

# Science

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(Chapter - 6) (Life Processes) (Practice Test 4)

(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. The digestive tract starts with mouth and ends on \_\_\_\_\_.  
(A) Anus  
(B) small intestine  
(C) large intestine  
(D) Rectum
2. Each kidney weighs about \_\_\_\_\_.  
(A) 120-135 gm  
(B) 130-160 gm  
(C) 100-125 gm  
(D) 150-170 gm
3. "To maintain homeostasis" is the function of \_\_\_\_\_ system.  
(A) Excretory system  
(B) Circulatory system  
(C) Lymphatic system  
(D) Digestive system
4. \_\_\_\_\_ organ is present in the left abdominal cavity.  
(A) Lymph  
(B) Thymus  
(C) Bone marrow  
(D) Spleen

### Section - B

5. Define transpiration. How does transpiration help in upward movement of water from roots to leaves?
6. Describe the structure of the human heart briefly.
7. What are enzyme? Do they play some role in our digestive system too?
8. What are the outside raw materials used by an organisms.
9. What is respiration? What is its importance for an organism?

### Section - C

10. What is the need to have a transport system in complex organisms?
11. Explain how the air is inhaled during breathing in humans.

### Section - D

12. Where are kidneys located in our body? Show the location of different parts of urinary system in man. What is the importance of kidneys in our body?

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## Hints and Answers

### Section - A

1. (A) **Explanation:** The digestive tract starts with the mouth and ends on anus as the waste is expelled from the anus.
2. (D) **Explanation:** Each kidney weighs around 150-170 gm in weight and are the part of the excretory system.
3. (A) **Explanation:** Excretory system helps in regulating blood pressure.
4. (D) **Explanation:** Spleen is an organ situated in the left abdominal cavity which helps to prevent infection.

### Section - B

5. Transpiration is the process of removal of water vapors from the aerial parts of a plant, mainly through stomata in the leaves. 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.
6. Human heart is four chambered. The two upper chambers are called atria and they receive blood from large veins while the two lower chambers are called ventricles. Between left atrium and left ventricle as well as between right atrium and right ventricle are valve which allow blood to flow only from atrium to ventricle.
7. They are chemically proteinaceous biocatalyst, which increase or decrease the rate of a biochemical reaction. The enzyme present in our digestive system help to breakdown of complex molecules of food into simpler ones.
8. Autotrophs can use simple inorganic molecules like water and carbon dioxide while complex organic molecule are used by heterotrophic organisms as proteins, fats and carbohydrates.
9. The breakdown of food in cells to release energy. All kind of food is broken down through oxidation-reduction reaction and its chemical energy is converted into a universal source of chemical energy - ATP, Adenosine Tri Phosphate.

### Section - C

10. The transport system of an animal moves substances to where they are needed in the body. Even the smallest animal must have the means of transporting substances around its body. Oxygen and food molecules must move to all the cells, and the waste products must be removed from the cells and expelled into the environment. It occurs through diffusion mainly.  
In a multicellular organism, all cells are not in contact with the surrounding hence diffusion will be insufficient for it. A variety of fluid systems, called vascular systems, help such transport in most members of the animal kingdom.
11. **Mechanism of inhalation:** The diaphragm and rib muscles contract which make the throat move upwards and outwards.  
The volume inside the thoracic cavity increases i.e., it expands.  
Air pressure inside the thoracic cavity decreases. Thus, air from outside rushes into the lungs/alveoli through nostrils, trachea and bronchi.

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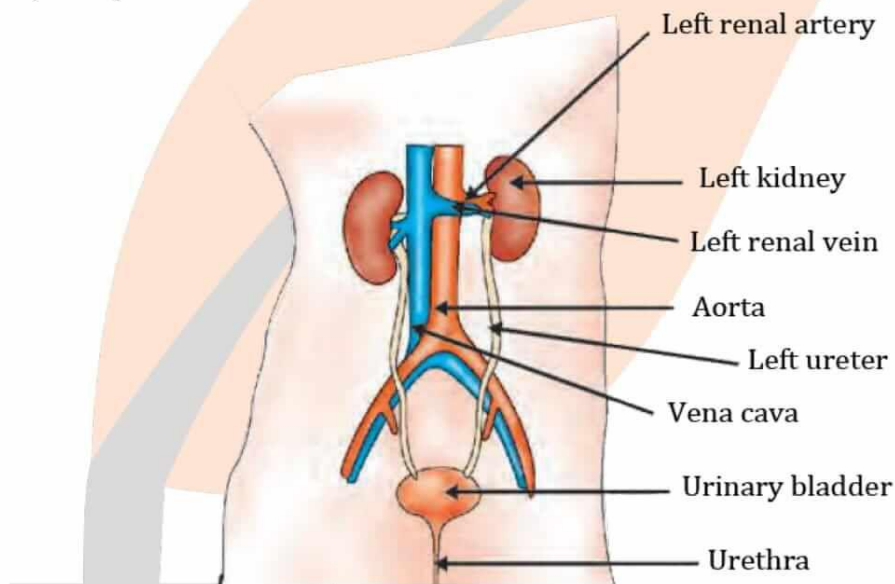
(Class X)

Section - D

12. The kidneys (renal glands) lie high in the abdominal cavity near and on both sides of the vertebral column. The right kidney is slightly lower than the left to make room for the liver. Each kidney is bean shaped and the concave portion faces medially. The kidney collects and transports urine from the kidney to ureters.

**The kidneys regulate:**

- The volume of blood plasma (blood pressure).
- The concentration of waste products in the blood (excretion).
- The concentration of electrolytes such as  $Na^+$ ,  $K^+$ ,  $HCO_3^-$  and other ions (osmoregulation).
- The *pH* of plasma.



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