

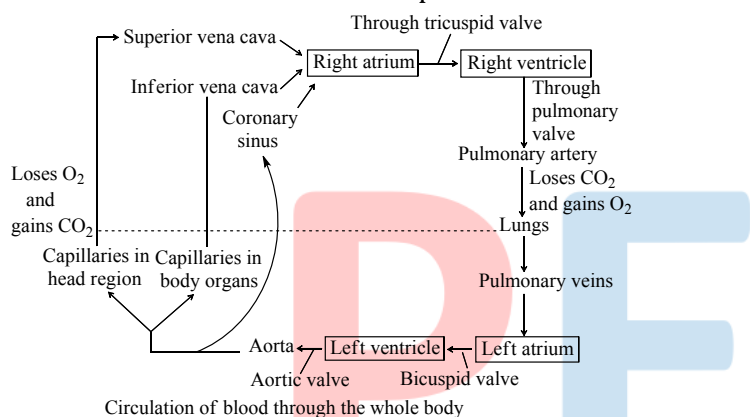
Topic :- Body Fluids And Circulations

1

(a)

A-right, B-pulmonary, C-liver, D-aorta.

Pulmonary artery differs from pulmonary vein in having thick muscular wall. The veins have internal semilunar valve to prevent the back flow of the blood



2

(d)

Atherosclerosis refers to the condition of obstruction of arteries by localised deposits of lipids or fatty materials (including cholesterol) on the inner walls of large and medium-sized arteries. It arises due to high blood levels of cholesterol and can lead to heart attack or heart failure.

3

(a)

Clotting of collected blood can be prevented by using silicon or adding chelating agents. Heparin is also non-coagulant but it alters the shape of RBC. So, test tube with heparin can't be used for studying the RBC

4

(c)

Closed circulatory system is commonly found in vertebrates such as frog, rabbit and man, whereas open circulatory system is found in arthropods (*e.g.*, insects, spiders, crabs) and some molluscs.

5

(d)

SA node is known as the pacemaker of heart because the cells in SA node contract the most

number of times per minute and because each wave of excitation begins here and acts as the stimulus for the next wave of excitation. In a diseased heart, the AV node can act as a pacemaker though it beats at comparatively less frequency (around 40-50 per min)

6 (d)

Blood groups (A, B, AB and O) are determined by the presence of agglutinogen (antigens). These are attached on the surface (plasma membrane) of RBCs and called Donen's membrane. Both antigens (A and B) are protein.

7 (a)

The term **tachycardia** is used for the fast heart rate (pulse rate above 100/minute) and when heart rate becomes below 50 pulses/minute, it is denoted by the term **bradychardia**.

8 (c)

A-left, B-right, C-deoxygenated

9 (c)

Veins carry the deoxygenated blood from body parts to heart. These have thin wall and valves to prevent back flow. The blood flow in low pressure. Arteries carry oxygenated blood from heart to body parts with high pressure.

10 (d)

Posterior mesenteric vein supplies blood to large intestine.

11 (b)

In open circulatory system, the blood flows in open spaces like lacunae and sinuses and it bathes the cells directly, *e.g.*, arthropods (cockroach or *Periplaneta*).

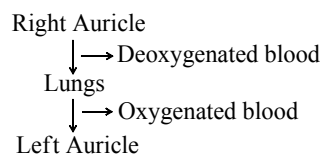
12 (b)

Purkinje fibres are present in the lateral walls of the heart ventricles and help in conduction of cardiac impulse.

13 (c)

Double circulation consists of two parts

(i) **Pulmonary circulation** In this the movement of blood take place from heart to lung and then from lung to heart



(ii) **Systemic Circulation** In this the movement of blood take place between heart and different part of body except lungs. It has arterial and venous system

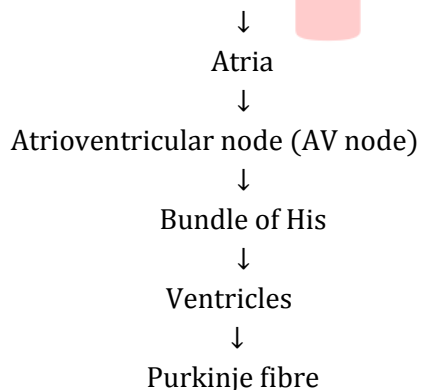
14 **(c)**
Hypertension is the term of blood pressure that is higher than normal (120/80). In this measurement, 120 mm. Hg (millimeter of mercury pressure) is the systolic, or pumping, pressure and 80 mm Hg is the diastolic, or resting pressure. If repeated checks of blood pressure (190/100 mm Hg) of an individual is 140/90 (140 over 90) or higher, it shows hypertension. High blood pressure (190/100 mm Hg) leads to heart diseases and also affects vital organs like brain and kidney.

16 **(d)**
In 'O' blood group there is no antigen, so it can be given in emergency condition when there is no time for checking the blood group. O is universal donor and AB is universal acceptor

17 **(a)**
In second step of blood coagulation, active thrombin changes fibrinogen to fibrin, which forms a meshwork of clot.

18 **(a)**
The wall of ventricles are much thicker than the atrium because ventricles have to pump the blood to pulmonary artery and aorta. Due to that functioning, the ventricles are thicker than atrium. Atrium only has to receive the blood so it is thinner than the ventricles

19 **(c)**
Sequence of electrical impulse in heart is
Sinoauricular node (Pacemaker of heart)



20 **(b)**
Blood returning from lungs collects in the left atrium, passes into the left ventricle and is pumped into the body circulation. To bear the high pressure required to blood pumping in body, the left ventricle has thickest muscular wall.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	a	d	a	c	d	d	a	c	c	d
Q.	11	12	13	14	15	16	17	18	19	20
A.	b	b	c	c	a	d	a	a	c	b

P E