BODY FLUIDS & CIRCULATION

1. Plasma protein (s) of blood that help in clotting

a) Albumins b) Fibrinogen c) Globulin d) Heparin

2. Plasma proteins of blood that help in osmotic balance

a) Albumins b) Globulins c) Fibrinogen d) Serotonin

3. Read the following and select the correct combination

Animal	**Heart chambers**	**Blood pumped out of heart**
a) Shark	Two	Mixed blood
b) Lizard	Three	Deoxygenated blood
c) Frog	Three	Mixed blood
d) Rabbit	Four	Oxygenated blood from right Ventricle

4. Serum is

a) Blood minus blood cells b) Blood minus clotting factors

c) Plasma minus clotting factors d) Blood minus RBC and plasma proteins.

5. Serum differs from the lymph in the absence of

a) Erythrocytes b) Leucocytes and clotting factors

c) Leucocytes and albumins d) Erythrocytes and globulins

6. Match the following

A. Erythrocytopenia	1. Fall in platelet count
B. Polycythemia	2. Fall in RBC count
C. Leukocytopenia	3. Fall in WBC count
D. Thrombocytopenia	4. Rise in RBC count

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

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

7. Number of Red blood cells in a healthy adult man

a) 1.5 to 2 million / mm^3 b) 3.0 to 4.0 million / mm^3

c) 5-7 million / mm^3 d) 4.5 to 5.5 million / mm^3

8. Sites of erythropoiesis in adult man

a) Liver b) Spleen c) Red bone marrow d) Yellow bone marrow

9. Sites of RBC production in the early embryonic development

a) Liver b) Spleen

c) Yolk sac mesoderm d) Red bone marrow

10. Amount of hemoglobin in healthy adults

a) 5-10 mg / 100 ml of blood b) 10-20 mg / 100 ml of blood

c) 12-16 gr / 100 ml of blood d) 5-10 gr / 100 ml of blood

11. Match the following

Valve	Location
A. Tricuspid valve	i) Coronary sinus
B. Bicuspid valve	ii) Left atrioventricular aperture
C. Semi lunar valves	iii) Postcaval vein
D. Eustachian valve	iv) Right atrioventricular aperture
E. Thebesian valve	v) Aortic arch

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

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

12. Average life span of RBC in man

a) 100 days b) 200 days c) 150 days d) 120 days

13. Graveyard of RBC

a) Spleen b) Lymph nodes c) Liver d) Red bone marrow

14. Match the following

A. Sino – Atrial node	1. Posterior right side of interatrial septum
B. Atrioventricular node	2. Wall of ventricles
C. Bundle of His	3. Wall of right atrium
D. Purkinje fibres	4. Inter ventricular septum

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

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

15. Match the following

A. Basophils	1. Thromboplastin
B. Blood platelets	2. Drumstick body
C. Monocytes	3. Heparin
D. Neutrophils	4. Reniform nucleus

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

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

16. Reservoir of blood

a) Liver b) Spleen c) Red bone marrow d) Lymph nodes

17. Products produced by the break down of hemoglobin

a) Bilirubin, biliverdin b) Heparin, histamine

c) Albumin, globulin d) Fibrinogen, prothrombin

18. If a spleen is removed from an adult person, what is the adverse affect of it?

a) RBC filtration will not occurs b) Production of WBC decreases

c) Production of RBC increases d) Volume of hemoglobin is increases

19. Read the following and select the correct the combination

a) Lub sound	-	Closure semi lunar valves	-Atrial systole
b) Dup sound	-	Closure of tricuspid valve	- Ventricular systole
c) Lub sound	-	Closure of Tri, bicuspid valve	-Ventricular systole
d) Dup sound	-	Closure of semi lunar valves	-Ventricular diastole

20. Membrane bounded cells organelles that lost from erythrocytes in which of the developmental stage of erythrocyte

a) Proerythroblast b) Erythroblast c) Reticulocyte d) Myeloid stem cell

21. Most abundant of all leucocytes under normal conditions

a) Basophils b) Eosinophils c) Monocytes d) Neutrophils

22. Match the following

A. Factor-I	1. Prothrombin
B. Factor-II	2. Ca^{+2} ions
C. Factor-III	3. Fibrinogen
D. Factor-IV	4. Thromboplastin

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

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

23. Phagocytic leukocytes are

a) Basophils, eosinophils b) Monocytes, neutrophils

c) Lymphocytes, basophils d) All agranulocytes

24. Blood cells that secrete heparin, histamine, and serotonin are

a) Basophils b) Eosinophils c) Neutrophils d) Lymphocytes

25. Blood cells that increase in number during allergy and infection

a) Eosinophils b) Basophils c) Neutrophils d) Monocytes

26. Match the following with regard to ECG

1. P-wave	A. Depolarization of inter ventricular septum
2. Q-wave	B. Rapid ventricular depolarization
3. T-wave	C. Ventricular repolarization
4. QRS complex	D. Atrial depolarization

