WORKSHEET 2

CHAPTER 1 – LIFE PROCESSES (III) TRANSPORTATION

A. Tick (✓) the correct option.

1. Which blood vessel does not carry any carbon dioxide?
   a. Pulmonary artery b. Vena cava c. Hepatic vein d. Pulmonary vein
2. Which of the following carries substances upwards as well as downwards in a plant?
   a. Xylem b. Companion cells c. Phloem d. Tracheids
3. Which of the following does not have a valve?
   a. Heart b. Arteries c. Veins d. Both heart and vein
4. Single blood circulation can be seen in which of the following group?
   a. Sharks, whale b. Flying fish, bats
   c. Tree frogs, climbing perch d. Gold fish, carps
5. What is correct about pulmonary vein?
   a. It supplies blood to the valves. b. It is the longest vein.
   c. It has pure blood that comes from the liver. d. It brings pure blood to the left atrium.

B. Fill in the blanks.

1. The membrane that surrounds the heart is called _____
2. Heart of fish pumps _____ blood, whereas the heart of bird pumps _____ blood.
3. Crocodiles have _____ heart, but fish have _____ heart.
4. The extracellular fluid which flows from body tissues to the heart is called _____
5. _____ is the instrument to measure blood pressure.

C. State true (T) or false (F).

1. Arteries are provided with valves.
2. Left ventricle has thicker wall than right ventricle.
3. Pulmonary artery carry deoxygenated blood to the lungs.
4. Root pressure helps to transport water and minerals in tall plants.
5. Tricuspid valve is present between left atrium and left ventricle.

D. Match the columns.

1. Artery	(*a*) digested fat
2. Veins	(*b*) lack valves
3. Fish	(*c*) double blood circulation
4. Mammals	(*d*) valves present
5. Lymph	(*e*) single blood circulation

Name: ..... Teacher's signature: .....

Class: X Date: .....

E. Answer the following questions.

1. What is the advantage of four-chambered heart in humans?
2. Differentiate between artery and vein.
3. Explain the mechanism of food transport through phloem.
4. Draw a sectional view of the human heart and label on it:
   (*i*) Aorta (*ii*) Pulmonary arteries
   (*iii*) Vena cava (*iv*) Left ventricle
5. What do you mean by root pressure?

ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. d 2. c 3. b 4. d 5. d

B. Fill in the blanks.

1. Pericardium
2. Deoxygenated, oxygenated
3. Four-chambered, two-chambered
4. Lymph
5. Sphygmomanometer

C. State true (T) or false (F).

1. F 2. T 3. T 4. F 5. F

D. Match the columns.

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

E. Answer the following questions.

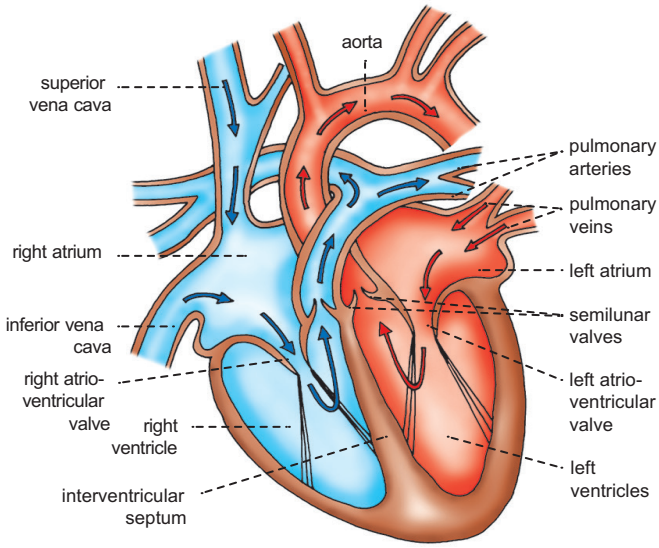
1. Four-chambered heart prevents mixing of oxygenated and deoxygenated blood which ensures highly efficient supply of energy necessary for warm-blooded animals.

2.

	Arteries	Veins
(*i*)	Carry blood from heart to various body parts.	Carry blood from different body parts to the heart.
(*ii*)	Carry oxygenated blood (exception pulmonary artery)	Carry deoxygenated blood (exception pulmonary vein)
(*iii*)	Valves absent.	Valves present.
(*iv*)	Deep seated.	Comparatively superficial.
(*v*)	Thick walled, narrow lumen and more elastic.	Thin walled, wider lumen, less elastic.

3. Translocation of food and other substances takes place through sieve tube and companion cell of the phloem in the upward as well as downward direction. Translocation of food through phloem requires energy in the form of ATP. Material like sucrose is transferred into phloem tissue using energy from ATP. This increases the osmotic pressure of the tissue causing water to move into it. This pressure moves the material in the phloem to tissues which have less pressure. This allows phloem to move materials according to plant's needs.

4.



The internal view of human heart

5. At the roots, cells in contact with the soil actively take up ions. As various ions from the soil are actively transported into vascular tissues of roots, water follows and increases the pressure inside xylem. This positive pressure is called root pressure and can be responsible for pushing water to small height in the stem.