Class Work

Questions (to be solved)

Topic- Human Circulatory System

Date: 24th April 2020

Instruction:

- **Questions you need to copy in your c/w Biology copy and then write down the answers. Try sincerely, then if any problem contact me.**
- **'Notes' part you can write or you can take print out and paste in your copy but make sure everything must be in one copy.**
- **Q. 1 to 4 are MCQ type. Q. 5 is assertion reason based and Q. 6 to 10 are 2-3 marks questions. Content should be according to the marks.**

1. What is the correct path through the circulatory system which describes the passage of blood originating in the left leg?

A. Vena cava → left atrium → right atrium → lungs → left ventricle → right ventricle → aorta
B. Vena cava → right atrium → left atrium → lungs → right ventricle → left ventricle → aorta
C. Vena cava → left atrium → left ventricle → lungs → right atrium → right ventricle → aorta

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- D. Vena cava → right atrium → right ventricle → lungs → left atrium → left ventricle → aorta

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2. Which of the following can best be compared to soldiers?

A. Lung B. Capillaries C. RBC D. WBC

3. What part of the blood carries minerals, vitamins, sugar, and other foods to the body's cells?

A. Plasma B. Platelets c. RBC D. WBC

4. All blood cells are produced in

A. Bone B. Bone marrow C. Heart D. Capillaries

Choose any one option

1. Both A and R are true and R is the correct explanation of A.
2. Both A and R are true but R is not the correct explanation of A.
3. A is true but R is false.
4. A is false but R is true.
5. Both A and R are false.

5. A: Lymph is a colourless fluid containing specialised lymphocytes which are responsible for the immune response of body.

R: Lymph is an important carrier for nutrient, hormones etc.

6. Why is it necessary to separate oxygenated and deoxygenated blood in human?
7. Explain double circulation in human blood with a clear diagram.
8. How do doctors detect a patient of hypertension with sphygmomanometer?
9. Differentiate between

a. Blood and lymph
b. Artery and vein

10. What would be the consequences of a deficiency of haemoglobin in our bodies?

NOTES

Blood is a red colored fluid connective tissue that circulates in the arteries and veins of humans and other vertebrate animals, carrying oxygen to and carbon dioxide from the tissues of the body.

The main **functions of blood** are as follows:

It carries oxygen and provides it to all the parts of the body.

It contains WBC which protects our body from bacteria, viruses etc

It transports digested food to various parts of the body.

It transports harmful substances like carbon dioxide, urea, uric acid etc. to the excretory organs.

The **components of blood** are as follows:

Plasma

Red Blood Cells (RBC)

White Blood Cells (WBC)

Platelets

Plasma is important because plasma contains carries harmful substances from the body. It also helps in transportation of nutrition. It also controls the flow and composition of water in the blood.

The **functions of plasma** are as follows:

It helps in blood clotting at the wounds.

It helps in transporting hormones secreted from endocrine glands.

It transports digested food to different parts of the body.

It balances the water content of the blood.

Red Blood Cells (RBC)

RBCs are circular, biconcave fluid which is formed in bone marrow. They are red in color due to presence of haemoglobin, scarcity of which leads to anemia. They are small in size and helps in respiration

White Blood Cells (WBC)

They are colorless and irregular in shape which plays an important role to fight against the disease. They are formed in bone marrow and lymph glands. The excess in the number of WBC leads to the leukemia.

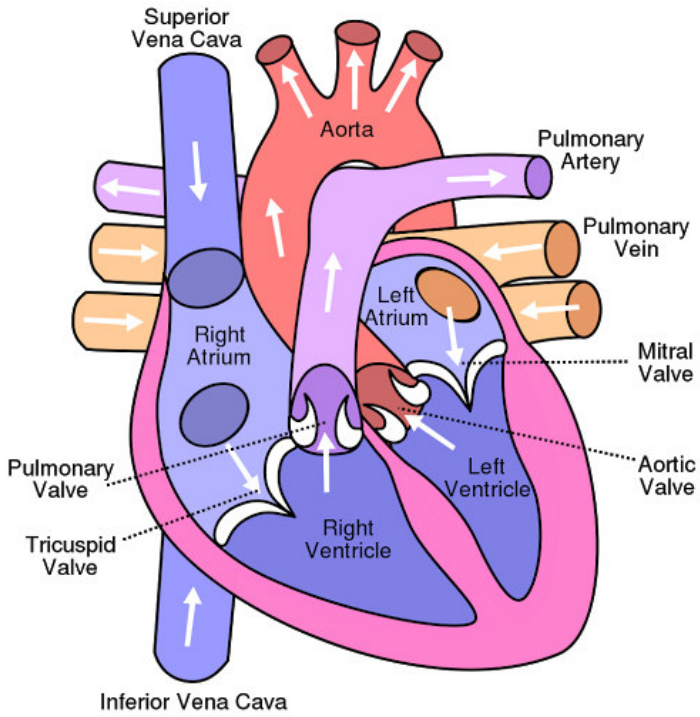
Platelets

Platelets are colorless oval cells produce in bone marrow and dies in spleen. They have very short life span. They help in healing the wounds.