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

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

27. Blood cells responsible for immune responses

a) Monocytes b) Lymphocytes c) Basophils d) Eosinophils

28. Thrombocytes (platelets) are produced from

a) Stem cells of yellow bone marrow b) Stem cells of spleen

c) Megakaryocytes of red bone marrow d) Kupffer cells of liver

29. Match the following

A. Thebesian valve	1. Systemic, pulmonary arches
B. Eustachian valve	2. Left atrioventricular aperture
C. Tricuspid valve	3. Right atrioventricular aperture
D. Mitral valve	4. Post caval vein
E. Semi lunar valves	5. Left precaval

a) A-5, B-4, C-3, D-2, E-1 b) A-4, B-1, C-2, D-3, E-5

c) A-2, B-1, C-3, D-2, E-5 d) A-3, B-1, C-2, D-4, E-5

30. Blood cells help in coagulation of blood are

a) RBC b) WBC c) Platelets d) Macrophages

31. Physiological adaptation related to the blood that can be noticed in people living at higher altitudes is

a) Thrombocytopenia b) Anemia

c) Polycythemia d) Erythropenia

32. Oedema occurs due to

a) Fall in the levels of albumins b) Raise in levels of globulins

c) Plasmolysis d) Destruction of WBC

33. In human females sex chromatin body (Drumstick body) is attached to the nucleus of

a) Basophils b) Eosinophils c) Neutrophils d) Monocytes

34. Read the following and select the correct combinations

Blood cells	**Nucleus**	**Function**
A. Basophils	Irregular lobed	Play role in allergic reactions
B. Eosinophils	Bilobed	Remove antigen-antibody complexes
C. Neutrophils	Multilobed	Phagocytosis
D. Monocytes	Bean shaped	Play role in immunological reaction

a) A&B b) B&C c) C&D d) A&D

35. Cells of which of the following tissues do not secrete matrix

a) Vascular tissue b) Muscular tissue

c) Osseous tissue d) Loose connective tissue

36. Blood of mollusks is light blue due to presence of

a) Hemoglobin b) Haemocyanin

c) Chlorocruorin d) Vanadium chromogen

37. P^H of blood of a healthy person

a) 6.2 b) 9.4 c) 7.4 d) 5.0

38. Which of the following form acid-base buffers of blood to maintain P^H of blood

a) Hemoglobin & oxyhaemoglobin b) Albumin and globulin

c) Oxygen and carbon dioxide d) Inorganic salts and hemoglobin

39. Match the following

A. Factor-V	1. Fibrin stabilizing factor
B. Factor-X	2. Hageman factor
C. Factor-XII	3. Stuart factor (power factor)
D. Factor-XIII	4. Labile factor

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

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

40. The percentage of total volume occupied by RBC is

a) Haematocrit b) Diapedesis c) Buffy coat d) Erythropoiesis

41. True statement from the following regarding P^H of blood

a) Higher in veins and lower in arteries b) Same in both arteries and veins

c) Lower in veins and higher in arteries d) Same in certain parts of body

42. Principal cat ion in the plasma of blood

a) Calcium b) Sodium c) Potassium d) Magnesium

43. Formation of erythrocytes of foetus (later stages) takes place in

a) Red bone marrow b) Yellow bone marrow

c) Liver and spleen d) Blood plasma

44. Percentage of destruction of RBC in our body daily is

a) 10 b) 20 c) 1 d) 5

45. Match the following

A. Polycythemia	1. Decrease in the number of RBC
B. Erythropenia	2. Abnormally low levels of WBC
C. Leucopenia	3. Abnormally large number of RBC
D. Leukocytosis	4. Increase in the number of RBC
	5. Increase in the number of WBC

