

CBSE TEST PAPER-03
CLASS - XI BIOLOGY
(Body fluids and circulation)

General Instruction:

- All questions are compulsory.
 - Questions no. 1 to 5 carry one mark each. Question no. 6 to 8 carry two marks each. Questions no. 9 and 10 carry three marks each. Question no. 11 carry five marks.
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1. A cardiologist observed an enlarged Q and R wave in the ECG of a patient. What does it indicate?
2. Name the formed elements present in blood.
3. Define lymph.
4. Name the double layered membranous covering of the heart.
5. Why lymphatic circulation takes place very slowly?
6. Why is swelling of feet of leg caused by standing immobile for a long time?
7. How are the two heart sounds produced during cardiac cycle? Which one of these is of longer duration?
8. What is average number of thrombocytes in blood? What is their function?
9. Differentiate between arteries and veins.
10. Explain the chemical events that take place to form a blood clot to seal the wound?
11. Explain double circulation with the help of diagram.

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[ANSWERS]

Ans 01. Enlarged Q and R waves are the indication of high ventricular contraction.

Ans.02 Erythrocytes, leucocytes and platelets.

Ans 03. A colorless fluid which contain certain number of lymphocytes which provide immune response in the body.

Ans 04. Pericardium.

Ans 05. Lymphatic circulation occurs due to squeezing action of surrounding muscles and not of heart muscles.

Ans 06. When a person stands immobile for a long time, the flow of blood to the leg and feet is reduced temporarily. This leads to an accumulation of fluid in the leg and feet tissues resulting in swelling. But this swelling is removed when he moves for short time because blood starts circulating again the veins normally.

Ans 07. The two heart sounds are 'lub' and 'dub'

- The first heart sound 'lub' is due to the closure of bicuspid and tricuspid valve
- The second heart sound 'dub' is produced by the closure of semilunar valves at the start of ventricular diastole.

Ans 08. 1,50,000 to 3,00,000 / mm³ of blood. Their function is to release substances that are concerned with the clotting of blood.

Ans 09.

	Arteries	Veins
1.	These are vessels containing blood flowing away from the heart.	These are vessels containing blood flowing towards heart.
2.	Blood flows under great pressure.	Blood flows under less pressure.
3.	Their walls are elastic, thick and muscular.	Walls are thin, non-elastic, fibrous,
4.	They are non-collapsible	Collapsible.
5.	Their cavity is small.	Cavity is large.

6.	Valves are not present in them.	Valves present.
7.	Blood flows with jerks.	Blood flows without jerks.

Ans 10. Coagulation of blood –

1) When blood comes out of a blood vessel, the platelets clump together, break and release platelet factors, thromboplastin.

2) The prothrombin initiates the conversion of prothrombin into thrombin.

3) Thrombin catalyse the conversion of fibrinogen into fibrin which forms a mesh / network in which blood cells get entangled.

4) Ca^{++} ions are necessary for both the above steps.

Ans 11. The heart is the pumping organ. It pumps blood to the various body organs, through closed vessels. From the left ventricle blood goes with aorta which send it to arteries for supplying the body organs. From the body tissues blood is returned to the right atrium through two veins superior and inferior vena cava. This type of circulation is known as systemic circulation.

From the right ventricle blood is pumped into the pulmonary trunk which divides into the pulmonary arteries each of which goes to the lung. Here the blood is oxygenated. The oxygenated blood is returned to left atrium through pulmonary veins. This is called pulmonary circulation.

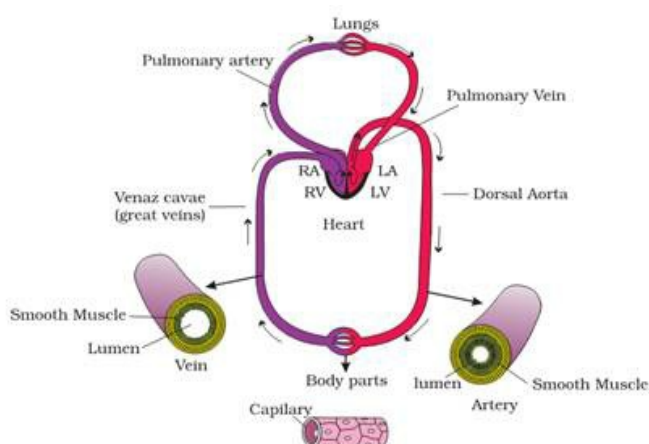


Figure 18.4 Schematic plan of blood circulation in human