EXERCISE-I (Conceptual Questions) **Build Up Your Understanding**

BLOOD

1. The normal Albumin / Globulin ratio in blood is :-
(1) 2 : 1 (2) 1 : 2 (3) 1 : 4 (4) 1 : 5

2. Sex chromatin present in :-
(1) Drum stick like in lobe of Neutrophil (2) Drum stick like in lobe of Basophil
(3) Drum stick like in lobe of Eosinophil (4) Drum stick like in lobe of lymphocyte

3. Eosinophilia is caused by :-
(1) Teniasis (2) Ascariaris (3) Hay fever (4) All of above

4. Blood group Antigen are :-
(1) Found in Hb molecule (2) Found in Plasma protien
(3) Found on RBC (4) None

5. Adult Hb has chain :-
(1) 2 α, 2 β (2) 2 α, 2 γ (3) 2 α, 2 δ (4) 4 α

6. Hb F (Foetal Hb) has chain:-
(1) 2 α, 2 β (2) 2 α, 2 γ (3) 2 α, 2 δ (4) 4 β

7. Life span of platelets is :-
(1) 4 days (2) 9 - 12 days (3) 20 - 30 days (4) 90 days

8. Haematocrit is ratio of :-
(1) WBC to plasma (2) Plateletto plasma
(3) Blood cells to plasma (4) RBC to plasma

9. Max. concentration of Hb normally found in RBC :-
(1) 3% (2) 10% (3) 36% (4) 46%

10. Mature RBC contains :-
(1) Enzymes of TCA cycle (2) Glycolytic enzyme
(3) Enzymes of Kreb cycle (4) All of above

11. Blood colloidal osmotic pressure mainly maintainted by which plasma protein :-
(1) Globulin (2) Albumin (3) Fibrinogen (4) Prothombin

12. Mammalian RBC are:-
(1) Biconcave, circular, non Nucleated (2) Biconcave, Nucleated
(3) Oval Nucleated (4) None

13. Globulin protein of blood plasma mainly involved in the:-
(1) Clotting (2) Osmotic balance
(3) Defence mechanism (4) None

14. Which WBCs resist infections and are also associated with allergic reactions:-
(1) Lymphocytes (2) Neutrophils (3) Eosinophils (4) Monocytes

15. Persons with _____ and _____ blood group are called universal recepitents & universal donors respectively :-
(1) AB^-, O^+ (2) O^+, AB^- (3) O^-, AB^+ (4) AB^+, O^-

16. ABO blood grouping is based on :-
(1) Surface antibodies on RBC. (2) Surface antigen on WBC.
(3) Surface antigen on RBC. (4) Plasma antigens.

17. Which leucocyte has bean shaped nucleus :-
(1) Basophil (2) Monocyte (3) Neutrophil (4) Lymphocyte

18. Haemolysis is :-
(1) Minute bits of disintegrated blood cells (2) Minute bits of disintegrated cells
(3) Minute bits of disintegrated neurons (4) Minute bits of disintegrated nephrons

19. Smallest blood element :-
(1) RBC (2) WBC (3) Platelets (4) None

20. In leukaemia (Blood cancer) leucocyte count :-
(1) > 1 lac (2) < 10,000 (3) 10- 20,000 (4) None

21. Blood clotting requires :-
(1) $Na^+ + K^+$ (2) Na^+ + Prothrombin
(3) Na^+ + Thromboplastin (4) Ca^{++} + Thromboplastin

22. Red cell count is carried out by :-
(1) Haemocytometer (2) Haemoglobinometer
(3) Electro cardiogram (4) Sphigmomenometer

23. Lymph differ from blood in possessing :-
(1) Only WBC (2) More RBC & WBC
(3) More RBC & few WBC (4) More WBC & few RBC

24. Blood platelets found in :-
(1) Pisces (2) Reptiles (3) Birds (4) Mammals

25. Diapedesis means :-
(1) Formation of WBC
(2) Formation of RBC
(3) Process by which certain WBCs squeeze through thin capiliary wall
(4) Movement of food in gut

26. Respiratory pigment Fe containing but red in colour:-
(1) Haemocyanin (Molluscas) (2) Haemoglobin (most vertebrates)
(3) Chlorocruorin (Some annelids) (4) None

27. Which of following act as middleman :-

(1) WBC (2) Lymph (3) Plasma (4) Blood

28. Process by which blood cells are formed in bone marrow:-
(1) Haemopoiesis (2) Haemolysis
(3) Thrombopoesis (4) Erythroblastosis

29. Largest leucocytes :-
(1) Neutrophil (2) Basophil (3) Monocyte (4) Lympocyte

30. Content of haemoglobin I 100 ml of Blood:-
(1) 15 gm (2) 20 gm (3) 10 gm (4) 5 gm

31. Micropolice man of blood :-
(1) Neutrophil (2) Basophil (3) Eosinophil (4) Lymphocyte

32. % of daily destruction of RBC :-
(1) 1% (2) 5% (3) 10% (4) 20%

33. Which of following has least consistancy is shape :-
(1) RBC (2) WBC (3) Mast cell (4) Bone cells

34. Ratio WBC / RBC in humn blood :-
(1) 1 : 100 (2) 1 : 200 (3) 500 : 1 (4) 1 : 500

35. In comparasion to WBC, RBC have :-
(1) Antigen (Agglutinogen) surface on RBC
(2) Carbonic anhydrase
(3) Donnan's membrane
(4) All of above

