Chapter 02

Body fluids and circulation

NEET-FLASHBACK

Q.1 Examination of blood of a person suspected of having anemia, shows large, immature, nucleated erythrocytes without haemoglobin. Supplementing his diet with which of the following is likely to alleviate his symptoms ? **[AIPMT 2006]**

(1) Thiamine

(2) Folic acid and cobalamine

(3) Riboflavin

(4) Iron compounds

Q.2 Which one of the following mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically ? **[AIPMT 2007]**

(1) Red blood cells

(2) White blood cells

(3) Unstriated muscle cells

(4) Liver cells

Q.3 A drop of each of the following, is placed separately on four slides. Which of them will not coagulate ? **[AIPMT 2007]**

(1) Whole blood from pulmonary vein

(2) Blood plasma

(3) Blood serum

(4) Sample from the thoracic duct of lymphatic system.

Q.4 Which type of white blood cells are concerned with the release of histamine and the natural anticoagulant heparin ? **[AIPMT 2008]**

(1) Eosinophils (2) Monocytes

(3) Neutrophils (4) Basophils

Q.5 In humans, blood passes from the post caval to the diastolic right atrium of heart due to : **[AIPMT 2008]**

(1) Stimulation of the sino auricular node.

(2) Pressure difference between the post caval and atrium.

(3) Pushing open of the venous valves.

(4) Suction pull

Q.6 The most active phagocytic white blood cells are: **[AIPMT 2008]**

(1) Eosinophils and lymphocytes

(2) Neutrophils and monocytes

(3) Neutrophils and eosinophils

(4) Lymphocytes and macrophages

Q.7 The most popularly known blood grouping is the ABO grouping. It is named ABO and not ABC, because "O" in it refers to having : **[AIPMT 2009]**

(1) No antigens A and B on RBCs

(2) Other antigens besides A and B on RBCs

(3) Overdominance of this type on the genes for A and B types

(4) One antibody only - either anti-A or anti-B on the RBCs

Q.8 The letter T in T-lymphocyte refers to : **[AIPMT 2009]**

(1) Thymus (2) Thyroid

(3) Thalamus (4) Tonsil

Q.9 Globulins contained in human blood plasma are primarily involved in : **[AIPMT 2009]**

(1) Clotting of blood

(2) Defense mechanisms of body

(3) Osmotic balance of body fluids

(4) Oxygen transport in the blood

Q.10 Fastest distribution of some injectable material / medicine and with no risk of any kind can be achieved by injecting it into the : **[AIPMT-2010]**

(1) Arteries (2) Veins

(3) Lymph vessels (4) Muscles

Q.11 Given below are four statement (a-d) regarding human blood circulatory system : **[AIPMT-2010]**

(a) Arteries are thick-walled and have narrow lumen as compared to venis.

(b) Angina is acute chest pain when the blood circulation to the brain is reduced

(c) Persons with blood group AB can donate blood to any person with any blood group under ABO system.

(d) Calcium ions play a very important role in blood clotting.

Which two of the above statements are correct ?

(1) (a) and (b) (2) (b) and (c)

(3) (c) and (d) (4) (a) and (d)

Q.12 If due to some injury the chordae tendinae of the tricuspid valve of the human heart is partially non-functional, what will be the immediate effect ? **[AIPMT-2010]**

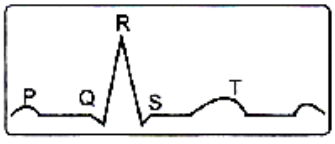
(1) The flow of blood into the pulmonary artery will be reduced

(2) The flow of blood into the aorta will be slowed down

(3) The 'pacemaker' will stop working

(4) The blood will tend to flow back into the left atrium

Q.13 Given below is the ECG of a normal human. Which one of its components is correctly interpreted below? **[AIPMT-2011]**



(1) Peak P - Initiation of left atrial contraction only

(2) Complex QRS - One complete pulse

(3) Peak T - Initiation of total cardiac contraction

(4) Peak P and Peak R together - Systolic and diastolic blood pressures.