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

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

46. Vertebrate with the largest RBC

a) Whale b) Gorilla c) Amphiuma d) Ostrich

47. RBC are nucleated in which of following animal

a) Pheretima b) Rabbit c) Frog d) Camel

48. RBC of most of mammals is

a) Biconcave round and enucleated

b) Biconvex, oval and enucleated

c) Biconvex, spherical and nucleated

d) Biconcave elliptical and nucleated

49. Match the following

A. Larger P-wave

B. Flat T-wave

C. Enlarged Q-wave

D. Enlarged R-wave

i. Myocardial infraction

ii. Heart receives insufficient oxygen

iii. Hyperkalemia

IV. Enlargement of atrium

v. Enlargement of ventricles

a) A-iv, B-ii, C-i, D-v

b) A-i, B-iv, C-iii, D-ii

c) A-v, B-i, C-ii, D-iii

d) A-iv, B-i, C-ii, D-iii

50. RBC of camel is

a) Oval nucleated

b) Oval enucleated

c) Circular, biconvex and nucleated

d) Circular, biconcave and nucleated

51. Concave shape of RBC of mammals help in

a) Increasing volume relative to surface area

b) Increasing surface area relative to volume

c) Increasing both surface area and volume equally

d) To accommodate more RBC in less space

52. Match the following

A. Basophils	1. 0.5-1%
B. Neutrophils	2. 60-65%
C. Eosinophils	3. 2-3%
D. Lymphocytes	4. 20-25%
E. Monocytes	5. 6-8%

a) A-1, B-2, C-3, D-4, E-5 b) A-2, B-4, C-5, D-3, E-1

c) A-5, B-1, C-2, D-4, E-3 d) A-1, B-5, C-4, D-3, E-2

53. Blood of invertebrates differs from that of vertebrates in the absence of

a) Amoebocytes b) Erythrocytes c) Haemoglobin d) Plasma

54. RBC count is carried out by

a) Electro cardiogram b) Haemoglobinometer

b) Haemocytometer d) Sphygmomanometer

55. Human RBCs in 1.5% salt solution will

a) Burst b) Shrink c) Swell up d) Remain unaffected

56. In adults hemoglobin consists of

a) 1 α -chain and 1 β -chain b) 2 α -chains and 2 β -chains

c) 3 α -chains and 1 β -chain d) 1 α -chain and 3 β -chains

57. Anemia is caused due to iron deficiency is

a) Macrocytic b) Microcytic c) Pernicious d) Megaloblastic

58. Read the following and select the correct combination

Person with blood Group	Can donate blood to	Can receive blood from
a) Blood group-A	O/A	AB/O
b) Blood group- B	AB/B	O/B
c) Blood group- O	O/AB	O/AB
d) Blood group- AB	B/AB	O/AB

59. Major cause of anemia is

a) Deficiency of Ca^{+2} b) Deficiency of Na^{+}

c) Deficiency of Fe^{+2} d) Deficiency of Mg^{+2}

60. An adverse effect associated with polycythemia is caused due to

a) Increased availability of oxygen b) Decrease in blood volume

c) Increased cardiac output c) Increase in viscosity of blood

61. The true cells of blood

a) RBC b) WBC c) Platelets d) Thrombocytes

62. Ratio between RBC: WBC in man

a) 6:1 b) 60:1 c) 600:1 d) 6000:1

63. The largest of leucocytes in man

a) Neutrophils b) Lymphocytes c) Monocytes d) Acidophils

64. Which of the following statements are wrong?

i) Leucocytes disintegrate in the spleen and liver.

ii) RBC, WBC and platelets are produced only in red bone marrow.

iii) Neutrophils bring about destruction and detoxification of protein toxins.

iv) The most important function of lymphocytes is to produce antibodies.

a) i and ii b) i and iv c) i and iii d) ii and iii

65. Platelets (Thrombocytes) are considered not true cells because

a) They are nucleated produced by mitosis

b) They are non nucleated produced by fragmentation

c) They are non nucleated produced by amitosis

d) They are enucleated produced in red bone marrow

66. Life span of blood platelets in man

a) 1-2 months b) A week to 10 days c) One year d) 100 days

67. Liquid blood becomes Jelly like when it comes of blood vessel it is called

a) Haemolysis b) Haemopoiesis c) Thrombosis d) Agglutination

68. Read the following and select the correct combination with regard to erythroblastosis fetalis

	Father blood group	**Mother blood group**	**Blood group of foetus**
a)	Rh+ve	Rh+ve	Rh+ve
b)	Rh-ve	Rh+ve	Rh+ve
c)	Rh+ve	Rh+ve	Rh-ve
d)	Rh+ve	Rh-ve	Rh+ve

