

H. HOTS (Higher Order Thinking Skills) Questions.

1. Frogs have a dual mode of breathing because frogs live both on land and in water. They respire through their lungs on land and to breathe in water, they have moist skin.
2. Sneezing prevents the entry of unwanted particles from inhaled air and thus, a dust-free and germ-free air enters into the body.

Chapter 11: Transportation in Animals and Plants

Multiple Choice Questions

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1. (b)
2. (c)

Multiple Choice Questions

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1. (b)
2. (c)

EXERCISE

A. Tick (✓) the correct options.

1. (c)
2. (d)
3. (d)
4. (b)
5. (c)
6. (a)
7. (a)
8. (c)
9. (d)
10. (c)

B. Fill in the blanks.

1. platelets
2. fist
3. Septum
4. stethoscope
5. urinary bladder
6. fluid
7. xylem
8. nephron

C. Very Short Answer Questions.

1. Pulmonary vein brings the oxygenated blood from the lungs into the left atrium of the heart.
2. Xylem and phloem
3. Arteries
4. Ascent of sap
5. Left atrium
6. Arteries

D. Short Answer Type-I Questions.

1. Osmosis is the process of passage of water across a semi-permeable membrane from a region of its higher concentration to the region of its lower concentration.
2. The process of removal of waste products produced in the cells of the living organism is called excretion.
3. Plants need a transport system
 - (a) to transport water and minerals absorbed by the roots up to the leaves.
 - (b) to transport food prepared by the leaves to all the parts of the plant which cannot make food.
4. Blood is a red-coloured fluid which flows in the blood vessels to every part of the body. Blood consists of two components:

- (i) Fluid components : blood plasma
 - (ii) Solid components : RBC, WBC, platelets
5. Heart beats faster during and after a physical exercise because at such time, the body cells need more oxygen to release more energy through respiration. To supply more oxygen, the blood flows faster.

E. Short Answer Type-II Questions.

1. Transpiration helps in transport of water and minerals by producing a 'suction pull' which pulls the water from roots upwards to great heights.
2. (a) This is because the blood flow is rapid and at high pressure in the arteries.
(b) This is because arteries lie quite deep under the skin.
(c) This is because the blood flow in veins is not rapid and is at low pressure.
3. (a) When both the kidneys of a person stop working, the waste products start accumulating in the blood and the person may die in a week or so.
(b) Care for parents
4. Transpiration is important because
(a) It helps in the upward movement of water and minerals from roots to the leaves by generating suction pull.
(b) It produces cooling effect which protects the delicate cells of the plant from the heat of the sunlight.
(c) When there is more transpiration, rate of absorption of water increases.
5. RBCs are produced in the red bone marrow of bones. The average lifespan of RBCs is about 120 days. RBCs are red in colour due to the presence of a red pigment called haemoglobin. The haemoglobin transports oxygen from the lungs to all the cells of the body.

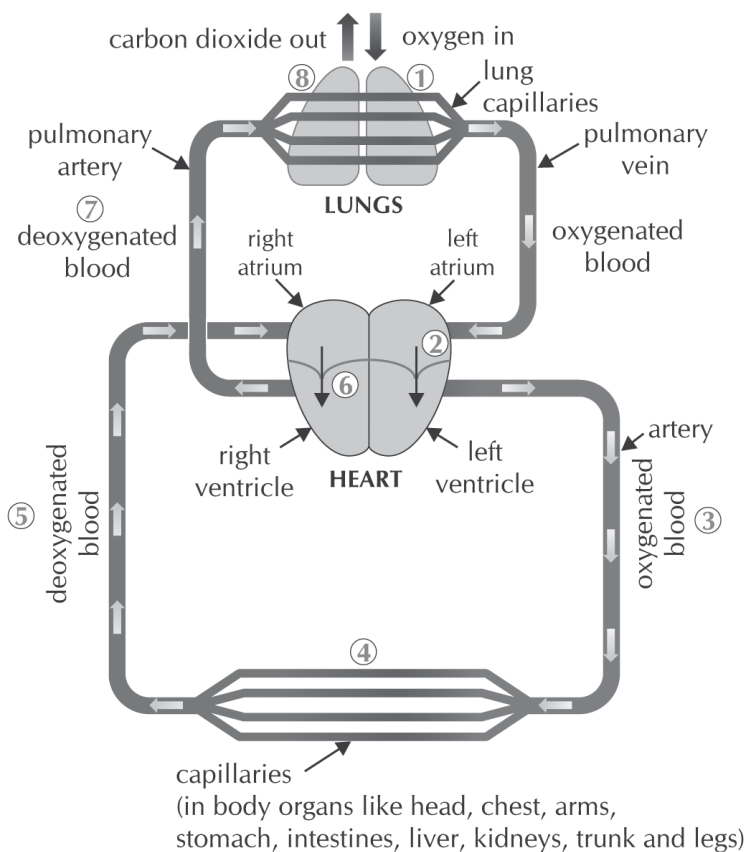
F. Long Answer Questions.

