

Board – ICSE

Class- VIII

TOPIC – CIRCULATORY SYSTEM

I. Multiple choice questions: Tick (✓) the correct choice.

1. Human heart has

- (a) One auricle and one ventricle (b) Two auricles and one ventricle
(c) Two auricles and two ventricles (d) One auricle and two ventricles

Ans. (c)

2. The blood cells which are carriers of oxygen are

- (a) RBCs (b) Platelets (c) WBCs (d) All the above

Ans. (a)

3. The blood cells which protect the body from infection are

- (a) RBCs (b) platelets (c) WBCs (d) All the above

Ans. (c)

4. The four blood groups in humans are

- (a) A, B, C and D (b) A, B, AB and C (c) A, B, AB and O (d) A, B, AB and OO

Ans. (c)

5. The heart beat is measured by an instrument called

- (a) Thermometer (b) Sphygmomanometer
(c) Stethoscope (d) None of the above

Ans. (c)

6. Nucleus is present in

- (a) RBCs (b) WBCs (c) Blood platelets (d) All the above

Ans. (b)

7. Arteries are the blood vessels that carry blood

- (a) Away from the heart (b) To the heart
(c) Both (d) None of these

Ans. (a)

8. Pulmonary vein carries

- (a) Deoxygenated blood (b) Oxygenated blood
(c) Lymph (d) None

Ans. (b)

9. The blood group which is called universal recipient

- (a) A (b) AB (c) B (d) O

Ans. (b)

10. Wall of arteries are

- (a) Thin and muscular
- (b) Thick and muscular
- (c) Single cell thick
- (d) Thin and valved

Ans. (b)

11. Valves prevent blood from

- (a) Entering the heart
- (b) Leaving the heart
- (c) Flowing backward in the heart
- (d) Flowing forward in the heart

Ans. (c)

12. Blood cells responsible for clotting are

- (a) RBCs
- (b) WBCs
- (c) Blood platelets
- (d) All of these

Ans. (c)

13. The finest blood vessels are

- (a) Veins
- (b) Arteries
- (c) Aorta
- (d) Capillaries

Ans. (d)

14. Blood cells without nucleus are

- (a) RBCs
- (b) WBCs
- (c) Blood platelets
- (d) All of these

Ans. (a)

15. The only artery which carries deoxygenated blood is

- (a) Aorta
- (b) Pulmonary artery
- (c) Superior vena cava
- (d) Inferior vena cava

Ans. (b)

16. The artery which supplies blood to all parts of the body is

- (a) Pulmonary artery
- (b) Superior vena cava
- (c) Inferior vena cava
- (d) Aorta

Ans. (d)

17. Capillary is a/an

- (a) Broad tube
- (b) Artery with thick wall
- (c) Vein with large lumen
- (d) Narrow tube made up of endothelium only

Ans. (d)

II. Match the statements in Column A with those in Column B.

Column A	Column B
1. Heart	(a) Movement of materials
2. Food and oxygen	(b) Pipes for transport in man
3. Carrier of oxygen	(c) A living pump
4. Circulation	(d) Materials needed by every living being

5. Arteries and veins	(e) Red blood cells
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Ans. 1. c 2. d 3. E 4. a 5. b

III. Describe the function of the following

1. Heart

Ans. Heart acts as a pumping organ. It pumps blood to all the body organs.

2. Blood vessels

Ans. Blood vessels carry blood from heart to different organs and also carry blood from different organs to heart. So, they act as channel between heart and different body organs.

3. Red blood cells

Ans. Red blood cells have a red pigment called hemoglobin. Due to this pigment, RBCs act as a oxygen carrier from lungs to different body organs and also take in carbon dioxide from different body organs to lungs.

4. White blood cells

Ans. These cells act as soldiers for body because they engulf viruses and bacteria in the body.

5. Platelets

Ans. These blood cells help in blood clotting.

IV. Name the main parts of the circulatory system.

Ans. Circulatory system is mainly composed of three parts—

(i) Heart (pumping system)

(ii) Blood vessels (Arteries & Vains)

(iii) Blood (blood cells & plasma)

V. Name the organ from which oxygenated blood goes into the heart.

Ans. Lungs are the organs from which oxygenated blood goes into the heart with the help of hemoglobin.

