CHAPTER

Body Fluids and Circulation

18

1. A red blood cell, entering the right side of the heart passes by or through the following structures.

1. Atrioventricular valves
2. Semilunar valves
3. Right atrium
4. Right ventricle
5. SAN

Which of the following options represents the correct sequence?

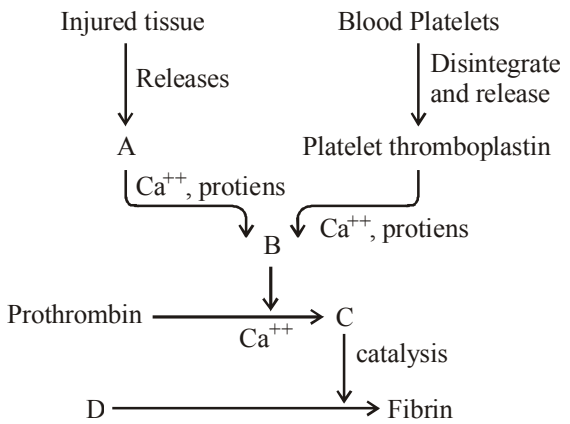
(a) $2 \rightarrow 3 \rightarrow 1 \rightarrow 4 \rightarrow 5$

(b) $3 \rightarrow 1 \rightarrow 5 \rightarrow 2 \rightarrow 4$

(c) $3 \rightarrow 5 \rightarrow 1 \rightarrow 2 \rightarrow 4$

(d) $5 \rightarrow 3 \rightarrow 1 \rightarrow 4 \rightarrow 2$

2. Identify the components labelled (A-D) in the given flow chart of the blood clotting process.



	A	B	C	D
(a)	Thrombo-plastin	Prothrom-binase	Thrombin	Fibrinogen
(b)	Fibrinogen	Thrombin	Prothrom-binase	Thrombo-plastin
(c)	Prothrom-binase	Fibrinogen	Thrombo-plastin	Thrombin
(d)	Thrombin	Thrombo-plastin	Fibrinogen	Prothrom-binase

3. Match the column I and column II and select the appropriate option with the given code.

	Column I		**Column II**
(a)	Coronary sinus	(i)	Mitral valve
(b)	Base of systemic aorta	(ii)	Eustachian valve
(c)	Left atrioventricular valve	(iii)	Semilunar valves
(d)	Opening of inferior vena cava	(iv)	Thebesian valve

(a) P-(iv); Q-(iii), R-(i), S-(ii)

(b) P-(iii); Q-(iv), R-(ii), S-(i)

(c) P-(ii); Q-(i), R-(iv), S-(iii)

(d) P-(i); Q-(ii), R-(iii), S-(iv)

4. Match the items given in column I with those in column II and select the correct option given below.

Column-I		**Column-II**
A. Tricuspid valve	(i)	Between left atrium and left ventricle
B. Bicuspid valve	(ii)	Between right ventricle and pulmonary artery
C. Semilunar valve	(iii)	Between right atrium and right ventricle

	A	B	C
(a)	(iii)	(i)	(ii)
(b)	(i)	(iii)	(ii)
(c)	(i)	(ii)	(iii)
(d)	(ii)	(i)	(iii)

5. Choose the correctly matched pair.

(a) CAD - Atherosclerosis

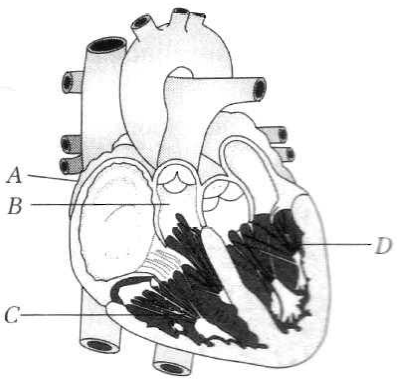
(b) Tetany - Disorder of neuromuscular junction

(c) Gout - Rapid spasms in muscles

(d) Goitre - Hyperthyroidism

(e) Asthma - Alveolar wall are damaged

6. The given diagram shows the human heart.

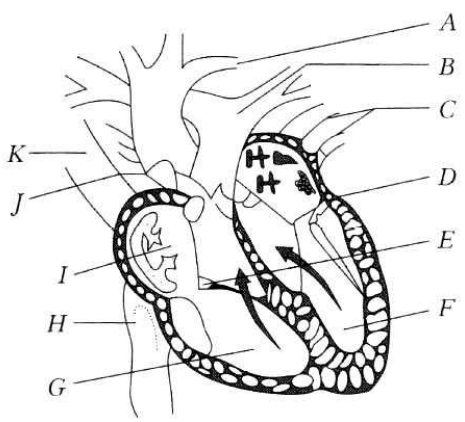


Which site represents the generation of action potential in human heart?