69. Vitamin that plays a key role in blood clotting is

a) Calciferol b) Ascorbic acid c) Naphthoquinone d) Retinol

70. Which of the following are necessary for blood clotting?

a) Ca^{+2} ions and vitamin K b) Mg^{+2} ions and vitamin A

c) Na^{+} ions and vitamin C d) K^{+} ions and vitamin D

71. Blood clotting protein, the fibrinogen is synthesized in

a) Spleen b) Liver c) Red bone marrow d) Pancreas

72. Which of the following is required for conversion of fibrinogen to fibrin?

a) Prothrombin b) Thrombin c) Ca^{+2} d) Thrombokinase

73. For conversion of inactive prothrombin into active thrombin, it requires

a) Ca^{+2} ions, thromboplastin b) Na^{+} ions, fibrinogen

c) K^{+} ions, prothrombinase d) Mg^{+2} ions, fibrin

74. Abnormal clot formed in the blood vessels is

a) Thrombus b) Embolus c) Ca^{+2} d) Thrombokinase

75. A free floating clot in the blood stream is called

a) Thrombus b) Embolus c) Agglutinin d) Agglutinogen

76. Match the following

A. P-Q interval lengthens	1. Heart block
B. Elevated S-T segment	2. Myocardial ischemia
C. Depressed S-T segment	3. In sufficient oxygen to heart muscles
D. Lengthened QT interval	4. Myocardial infraction
	5. Rheumatic fever

a) A-4, B-1, C-3, D-5 b) A-5, B-1, C-3, D-4

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

77. Which of the following substances, if introduced into the blood stream, would cause coagulation of blood at the site of its introduction

a) Heparin b) Fibrinogen c) Prothrombin d) Thromboplastin

78. Which of the following does not undergo clot?

a) Serum b) Plasma c) Lymph d) Tissue fluid

79. Which of the following is anticoagulant and checks blood coagulation in blood vessels?

a) Heparin b) Prothrombin c) Thromboplastin d) Globins

80. In blood banks blood is stored in packets; blood clotting in stored blood can be prevented by adding

a) Sodium chloride b) Ammonium chloride

c) Oxalates or citrates of Na or K d) Sodium hydroxide

81. Match the following

Blood Vessel	**Supplies blood to**
A. Coronary artery	1. Brain
B. Carotid	2. Diaphragm
C. Phrenic	3. Hind limbs
D. Hepatic	4. Wall of heart
	5. Liver

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

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

82. Select the wrong statement from the following

a) Na or K citrates are used as Ca^{+2} removers to prevent blood clotting

b) Fibrinogen, prothrombin, thromboplastin are synthesized in liver cells

c) Haemolysins of saliva of mosquitoes cause immediate clotting of blood

d) Vitamin K is required for the synthesis of clotting factors in liver

83. Which of the following can be used to an anticoagulant?

a) Citric acid b) Acetic acid c) EDTA d) HCl

84. Anticoagulant of plant origin

a) Coumadin b) Hirudin c) Lampredin d) Haemolysins

85. Match the following

A. Arteriosclerosis	1. Narrowing of arteries
B. Atherosclerosis	2. Severe heart pain
C. Angina pectoris	3. Thickening of walls of arteries
D. Myocardial infraction	4. Congestive heart failure
	5. Heart attack

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

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

86. The chemical that causes deficiency of vitamin K that leads to prolonged bleeding in cattle is

a) Dicumarol b) Benzene c) Mercury d) Cyanide

87. Closed circulatory system is seen in

a) Arthropods b) Non cephalopod molluscs

c) Urochordates d) Vertebrates

88. Open circulatory system is seen in

a) Earthworm b) Cockroach c) Rabbit d) Man

89. Single circulation is seen in

a) Fishes b) Frogs c) Crocodiles d) Mammals

90. Match the following

A. Normal rate of heart beat	1. Tachycardia
B. Abnormal rate of heart beat	2. Bradycardia
C. Decrease in heart rate	3. Arrhythmia
D. Increase in heart rate	4. Rhythmia

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

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

91. In incomplete double circulation of amphibians and reptiles heart pumps

a) Venous blood

b) Mixed blood

c) Oxygenated, deoxygenated blood separately

d) Only pure blood

92. Heart of fishes is

a) Branchial heart and venous heart b) Systemic heart and 2 chambered

c) Branchial heart and 3 chambered d) Systemic heart and single chambered

93. Assertion (A): Closed type of circulation is more effective and efficient than the open type of circulation.

Reason (R): The closed type of circulation enhances the speed and efficiency of pumping considerably.