Heart

Heart is a strong hollow muscular organ made up of cardiac muscle. It is enclosed in a thin membrane called pericardium and the fluid present in between them is called pericardial fluid. It allows free movement of heart and protects it from external shock and mechanical injuries.

The human heart consists of four chambers; two on each side. Two upper and smaller chambers are called right auricles and left auricles. The two lower and larger chambers are called right ventricles and left ventricles. The two auricles are separated by interauricular septum and likewise the ventricles are separated by interventricular septum. The left auricle and left ventricle are separated by bicuspid valve and the right auricle and right ventricle are separated by tricuspid valve. The right auricle has venacava; the right ventricle has pulmonary artery. The left auricle has pulmonary veins and the left ventricle has aorta.



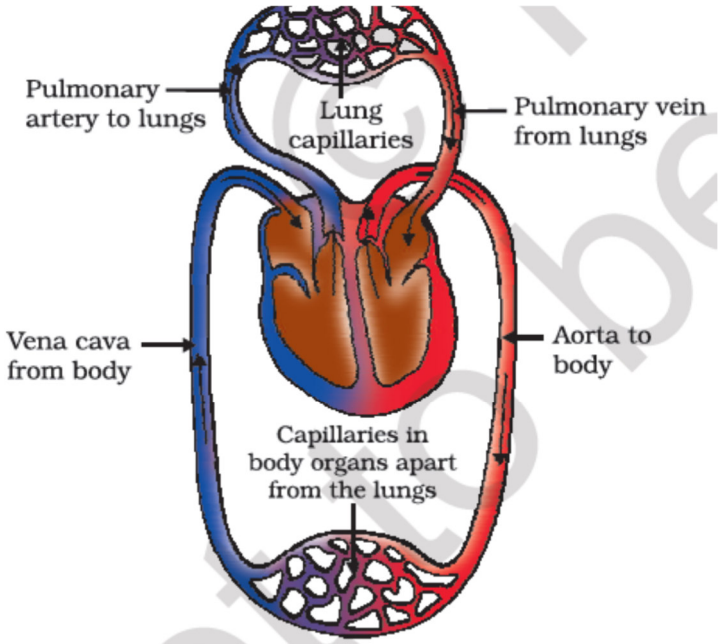
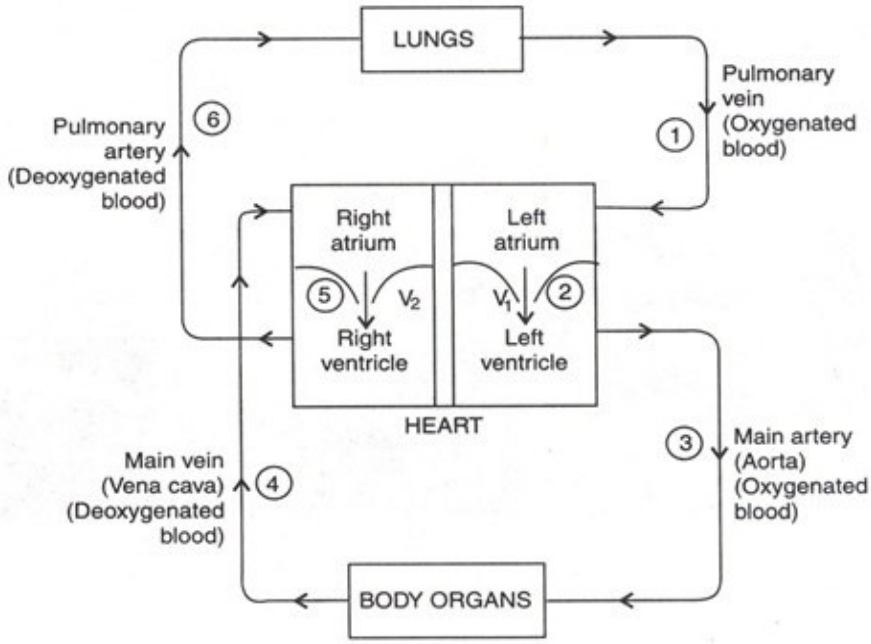


Figure 6.11
Schematic representation of transport and exchange of oxygen and carbon dioxide

passage through the

Process of blood circulation in humans



The blood vessels that take part in blood circulation are arteries, veins and, capillaries.

The functions of arteries are:

To carry oxygenated blood from right ventricles to the lung for purification.

The pulmonary artery carries deoxygenated blood from the heart to the lungs.

The functions of veins are:

To carry deoxygenated blood from lungs to the left auricle of the heart.

The pulmonary veins carry oxygenated blood from lungs to the heart.

The functions of capillaries are:

To provide definite path for the flow of blood

To transfer the molecules of glucose, water, oxygen, hormones to the cells and tissues

Blood pressure:

It pressure exerted by the flow of blood on the walls of the arteries. The pressure exerted when the ventricle is contracted is called systolic pressure. The pressure exerted when the ventricle is relaxed is diastolic pressure.