Q.14 Which one of the following statements is correct regarding blood pressure? **[AIPMT-2011]**

(1) 130/90 mm Hg is considered high and required treatment

(2) 100/55 mm Hg is considered an ideal blood pressure

(3) 105/50 mm Hg makes one very active

(4) 190/110 mm Hg may harm vital organs like brain and kidney

Q.15 Arteries are best defined as the vessels which : **[AIPMT-2011]**

(1) Supply oxygenated blood to the different organs

(2) Carry blood away from the heart to different organs

(3) Break up into capillaries which reunite to from a vein

(4) Carry blood from one visceral organ to another visceral organ

Q.16 Bundle of His is a part of which one of the following organs in humans? **[AIPMT-2011]**

(1) Brain (2) Heart

(3) Kidney (4) Pancreas

Q.17 Which one of the following plasma proteins is involved in the coagulation of blood : **[AIPMT-2011]**

(1) Albumin (2) Serum amylase

(3) Globulin (4) Fibrinogen

Q.18 Which one of the following human organ is often called the **"Graveyard of RBCs"** ? **[AIPMT-2012]**

(1) Spleen (2) Liver

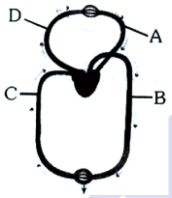
(3) Gall bladder (4) Kidney

Q.19 A patient brought to a hospital with myocardial infarction is normally immediately given : **[AIPMT-2012]**

(1) Cyclosporine- A (2) Statins

(3) Penicillin (4) Streptokinase

Q.20 Figure shows schematic plan of blood circulation in humans with labels A to D. Identify the label and give its function/s : **[NEET-UG 2013]**



(1) **D**-Dorsal aorta-takes blood from heart to body parts, PO_2 = 95 mm Hg.

(2) **A**-Pulmonary vein-takes impure blood from body parts, PO_2 = 60 mm Hg.

(3) **B**-Pulmonary artery-takes blood from heart to lungs, PO_2 = 90 mm Hg

(4) **C**-Vena Cava-takes blood from body parts of the right auricle, PCO_2 = 45 mm Hg.

Q.21 How do parasympathetic neural signals affect the working of the heart ? **[AIPMT 2014]**

(1) Reduce both heart rate and cardiac output.

(2) Heart rate is increased without affecting the cardiac output.

(3) Both heart rate and cardiac output increase.

(4) Heart rate decreases but cardiac output increases.

Q.22 Person with blood group AB is considered as universal recipient because he has: **(NEET UG-2014)**

(1) Both A and B antigens on RBC but no antibodies in the plasma.

(2) Both A and B antibodies in the plasma.

(3) No antigen on RBC and no antibody in the plasma

(4) Both A and B antigens in the plasma but no antibodies.

Q.23 Blood pressure in the mammalian aorta is maximum during : **[AIPMT 2015]**

(1) Diastole of the right ventricle

(2) Systole of the left ventricle

(3) Diastole of the right atrium

(4) Systole of the left atrium.

Q.24 Which one of the following animals has two separate circulatory pathways?**(RE-[AIPMT 2015)**

(1) Shark (2) Frog (3) Lizard (4) Whale

Q.25 Doctors use stethoscope to hear the sound produced during each cardiac cycle. The second sound is heard when : **(RE-[AIPMT 2015)**

(1) AV node receives signal from SA node

(2) AV valves open up.

(3) Ventricular walls vibrate due to gushing of blood from atria.

(4) Semilunar valves close down after the blood flows into vessels from ventricles.

Q.26 Blood pressure in the pulmonary artery is : **(NEET-I 2016)**

(1) Same as that in the aorta

(2) More than that in the caotid

(3) More than that in the pulmonary vein

(4) Less than that in the venae cavae

Q.27 Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body : **(NEET-II 2016)**

(1) Leucocytes (2) Neutrophils

(3) Thrombocytes (4) Erythrocytes

Q.28 Serum differs from blood in : **(NEET-II 2016)**

(1) Lacking albumins

(2) Lacking clotting factors

(3) Lacking antibodies

(4) Lacking globulins

Q.29 Adult human RBCs are enucleate. Which of the following statement(s) is/are most appropriate explanation for this feature ? **(NEET 2017)**

(a) They do not need to reproduce

(b) They are somatic cells

(c) They do not metabolize

(d) All their internal space is available for oxygen transport

Options :

(1) Only (d) (2) Only (a)

(3) (a), (c) and (d) (4) (b) and (c)

Q.30 Frog's heart when taken out of the body continues to beat for sometimes. **(NEET 2017)**

Select the best option from the following statements :

(a) Frog is a poikilotherm

(b) Frog does not have any coronary circulation

(c) Heart is "myogenic" in nature

(d) Heart is autoexcitable

Options :

(1) Only (c) (2) Only (d)

(3) (a) and (b) (4) (c) and (d)

Q.31 Match the items given in Column-I with those in Column-II and select the **correct** option given below : **(NEET 2018)**

