe?
 - (A) Through air
 - (B) With the help of gills
 - (C) Using dissolved oxygen in water
 - (D) Both B and C
3. The percentage of nitrogen present in air is _____.
 - (A) 72 %
 - (B) 77 %
 - (C) 78 %
 - (D) 70 %
4. The dome shaped organ in the respiratory system is _____.
 - (A) Diaphragm
 - (B) Lungs
 - (C) Pharynx
 - (D) Alveoli

Section - B

5. What is residual volume in our lungs? What is its importance?
6. What is the role of saliva in digestion of food?
7. What is the role of large intestine?
8. How is the length of intestine related to food habit of the animal?
9. How do autotrophs obtain CO_2 and N_2 to make their food?

Section - C

10. Which process in plants is responsible for cloud formation and precipitation? Define the process. How is this process important for the plants?

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11. Leaves of a healthy potted plant were coated with Vaseline to block the stomata. Will this plant remain healthy for long? State three reasons for your answer.

Section - D

12. Usman collected her saliva and mixed it with liquid A in the test tube. In another test tube she took only liquid A after about 10 minutes, she added a few drops of iodine solution to the mixture in the first test tube. It did not show any color but when she treated the other test tube with iodine, a blue black color appeared. Now answer the following questions:

- What is the aim of this activity?
- What is liquid A?
- Why did the first test tube not show any color change with iodine while the second one did?
- Which enzyme is responsible for such a result?
- Why does a piece of bread chewed for a long time tastes sweet?



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Hints and Answers

Section - A

1. (B) **Explanation:** Bone marrow contains B cells which help in making antibodies to fight against infection.
2. (D) **Explanation:** As aquatic plants live in water they need to use the dissolved oxygen in water and breathe through gills.
3. (C) **Explanation:** The amount of nitrogen content is highest in the air i.e. 78 %.
4. (A) **Explanation:** The diaphragm is the partition between the respiratory and digestive system.

Section - B

5. Residual volume is the amount of air which is always left inside the lungs in spite of forceful exhalation. It helps in continuous gas exchange during exhalation or inhalation.
6. Saliva lubricates and softens the food so that it can be easily chewed and swallowed. It contains enzyme amylase which breaks down starch to maltose.
7. Water reabsorption occurs through villi, undigested food is stored in rectum and thrown out through anus. Exit is regulated by anal sphincter.
8. Intestine where digestion and absorption occur is very long in herbivores and shorter in carnivores as digesting meat is easier than digesting grass.
9. CO_2 from environment/atmosphere through diffusion/stomata. Nitrogen from soil/environment in inorganic (nitrates) or organic form.

Section - C

10. They are due to transpiration. Transpiration is evaporation of water from aerial parts, leaves of plant, through mainly stomata.
In plants, water rises because of transpiration and in nature water cycle operates because of it. Transpiration is the process of cooling the parts of a plant.
Evaporation of water molecules from the cells of a leaf creates a suction force which pulls water from the xylem cells. This transpiration helps in upward movement of water from roots to leaves.
11. No, the plant will not stay healthy for a long time. The reasons are:
It will not be able to exchange O_2 and CO_2 , hence respiration will be affected adversely.
Photosynthesis will also be affected as CO_2 will not be available.
Transpiration will not take place hence there will be no ascent of sap, hence no water absorption from the soil.

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Section - D

- 12.
- To show the action of salivary amylase on starch.
 - Liquid A is starch.
 - The first test tube did not show any color change with iodine because starch was not present anymore in it. It was already digested by salivary amylase present in saliva. The color of liquid in the second one changed to blue black as the starch was still unchanged due to absence of the enzyme.
 - Salivary amylase enzyme is responsible for such a result.
 - A piece of bread chewed for a long time tastes sweet because the starch is broken down by salivary amylase to maltose sugar.



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