VI. List important functions of the blood.

Ans. Functions of blood.

(i) The major function of blood is to carry oxygen with the help of hemoglobin from lung tissues to other tissues.

(ii) It carries food and vitamins in dissolved form with the help of plasma.

(iii) It carries nitrogenous waste products from tissues to excretory organs.

(iv) It regulates the body temperature by distributing the heat equally.

(v) It also protects body against bacterial infection by supplying leucocytes (WBCs) when needed.

VII. How do the red blood corpuscles differ from other cells of the body?

Ans. Red blood corpuscles (RBCs) are non-nucleated cells (unlike other cells). These cells are also have a oxygen-carrying pigment — hemoglobin, which is red in colour. This pigment carries oxygen from lungs to other tissues.

VIII. How does blood clot? Name a disease in which the blood fails to clot.

Ans. The production of a mass of semisolid material at the site of injury that prevents the further loss of blood is called blood clotting. At the site of wound, a network is formed of a substance called fibrin. Fibrin is formed from a substance called fibrinogen. Fibrinogen reacts with thrombin which is produced by platelets and form fibrin. Calcium is also an important factor which is required in blood clotting. Hemophilia is a genetic disease in which blood clotting does not occur. It has been called the royal disease because it suddenly showed up as a genetic mutation in Queen Victoria of Britain.

IX. Give the important differences between arteries and veins.

Ans. Difference between arteries and veins.

Arteries	Veins
(1) These are blood vessels that carry blood from heart to different body organs.	(1) These are the blood vessels that carry blood from different organs of the body to heart.
(2) Arteries carry oxygenated blood except pulmonary artery.	(2) Veins carry de-oxygenated blood except pulmonary vein.
(3) Arteries are made of thick and elastic wall.	(3) Veins are made of thin and less elastic wall.
(4) Arteries are deep in the body.	(4) Veins are present towards the surface of the body

X. What are the functions of heart?

Ans. In mammals, heart is four-chambered and it acts as a pumping organ in the body. It receives deoxygenated blood from various organs of the body and pump oxygenated blood to various organs of the body.

XI. What first aid you would give to a patient suffering from haemorrhage?

Ans. Haemorrhage means excessive bleeding. In case of haemorrhage, we should tie a bandage over the bleeding part, towards the heart, so that bleeding can be minimized. In case of arms or legs, a ligature can be used. A rubber band or a handkerchief can be used as ligature.

XII. What is the function of hemoglobin in the blood?

Ans. Function of hemoglobin. Hemoglobin is a red pigment and consists of protein and iron. It is an oxygen-carrying pigment and carry oxygen from lungs to different organs and it also carries carbon dioxide from different organs to lungs.

XIII. What is the composition of blood?

Ans. Blood is composed of plasma and blood cells.

- (i) Red Blood Cells (RBCs)
- (ii) White Blood Cells (WBCs)
- (iii) Platelets

XIV. State where oxygen and carbon dioxide enter the blood stream and where they leave it.

- Ans.** From lungs oxygen enters into the blood stream with the help of hemoglobin. Carbon dioxide released from different body organs enter into the blood stream and leave out with the help of lungs.
- XV.** Name a vein which carries oxygenated blood and an artery which carries deoxygenated blood.
- Ans.** All the arteries have oxygenated blood except pulmonary artery which has deoxygenated blood. All the veins have deoxygenated blood except pulmonary vein which has oxygenated blood.
- XVI.** What is the function of valve in the heart?
- Ans.** The valve in the heart allows the blood to flow in one direction only — that is, from the auricles into the ventricles, and not back from the ventricles.
- XVII.** Which blood cells can be called as the soldiers of the body? **Ans.** WBCs are called the soldiers of the body because they protect the body from infection by ingesting foreign bodies like bacteria and viruses.
- XVIII.** What prevents the blood from going in the wrong direction in the heart?
- Ans.** In heart, valves are present which allow the blood to flow only in one direction, not in wrong direction