a) A and R are correct, R is the correct explanation of A
b) A and R are correct, R is not the correct explanation of A
c) A is correct but R is incorrect
d) Both A and R are wrong

94. Blood vessel with more oxygenated blood in man

a) Pulmonary artery b) Pulmonary vein

c) Left systemic arch d) Dorsal aorta

95. The thickest layer in the wall of heart

a) Epicardium b) Endocardium

c) Myocardium d) Endothelium

96. Cardiac muscles are present in this layer of heart wall

a) Epicardium b) Myocardium c) Endocardium d) Pericardium

97. Papillary muscles arise from

a) Ventricles b) Atria

c) Interatrial septum d) Inter ventricular septum

98. Assertion (A): Heart of amphibians and reptiles pumps mixed blood to different parts of body.

Reason (R): Heart of amphibians and reptiles show incomplete double circulation.

a) A and R are correct, R is the correct explanation of A
b) A and R are correct, R is not the correct explanation of A
c) A is correct but R is incorrect
d) Both A and R are wrong3

99. Tendon like threads extend between papillary muscles and tricuspid, bicuspid valves are

a) Columnae carneae b) Chordae tendinae

c) Trabeculeae carneae d) Trabeculae tendinae

100. Ductus arteriosus of foetal stage is represented in adults by

a) Truncus arteriosus b) Pylangium

c) Ligamentum arteriosum d) Conus arteriosus

101. Assertion (A): Right ventricle of mammalian heart is thicker than that of left ventricle.

Reason (R): Right ventricle of mammalian heart needs to pump blood to the extreme body parts with high force.

a) A and R are correct, R is the correct explanation of A
b) A and R are correct, R is not the correct explanation of A
c) A is correct but R is incorrect
d) Both A and R are wrong

102. The pacemaker of heart is

a) Sinus venosus b) AV node c) SV node d) SA node

103. Pace maker of the heart in man is located in

a) Wall of left atrium near pulmonary veins

b) Wall of right atrium near eustachian valve

c) Wall of right atrium near thebesian valve

d) Inter ventricular septum

104. What happens if pacemaker is made nonfunctional?

a) Heart loses rhythmicity coordination in the heart beat

b) Cardiac impulses neither generated nor coordinated

c) Only ventricles show systole

d) Only atria show systole

105. **Assertion (A):** Heart of fish is called venous heart.

Reason (R): Heart of fish contains only deoxygenated blood.

a) A and R are correct, R is the correct explanation of A

b) A and R are correct, R is not the correct explanation of A

c) is correct but R is incorrect

d) Both A and R are wrong

106. A-V node is located in

a) Right atrium close to atrioventricular septum

b) Left atrium close to inter ventricular septum

c) Inter ventricular septum

d) Right ventricle

107. Function of pace maker is

a) To generate cardiac impulses and to maintain rhythm

b) To generate minimum action potentials

c) To create lub, dup sounds

d) To pump blood

108. Assertion (A): The muscle fibers of SA node possess the highest rhythmicity among all cardiac muscle fibers.

Reason (R): SA node initiates the excitatory waves at the highest rate as it functions as pace maker.

a) A and R are correct, R is the correct explanation of A

b) A and R are correct, R is not the correct explanation of A

c) A is correct but R is incorrect

d) Both A and R are wrong

109. Bundle of his is a

a) Bundle of nerve fibres of inter ventricular septum

b) Bundle of cardiac muscles of inter ventricular septum

c) Part of conducting system of atria

d) Cardiac muscles fibres in the wall of ventricles

110. Number of RBC in man increases if he lives at higher altitudes because

a) There is more oxygen b) There is less oxygen

c) There is low partial pressure of oxygen d) There is high partial pressure of oxygen

111. Universal donor blood group has

a) No antigens b) No antibodies

d) Antigens only d) No antigens and antibodies

112. If in an experiment, an animal is made anemic, production of which hormone will be stimulated

a) Erythrocytin b) Erythroblastin c) Erythropoietin d) Encephalin

113. Artificial pace maker is implanted subcutaneously and is connected to the heart in patients

a) Having 90% blockage of the coronary arteries

b) Having high blood pressure

c) With irregularity in the heart rhythm

d) Suffering from arteriosclerosis

114. **Assertion (A):** Saline water should not be given to the patients of hypertension.

