Chapter 18

Body Fluids and Circulation

MULTIPLE CHOICE QUESTIONS

1. Which of the following cells does not exhibit phagocytotic activity
   a. Monocyte
   b. Neutrophil
   c. Basophil
   d. Macrophage

2. One of the common symptoms observed in people infected with Dengue fever is
   a. Significant decrease in RBC count
   b. Significant decrease in WBC count
   c. Significant decrease in platelets count
   d. Significant increase in platelets count

3. Which among the followings is correct during each cardiac cycle?
   a. The volume of blood pumped out by the Rt and Lt ventricles is same.
   b. The volume of blood pumped out by the Rt and Lt ventricles is different
   c. The volume of blood received by each atrium is different
   d. The volume of blood received by the aorta and pulmonary artery is different

4. Cardiac activity could be moderated by the autonomous neural system. Tick the correct answer:
   a. The parasympathetic system stimulates heart rate and stroke volume
   b. The sympathetic system stimulates heart rate and stroke volume
   c. The parasympathetic system decreases the heart rate but increases stroke volume
   d. The sympathetic system decreases the heart rate but increases stroke volume

5. Mark the pair of substances among the following which is essential for coagulation of blood.
   a. Heparin and calcium ions
   b. Calcium ions and platelet factors
   c. Oxalates and citrates
   d. Platelet factors and heparin

6. ECG depicts the depolarisation and repolarisation processes during the cardiac cycle. In the ECG of a normal healthy individual one of the following waves is not represented.
   a. Depolarisation of atria
   b. Repolarisation of atria
   c. Depolarisation of ventricles
   d. Repolarisation of ventricles

7. Which one of the following types of cells lack nucleus in humans?
   a. Erythrocytes
   b. Neutrophils
   c. Eosinosphils
   d. Monocytes

8. Which one of the following blood cells is involved in antibody production.
   a. B-Lymphocytes
   b. T-Lymphocytes
   c. RBC
   d. Neutrophils

9. The cardiac impulse is initiated and conducted further upto ventricle. The correct sequence of conduction of impulse is

a.	S A Node	A V Node	Purkinje fiber	A V Bundle
b.	S A Node	Purkinje fiber	A V Node	A V Bundle
c.	S A Node	A V Node	A V Bundle	Purkinje fiber
d.	S A Node	Purkinje fiber	A V Bundle	A V Node

10. The cells involved in inflammatory reactions are
    a. Basophils
    b. Neutrophils
    c. Eosinophils
    d. Lymphocytes

11. The second heart sound (dubb) is associated with the closure of
    a. Tricuspid valve
    b. Semilunar valves
    c. Bicuspid valve
    d. Tricuspid and bicuspid valves.

12. Which of the following correctly explains a phase/ event in cardiac cycle in a standard electrocardiogram?
    a. QRS complex indicates atrial contraction.
    b. QRS complex indicates ventricular contraction.
    c. Time between S and T represents atrial systole.
    d. P-wave indicates beginning of ventricular contraction.

13. Which of the following statements is incorrect?
    a. A person of 'O' blood group has anti 'A' and anti 'B' antibodies in his blood plasma.
    b. A person of 'B' blood group can't donate blood to a person of 'A' blood group.
    c. Blood group is designated on the basis of the presence of antibodies in the blood plasma.
    d. A person of AB blood group is universal recipient.

14. What would be the cardiac output of a person having 72 heart beats per minute and a stroke volume of 50 ml?
    a. 360 mL
    b. 3600 mL
    c. 7200 mL
    d. 5000 mL

15. Match the terms given under Column 'A' with their functions given under Column 'B' and select the answer from the options given below:

	Column I		Column II
A.	Lymphatic System	i.	Carries oxygenated blood
B.	Pulmonary vein	ii.	Immune Response
C.	Thrombocytes	iii.	To drain back the tissue fluid to the circulatory system
D.	Lymphocytes	iv.	Coagulation of blood

Options:

a. A-ii, B-i, C-iii, D-iv
b. A-iii, B-i, C-iv, D-ii
c. A-iii, B-i, C-iii, D-iv
d. A-ii, B-i, C-iii, D-iv

16. Read the following statements and choose the correct option

Statement 1 : Atria receive blood from all parts of the body which subsequently flows to ventricles.