(a) D (b) C

(c) B (d) A

7. In diagram of the vertical section of human heart given here, certain parts have been indicated by alphabets. Choose the answer in which these alphabets have been correctly matched with the parts they indicate.



(a) *A-Aorta, B*-Pulmonary vein, *C*-Pulmonaryarteries, *D*-Left ventricle, *E*-Semilunar valves, *F-Left* auricle, *G*-Right auricle, *H*-Superior vena cava, *I-Right* ventricle, *J*-Tricuspid valves, *K*-Inferior vena cava

(b) *A-Aorta, B*-Pulmonary artery, *C*-Pulmonary veins, *D*-Left auricle, *E*-Tricuspid valves, *F-Left* ventricle, *G*-Right ventricle, *H*-Inferior vena cava, *I*-Right auricle, *J*-Semilunar valves, *K*-Superior vena cava

(c) *A-Aorta, B*-Superior vena cava, *C*-Inferior vena cava, *D*-Right ventricle, *E*-Tricuspid valves, *F-Right* auricle, *G*-Left auricle, *H*-Pulmonary vein, *I-Left* ventricle, *J*-Semilunar valves, *K*-Pulmonary artery

(d) *A-Aorta, B*-Superior vena cava, *C*-Inferior vena cava, *D*-Left ventricle, *E*-Semilunar valves, *F-Left* auricle, *G*-Right auricle, *H*-Pulmonary artery, *I*-Right ventricle, *J*-Tricuspid valves, *K*-Pulmonary vein

8. Identify the correct match wrt clotting factors and their specific characters.

(a) Prothrombin – Lipoprotein synthesised in liver by vitamin K

(b) Fibrinogen – Glycoprotein deficiency causes haemophilia-A

(c) Hageman factor – Glycoprotein deficiency causes delayed blood clotting

(d) Fibrin stabilising factor – Lipoprotein deficiency causes haemophilia-B

9. In which one of the following pairs of terms both represent one and the same thing?

(a) Plasma – Serum

(b) Atrioventricular node – Pacemaker

(c) Leucocytes – Lymphocytes

(d) Mitral valve – Bicuspid valve

10. Match the following columns.

Column-I		Column-II
A.	P-wave	1. Atrial depolarisation
B.	First heart sound	2. Ventricular depolarisation
C.	Second heart sound	3. Ventricular repolarisation
D.	QRS complex	4. Closure of the AV valves at the onset of systole
E.	T-wave	5. Closure of the semilunar valves at the onset of diastole

Codes :

	A	B	C	D	E
(a)	1	4	5	2	3
(b)	1	2	3	4	5
(c)	5	4	3	2	1
(d)	3	5	1	2	4

11. Match the following columns.

Column-I		Column-II
A.	Tricuspid valve	1. On the opening of inferior vena cava
B.	Pulmonary valve	2. On the entrance of aorta
C.	Eustachian valve	3. Between right atrium and right ventricle
D.	Coronary valve	4. Entrance of pulmonary artery
		5. Over the opening of coronary sinus

Codes :

	A	B	C	D
(a)	3	5	4	1
(b)	3	4	1	5
(c)	4	2	1	5
(d)	4	3	1	3

12. Match the following columns.

Column-I		Column-II
A.	Lymphatic system	1. Carries oxygenated blood
B.	Pulmonary vein	2. Immune response
C.	Thrombocytes	3. To drain back the tissue fluid to the circulatory system
D.	Lymphocytes	4. Coagulation of blood

Codes :

	A	B	C	D
(a)	2	1	3	4
(b)	3	1	4	2
(c)	3	1	2	4
(d)	2	1	3	4

13. Different factors play important roles in coagulation of blood, some of the factors are listed in list -I and their nomenclatures are given in list-II. Find out the accurate matching

	List -I	List - II
a	factor II	1. Thromboplastin
b	factor III	2. Prothrombin
c	factor VIII	3. Hageman factor
d	factor XII	4. Antiheaemophilic globulin

(a) a : 2, b : 1, c : 4, d : 3
(b) a : 1, b : 2, c : 3, d : 4
(c) a : 3, b : 4, c : 2, d : 1
(d) a : 4, b : 4, c : 2, d : 1