Reason (R): Saline water causes vomiting and may drop blood pressure suddenly causing cardiac arrest.

a) A and R are correct, R is the correct explanation of A

b) A and R are correct, R is not the correct explanation of A

c) A is correct but R is incorrect

d) Both A and R are wrong

115. **Systolic pressure is higher than diastolic pressure because**

a) Arteries are contracted during systole

b) Blood is pumped with high pressure during systole rather than diastole

c) Arteries have narrow lumen

d) Arteries have valves which resist the speed

116. **Haemopoietic tissues starting from the embryonic development up to adult in a correct sequence**

a) Yolk sac mesoderm, liver/spleen and red bone narrow

b) Lymph nodes, yellow bone narrow and red bone narrow

c) Spleen, lymph nodes and yellow bone narrow

d) Liver, spleen and mesoderm

117. **Blood of earth worm differs from that of frog**

a) In the absence of haemoglobin

b) In the absence of RBC

c) In the presence of amoebocytes

d) In the presence of urea

118. **Assertion (A):** WBCs accumulate at the site of wounds by diapedesis.

Reason (R): WBCs are the cells that fight against infection and protect the body from the action of microbes.

a) A and R are correct, R is the correct explanation of A
b) A and R are correct, R is not the correct explanation of A
c) A is correct but R is incorrect
d) Both A and R are wrong

119. **Formed elements of Pus**

a) Basophils b) Neutrophils c) Eosinophils d) Monocytes

120. **Lymph differs from the blood in the absence of**

a) RBC, WBC and glucose
b) RBC, platelets and some plasma proteins
c) CO_2, metabolites and lymphocytes
d) Formed elements and plasma proteins

121. **Pick out the odd one**

a) Heparin b) Hirudin c) Warfarin d) Erythropoietin

122. **Select the wrong statement from the following**

a) BP increases with the increase in cardiac output
b) BP is inversely related to the elasticity of blood vessels
c) Constriction of blood vessels decreases BP, where as dilation increases BP
d) BP increases with advancing age after the age of 60 years

123. **Blood in blood banks is stored in packets, in which blood is prevented from clotting. It can be achieved by the addition of**

a) Organic anticoagulants
b) Citrates, oxalates
c) EDTA, Hypo solution
d) More number of platelets

124. Correct sequence of stages of blood coagulation from the following

a) Formation of fibrin, formation of fibrinogen, formation of clot

b) Formation of prothrombin, formation of thrombin, formation of fibrinogen, clot

c) Formation of thrombokinase, formation of active thrombin, formation of fibrin, clot

d) Formation of fibrin, formation of fibrinogen, formation of clot

125. Serum differs from plasma in the absence of

a) Blood clotting proteins b) Formed elements c) RBC d) WBC

126. The chief sites of formation of lymph in human body

a) Liver b) Kidney c) Intestinal spaces d) Heart

127. Lymph capillaries of intestinal villi are

a) Lacteals b) Sinuses c) Sinusoids d) Coelomic channels

128. Correct sequence of layers in the heart wall of mammals

a) Mediastinum, myocardium and endocardium

b) Mediastinum, endocardium and myocardium

c) Pericardium, epicardium, myocardium and endocardium

d) Epicardium, exocardium, endocardium and myocardium

129. Correct sequence of conduction of cardiac impulse in the heart of mammals

a) SA node, AV node, bundle of His, purkinje fibres

b) AV node, SA node, purkinje fibres, bundle of his

c) Atria, AV node, SA node and ventricles

d) Right atrium, SA node, AV node, left atrium

130. Select the wrong statement from the following

a) Cardiac output is not constant but varies with the physical activity

b) Cardiac output increases with the increase in rate of heart beat

c) When cardiac output increases, then the stroke volume increases

d) Cardiac output decreases with the reduction in body temperature during surgery