Statement 2 : Action potential generated at sino-atrial node passes from atria to ventricles.

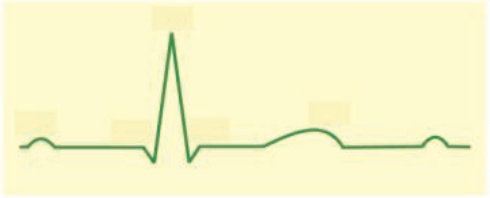
a. Action mentioned in Statement 1 is dependent on action mentioned in Statement 2
b. Action mentioned in Statement 2 is dependent on action mentioned in Statement 1
c. Action mentioned in Statements 1 and 2 are independent of each other.
d. Action mentioned in Statements 1 and 2 are synchronous.

VERY SHORT ANSWER TYPE QUESTIONS

1. Name the blood component which is viscous and straw coloured fluid.

2. Complete the missing word in the statement given below:
   a. Plasma without _____ factors is called serum.
   b. _____ and monocytes are phagocytic cells.
   c. Eosinophils are associated with _____ reactions.
   d. _____ ions play a significant role in clotting.
   e. One can determine the heart beat rate by counting the number of _____ in an ECG.

3. Given below is the diagrammatic representation of a standard ECG. Label its different peaks.



4. Name the vascular connection that exists between the digestive tract and liver.
5. Given below are the abnormal conditions related to blood circulation. Name the disorders.
   a. Acute chest pain due to failure of O_2 supply to heart muscles
   b. Increased systolic pressure
6. Which coronary artery diseases is caused due to narrowing of the lumen of arteries?
7. Define the following terms and give their location?
   a. Purkinje fibre
   b. Bundle of His
8. State the functions of the following in blood
   a. Fibrinogen
   b. Globulin
   c. Neutrophils
   d. Lymphocytes
9. What physiological circumstances lead to erythroblastosis foetalis?
10. Explain the consequences of a situation in which blood does not coagulate.
11. What is the significance of time gap in the passage of action potential from sino-atrial node to the ventricle?
12. How will you interpret an electrocardiogram (ECG) in which time taken in QRS complex is higher.

SHORT ANSWER TYPE QUESTIONS

1. The walls of ventricles are much thicker than atria. Explain.
2. Differentiate between
   a. Blood and Lymph
   b. Basophils and Eosinophils
   c. Tricuspid and bicuspid valve
3. Briefly describe the followings:
   a. Anaemia
   b. Angina Pectoris

c. Atherosclerosis
d. Hypertension
e. Heart failure
f. Erythroblastosis foetalis

4. Explain the advantage of the complete partition of ventricle among birds and mammals and hence leading to double circulation.

5. What is the significance of hepatic portal system in the circulatory system?

6. Explain the functional significance of lymphatic system?

7. Write the features that distinguish between the two
   a. Plasma and Serum
   b. Open and closed circulatory system
   c. Sino-atrial node and Atrio-ventricular node

8. Thrombocytes are essential for coagulation of blood. Comment.

9. Answer the following
   a. Name the major site where RBCs are formed.
   b. Which part of heart is responsible for initating and maintaining its rhythmic activity?
   c. What is specific in the heart of crocodiles among reptilians?

LONG ANSWER TYPE QUESTIONS

1. Explain Rh-incompatibility in humans.
2. Describe the events in cardiac cycle. Explain "double circulation".
3. Explain different types of blood groups and donor compatibility by making a table.
4. Write short note on the following
   a. Hypertension
   b. Coronary Artery Disease
5. In the diagrammatic presentation of heart given below, mark and label, SAN, AVN, AV bundles, bundle of His and Purkinje fibres.