1. Differences between arteries and veins

S. No.	Parameters	Arteries	Veins
1.	Direction of blood flow	Carry blood from the heart to various body parts	Carry blood from different body parts to the heart
2.	Nature of blood	Carry oxygen-rich blood (except pulmonary artery)	Carry carbon dioxide-rich blood (except pulmonary vein)
3.	Flow of blood	Blood flows at a high speed and high pressure.	Blood flows at a low speed and low pressure.

4.	Walls	Walls are thick and elastic.	Walls are thin and less elastic.
5.	Valves	Valves are absent.	Valves are present.
6.	Position in the body	Arteries are deeply seated.	Veins are not deeply seated.

2. The blood is circulated in the human body by regular contractions and relaxations of the heart. Circulation of the blood occurs in the following way:
- When blood passes through the capillaries of the lungs, then oxygen from air enters the blood. The blood is now oxygen-rich and is called **oxygenated blood**.
 - The **pulmonary vein** brings the oxygenated blood from the lungs into the **left atrium** of the heart. When the **left atrium contracts**, the oxygenated blood is pushed into the **left ventricle**.
 - When the **left ventricle contracts**, it pumps oxygenated blood into the main artery called **aorta**. The aorta branches into many arteries which supply oxygenated blood to all the organs of the body (except lungs).



Schematic diagram of blood circulation in human body

- When oxygenated blood from arteries passes through the capillaries of the body organs, then it gives food and oxygen to

the body cells. At the same time, carbon dioxide produced as a waste product in the body cells during respiration enters the blood through capillaries.

- (e) The **deoxygenated** blood (rich in carbon dioxide) collected from the body organs enters the right atrium.
- (f) When the **right atrium contracts, the deoxygenated blood** is pushed into right ventricle.
- (g) When the **right ventricle contracts**, the deoxygenated blood is pumped into the lungs through the pulmonary artery.
- (h) In the lungs, deoxygenated blood gives out carbon dioxide and absorbs fresh oxygen from the air being breathed in. So, the blood becomes oxygenated again.

G. HOTS (Higher Order Thinking Skills) Questions.

- 1. The main function of WBCs is to fight against germs that enter our body and protect us from diseases, thus, they are often called soldiers of the body.
- 2. The heart is divided into two equal halves by a thick wall so as to separate the oxygenated blood from the deoxygenated blood.

H. Label the given diagrams.

- (i) (a) aorta (b) pulmonary artery (c) left atrium
(d) bicuspid valve (e) left ventricle (f) tricuspid valve
(g) vein carrying blood from the body
- (ii) (a) left kidney (b) ureter (c) urinary bladder
(d) urethra

Chapter 12: Reproduction in Plants

Multiple Choice Questions

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- 1. (b) 2. (b)

Multiple Choice Questions

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- 1. (b) 2. (c)

EXERCISE

A. Tick (✓) the correct options.

- 1. (b) 2. (d) 3. (d) 4. (a) 5. (c) 6. (b)

B. Match the following.

- 1. (e) 2. (a) 3. (d) 4. (c) 5. (b)

C. Fill in the blanks.

- 1. asexual 2. sporangiophore 3. seed 4. tuber
- 5. anther 6. wind

D. Very Short Answer Questions.

- 1. Stamen 2. Pistil 3. Wind, water, animals