131. Match the following

A. Sphygmomanometer	1. Haematocrit
B. Wintrobe tube	2. Cardiac output
C. Stethoscope	3. Blood pressure
	4. Heart beat

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

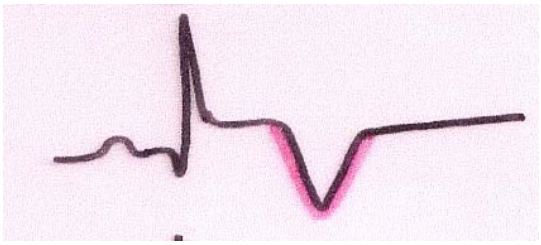
132. Deposition of calcium, fat, cholesterol and fibrous tissues in the lumen of coronary artery, making it narrower is called

a) Angina pectoris b) Atherosclerosis c) Heart failure d) Heart attack

133. A symptom of acute chest pain appears when oxygen reaching the heart muscles is not enough is

a) Angina pectoris b) CAD c) Heart attack d) Heart failure

134. Study the following picture related to ECG and find out the abnormality that you have noticed.



a) Myocardial ischemia b) Myocardial infraction

c) Rheumatic fever d) Myocardial damage

135. State of heart when is not pumping blood effectively enough to meet the needs of the body is

a) Heart attack b) Cardiac arrest c) Heart failure d) Angina

136. When heart muscles are suddenly damaged by inadequate blood supply it is called

a) Heart attack b) Cardiac arrest c) Heart failure d) Angina

137. Assertion (A): The cardiac output of an athlete will be much higher than that of an ordinary man.

Reason (R): The body has the ability to alter the stroke volume as well as cardiac output in order meet the oxygen requirement to the body.

a) Both A and R are true and 'R' is correct explanation of A

b) Both A and R are true and 'R' is not correct explanation of A

c) A is false, R is true d) A is true, R is false

138. Select the wrong statement from the following

a) SA node initiates cardiac cycle

b) Damage to AV node causes total heart block

c) The action potential in SA node is initiated mainly by the opening of K^+ ion channels

d) SA node can initiate excitatory waves at the highest rate

139. Select the correct statement from the following

a) If SA node fails; the AV node generates impulses in abnormal conditions

b) The nodal rhythm is insufficient to sustain life

c) AV node is capable of producing action potentials at the rate of 120 times per minute normally.

d) If there is any damage to the AV node, it can be rectified by SA node.

140. Correct sequence of blood flow in systemic circulation is

a) Right ventricle $\rightarrow$ pulmonary artery $\rightarrow$lungs $\rightarrow$pulmonary veins $\rightarrow$ left atrium

b) Left systemic arch $\rightarrow$body parts $\rightarrow$vena cava $\rightarrow$right atrium

c) Right atrium $\rightarrow$ right ventricle $\rightarrow$left atrium $\rightarrow$left ventricle

d) Left atrium $\rightarrow$ left ventricle $\rightarrow$ left systemic arch $\rightarrow$ lungs

141. Select the correct statement from the following

a) Stimulation of parasympathetic nervous system increases the rate of heart beat

b) Increased body temperature during fever increase heart beat

c) Heart beat is some what slower in adult female than that of male

d) The heart beat is slowest at birth and fastest in youth

142. Select wrong statement from the following

a) Systemic circulation provides oxygen and nutrient rich blood to organ systems

b) Pulmonary circulation provides blood rich in co_2 to lungs for oxygenation

c) Coronary system provides oxygen and nutrients rich blood to the heart wall

d) Hepatic portal system provides nutrient rich blood to the gut from the liver

143. Assertion (A): Heart of human beings is called myogenic.

Reason (R): Normal activities of the heart are regulated intrinsically by nodal tissue made up of cardiac muscles.

a) Both A and R are true and 'R' is correct explanation of A

b) Both A and R are true and 'R' is not correct explanation of A

c) A is false, R is true

d) A is true, R is false

144. Cardiac output is increased by

a) Parasympathetic signals

b) Adrenaline, noradrenalin

c) Hormones from adrenal cortex

d) Motor nerves

145. A special neural center in the brain that can moderate cardiac functions is

a) Medulla oblongata

b) Cerebral hemispheres

c) Cerebellum

d) Diencephalon

146. If blood pressure of a person in repeated checks is more than 120/80 the condition is called

a) Hypotension

b) Hypokalemia

c) Hypertension

d) Hyperkalemia

147. **Assertion (A):** The first Rh^{+ve} child born to the mother of Rh^{-ve} blood group and father of Rh^{+ve} blood group is safe (not affected by HDNB).

Reason (R): Mother starts preparing antibodies against Rh antigen in her blood just at the time of parturition of the first baby

a) Both A and R are true and 'R' is correct explanation of A

b) Both A and R are true and 'R' is not correct explanation of A

c) A is false, R is true

d) A is true, R is false

148. **Select the correct statement with respect to the lymph**

a) Lymph is an extra cellular fluid without formed elements

b) Lymph is a tissue fluid formed from the blood in the intestinal spaces

c) Lymph has large number of lymphocytes and plasma proteins of high molecular weight

d) Lymph is involved in the exchange of nutrients and gases only between blood cells and plasma

149. **Assertion (A):** Sino-atrial node acts as a pace maker of the heart.