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

	a	**b**	**c**
(1)	ii	iii	i
(2)	iii	ii	i
(3)	i	iii	ii
(4)	i	ii	iii

Q.32 Match the items given in Column I with those is column-II and select the **correct** option given below : **(NEET 2018)**

	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**
(1)	ii	i	iii
(2)	iii	i	ii
(3)	i	ii	iii
(4)	i	iii	ii

Q.33 Match the Column-I with Column-II :**(NEET 2019)**

	Column-I		**Column-II**
(a)	P-wave	(i)	Depolarisation of ventricles
(b)	QRS complex	(ii)	Repolarisation of ventricles
(c)	T - wave	(iii)	Coronary ischemia
(d)	Reduction in the size of T-wave	(iv)	Depolarisation size of T - wave of atria
		(v)	Repolarisation of atria

Select the **correct** option.

	(a)	**(b)**	**(c)**	**(d)**
(1)	(ii)	(i)	(v)	(iii)
(2)	(ii)	(iii)	(v)	(iv)
(3)	(iv)	(i)	(ii)	(iii)
(4)	(iv)	(i)	(ii)	(v)

Q.34 The QRS complex in a standard ECG represents: **(NEET 2020)**

(1) Depolarisation of auricles

(2) Depolarisation of ventricles

(3) Repolarisation of ventricles

(4) Repolarisation of auricles

Q.35 Which enzyme is responsible for the conversion of inactive fibrinogens to fibrins? **(NEET 2021)**

(1) Thrombin (2) Renin

(3) Epinephrine (4) Thrombokinase

Q.36 Match the following columns and select the **correct** option. **(NEET 2020)**

Column-I		**Column-II**	
(a)	Eosinophils	(i)	Immune response
(b)	Basophils	(ii)	Phagocytosis
(c)	Neutrophils	(iii)	Release histaminase, destructive enzymes
(d)	Lymphocytes	(iv)	Release granules containing histamine

	(a)	**(b)**	**(c)**	**(d)**
(1)	(iv)	(i)	(ii)	(iii)
(2)	(i)	(ii)	(iv)	(iii)
(3)	(ii)	(i)	(iii)	(iv)
(4)	(iii)	(iv)	(ii)	(i)

Q.37 Persons with 'AB' blood group are called as "Universal recipients". This is due to : **(NEET 2021)**

(1) Absence of antigens

(2) Absence of antigens in plasma

(3) Presence of antibodies, anti-A and anti-B, on

(4) Absence of antibodies, anti-A and anti-B, in plasma

Q.38 Given below are two statements.

Statement I : The coagulum is formed of network of threads called thrombins.

Statement II : Spleen is the graveyard of erythrocytes.

In the light of the above statements, choose the most appropriate answer from the options given below.

(1) Both statements I and Statements II are correct

(2) Both statements I and Statements II are incorrect

(3) Statements I is correct but Statements II is incorrect

(4) Statements I is incorrect but Statements II is correct **(NEET 2022)**

Q.39 Which one of the following statements is correct?

(1) The atrio-ventricular node (AVN) generates an action potential to stimulate atrial contraction

(2) The tricuspid and the bicuspid valves open due to the pressure exerted by the simultaneous contraction

(3) Blood moves freely from atrium to the ventricle during joint diastole.

(4) Increased ventricular pressure causes closing of the semilunar valves. **(NEET 2022)**

Q.40 Match List I with List II. List I List II **(NEET 2023)**

List I	**List II**
A. P-wave	I. Beginning of systole
B. Q-wave	II. Repolarisation of ventricles
C. QRS complex	III. Depolarisation of atria
D. T-wave	IV. Depolarisation of ventricles

Choose the correct answer from the options given below :

(1) A-IV, B-III, C-II, D-I (2) A-II, B-IV, C-I, D-III

(3) A-I, B-II, C-III, D-IV (4) A-III, B-I, C-IV, D-II

Q.41 Which of the following statements are correct? **(NEET 2023)**

A. Basophils are most abundant cells of the total WBCs

B. Basophils secrete histamine, serotonin and heparin

C. Basophils are involved in inflammatory response

D. Basophils have kidney shaped nucleus

E. Basophils are agranulocytes

Choose the correct answer from the options given below:

(1) C and E only (2) B and C only

(3) A and B only (4) D and E only

ANSWER KEY

NEET-FLASHBACK

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	2	1	3	4	2	2	1	1	2	2	4	1	2	4	2
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	2	4	1	4	4	1	1	2	4	4	3	3	2	1	4
Que.	31	32	33	34	35	36	37	38	39	39	40	41			
Ans.	1	2	3	2	1	4	4	4	3	4	4	2			