14. Match the following columns and choose the correct answer from the options given below:

Column I		Column II
A.	Erythrocytes	1. Most abundant white blood cells and the main phagocytic cell of the blood.
B.	Eosinophils	2. Least abundant white blood cells
C.	Neutrophils	3. Resist infections and are associated with allergic reaction
D.	Lymphocytes	4. Blood cells that count haemoglobin and transport oxygen
E.	Basophils	5. Specialized antibody producing white blood cells

	A	B	C	D	E
(a)	4	3	1	5	2
(b)	1	2	3	4	5
(c)	2	3	1	5	4
(d)	4	1	2	3	4

15. Match the items given in column I with those in column II and select the correct option given below:

Column I		**Column II**	
A.	Fibrinogen	(i)	Osmotic balance
B.	Globulin	(ii)	Blood clotting
C.	Albumin	(iii)	Defence mechanism

(a) A-(iii), B-(ii), C-(i)
(b) A-(i), B-(ii), C-(iii)
(c) A-(i), B-(iii), C-(ii)
(d) A-(ii), B-(iii), C-(i)

16. Which of the following option is correctly matched with its category?

	Group	Type of Circulation	Blood is Oxygenated by
(a)	Fish	Single circulation	Skin
(b)	Amphibia	Double circulation	Gills
(c)	Reptilies	Incomplete double circulation	Lungs
(d)	Bird	Incomplete double circulation	Lungs

17. Match the blood vessels of human heart listed under column I with the functions given under column II and choose the answer.

	Column I (Blood vessel)		**Column II (Function)**
A.	Superior vena cava	1.	Carries deoxygenated blood to lungs
B.	Inferior vena cava	2.	Carries oxygenated blood to lungs
C.	Pulmonary artery	3.	Brings oxygenated blood from lower parts of the body to the right atrium
D.	Pulmonary vein	4.	Brings oxygenated blood to the left atrium
		5.	Brings deoxygenated blood from upper parts of the body into the right atrium

(a) A-5, B-1, C-3, D-2
(b) A-5,B-3, C-1, D-4
(c) A-4, B-5,C-3, D-1
(d) A-5, B-1, C-2, D-3

18. Match the column I with column II and choose the correct combination from the options given.

Column I		**Column II**	
A.	Eosinophils	(i)	Coagulation
B.	RBC	(ii)	Universal recipient
C.	AB group	(iii)	Resist infection
D.	Platelets	(iv)	Contraction of heart
E.	Systole	(v)	Gaseous exchange

(a) A-(iii), B-(v), C-(ii), D-(i), E-(iv)
(b) A-(v), B-(i), C-(iii), D-(iv), E-(ii)
(c) A-(iii), B-(i), C-(ii), D-(v), E-(iv)
(d) A-(iii), B-(v), C-(ii), D-(iv), E-(i)

19. Match the column I blood (components) with column II (their specific functions) and choose the correct option:

Column I		**Column II**
A.	Globulin protein	- Involved in defense mechanism of body
B.	Fibrinogen protein	- Needed for clotting of blood
C.	Albumin protein	- Role is transport of gases
D.	Basophils	- Involved in inflammatory reactions
E.	Eosinophils	- Help in osmotic balance
F.	Lymphocytes	- Responsible for immune responses of the body

How many are correctly matched

(a) Four (b) Three
(c) Five (d) Six

20. Match the terms given under column I with their functions given under column II and select the answer from the options given below:

	Column I		Column II
A.	Lymphatic system	1.	Carries oxygenated blood
B.	Pulmonary vein	2.	Immune response
C.	Thrombocytes	3.	To drain back the circulatory system
D.	Lymphocytes	4.	Coagulation of blood

(a) A-2, B-1, C-3, D-4
(b) A-3, B-1, C-4, D-2
(c) A-3, B-1, C-2, D-4
(d) A-2, B-1,C-3, D-4

Solutions

1. (d) Red blood cell (blood) will first meet SAN in the right atrium. Then from the right atrium it passes into right ventricle through atrio ventricular valve. From the right ventricle it enters into pulmonary artery through semilunar valve.

2.	**(a)**	**3.**	**(a)**	**4.**	**(a)**	**5.**	**(a)**	**6.**	**(d)**
7.	**(b)**	**8.**	**(c)**	**9.**	**(d)**	**10.**	**(a)**	**11.**	**(b)**
12.	**(b)**	**13.**	**(a)**	**14.**	**(a)**	**15.**	**(d)**	**16.**	**(c)**
17.	**(b)**	**18.**	**(a)**	**19.**	**(a)**	**20.**	**(b)**		