Reason (R): SA node is auto excitable, and can generate the maximum number of action potentials with out any external stimuli.

a) Both A and R are true and 'R' is correct explanation of A

b) Both A and R are true and 'R' is not correct explanation of A

c) A is false, R is true

d) A is true, R is false

150. Select the correct statement from the following.

a) Atria and ventricles contract simultaneously during heart beat

b) Atria and ventricles relax simultaneously during heart beat

c) SAN generates action potentials so that right atrium contracts first; it is followed by left atrium

d) Ventricular systole causes the opening of semi lunar valves

151. Match the following

A. Basophils	1. Allergic reactions
B. Eosinophils	2. Immune responses
C. Monocytes	3. Heparin, histamine
D. Lymphocytes	4. Phagocytic cells
E. Thrombocytes	5. Blood clotting

a) A-3, B-1, C-4, D-2, E-5 b) A-1, B-2, C-3, D-5, E-4

b) A-5, B-2, C-4, D-1, E-3 d) A-2, B-3, C-5, D-4, E-1

152. Cardiac output is equal to

a) Stroke volume × rate of heart beat

b) Stroke volume/heart beat

c) Reserve volume – stroke volume

d) End diastolic volume – and systolic volume

153. When heart beat at the rate of 72 times per minute, the time taken for the completion of cardiac cycle is

a) 1 sec b) 1 minute c) 0.8 sec d)1.5 sec

154. Select the correct statement from the following

a) The blood group without antigens on the surface of RBCs is considered universal donor.

b) A person having blood group with all the types of antigens on the surface of RBCs is capable of receiving blood from any other person.

c) Person with blood group 'O' can donate his blood to persons of any other blood types and can receive blood group of any other type.

d) Person with blood group AB can donate blood to the person of same blood type as well as A and B.

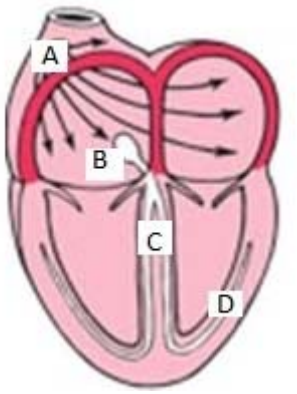
155. Identify A, B, C & D in an order from the below diagram showing the conducting system of heart.

a) SAN, AVN, Bundle of His and Purkinje fibres.

b) AVN, Bundle of His, Purkinje fibres and SAN.

c) AVN, SAN, Purkinje fibres and Bundle of His.

d) SAN, AVN, Purkinje fibres and Bundle of His.



- KEY:

1.b	2.a	3.c	4.c	5.b	6.b	7.d	8.c	9.c	10.c
11.d	12.d	13.a	14.b	15.b	16.b	17.a	18.a	19.c	20.c
21.d	22.d	23.b	24.a	25.a	26.b	27.b	28.c	29.a	30.c
31.c	32.a	33.c	43.b	35.a	36.b	37.c	38.b	39.d	40.a
41.c	42.b	43.c	44.d	45.b	46.c	47.c	48.a	49.a	50.b.
51.b	52.a	53.b	54.b	55.b	56.b	57.b	58.b	59.c	60.c
61.b	62.c	63.c	64.b	65.b	66.b	67.c	68.d	69.c	70.a
71.b	72.b	73.a	74.a	75.b	76.d	77.c	78.a	79.a	80.c
81.c	82.c	83.c	84.a	85.d	86.a	87.d	88.b	89.a	90.c
91.b	92.a	93.a	94.b	95.c	96.b	97.a	98.a	99.b	100.c
101.a	102.d	103.b	104.a	105.a	106.b	107.a	108.a	109.b	110.c
111.a	112.c	113.c	114.c	115.b	116.a	117.b	118.a	119.b	120.b
121.d	122.c	123.b	124.c	125.a	126.c	127.a	128.c	129.a	130.c
131.a	132.b	133.a	134.a	135.c	136.a	137.a	138.c	139.a	140.b
141.d	142.d	143.a	144.b	145.a	146.c	147.a	148.b	149.a	150.b
151.a	152.a	153.c	154.a	155.a					

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