36. One is more in lymph than blood :-
(1) RBC (2) Nutrients (3) Lipids (4) Oxygen

37. Presence of RBC in urine called :-
(1) Proteinura (2) Haematuria (3) Alkaptouria (4) Uraemia

38. Serum is:-
(1) Blood - Blood cells (2) Plasma - Fibrinogen
(3) Blood - Plasma (4) Blood - RBC

39. Blood bank of body is :-
(1) Liver (2) Spleen (3) Heart (4) Bone marrow

40. Worn out RBC are destroyed by :-
(1) Kupffer's cells (2) Bone cells (3) Mast cells (4) None

41. Blood is differ from real connective tissue :-
(1) Plasma of blood is not entirely secreted by blood cells

(2) Blood corpucles are not formed in blood
(3) Fibres are absent in blood
(4) All of above

42. HbA_2 is composed of :-
(1) $\alpha_2\ \beta_2$ (2) $\alpha_2\ \gamma_2$ (3) $\alpha_2\ \delta_2$ (4) $\alpha_2\ \alpha_2$

43. Spleen & thymus are haemopoitic for (in adult) :-
(1) RBC (2) WBC (3) Platelets (4) All of above

44. I^{st} site of haemopoesis :-
(1) Bone narrow (2) Spleen (3) Liver (4) Yolksac

45. Which WBC has maximum lobs of nucleus :-
(1) Neutrophil (2) Acidophil (3) Basophil (4) Lymphocyte

46. Blood cells are produced by Bone marrow in :-
(1) All bones (2) Some bones
(3) Most of the bones (4) None

47. Which WBC has maximum life span :-
(1) Basophil (2) Monocyte (3) Acidophil (4) Neutrophil

48. Blood:-
(1) Contains plasma (2) Contains corpuscles
(3) Contains proteins (4) All of the above

49. A reduction in platelets number causes
(1) Clotting disorder (2) Immuno disorder
(3) Digestive disorder (4) Respiratory disorder

50. 100 ml. pure blood carries :-
(1) 1.34 ml. O_2 (2) 20 ml. O_2 (3) 15 ml. O_2 (4) 4 ml. O_2

51. Nucleus of granu1er WBC is mainly :-
(1) Spindle shape (2) Round (3) Oval shape (4) Lobed

52. Which WBC increase in Allergy :-
(1) Acidophil (2) Basophil (3) Lymphocyte (4) Neutrophil

53. How many polypeptide chains are present in single molecule of Haemoglobin protein :-
(1) 1 (2) 3 (3) 4 (4) 2

54. Thromboplastin is secreated by :-
(1) Kidney (2) Platelets (3) Leucocyte (4) Erythrocyte

55. T–lymphocyte are differentiate in :-
(1) Bone marrow (2) Liver (3) Thymus gland (4) Kidney

56. Universal recipient blood group:-
(1) AB^{-ve} (2) O^{-ve} (3) O^{+ve} (4) AB^{+ve}

57. Antibody are absent in which blood group :-
(1) A (2) B (3) AB (4) O

58. In total WBCs, lymphocytes are :-
(1) 60 – 65 % (2) 2 – 3 % (3) 6 – 8% (4) 20 – 25%

59. Agglutinin are present in :-
(1) RBC (2) WBC (3) Serum (4) Spleen

60. Which clotting factor has been rejected now:-
(1) VIII (2) VII (3) VI (4) V

61. Which clotting factor makes antiheparin :-
(1) Serotonin (2) Fibrin (3) Fibrinogen (4) Thromboplastin

62. Blood group 'A' received blood from which group-
(1)A, AB, O (2) A, O (3) O (4) B, AB

63. Which is not a plasma protein :-
(1) Heparin (2) Albumin (3) Prothrombin (4) Fibrinogen

64. Megakaryocyte cell is :
(1) RBC producer (2) Thrombocyte producer
(3) WBC producer (4) Protein producer

65. Person having 'B' blood group have antibody :-
(1) Anti A (2) Anti B (3) Both (4) None

66. Colouring agent of plasma is:
(1) Billiverdin (2) Stercobillinogen (3) Urobillinogen (4) Urochrome

67. Basophil not secrete :
(1) Prothrombin (2) Heparin (3) Histamine (4) Serotonin

68. In which pair erythroblastosis foetalis occur:
(1) Rh^+ male & Rh^- female (2) Rh^- male & Rh^- female
(3) Rh^+ male & Rh^+ female (4) Rh^- male & Rh^+ female

69. Blood of AB blood group can transfer to :-
(1) A (2) B (3) AB (4) O

70. Marcophages of Lymphnodes are:-
(1) Dust cell (2) Monocyte (3) Reticular cell (4) Kupffer cell

71. Granules which stain by basic dye found in which cell:-
(1) Monocyte (2) Plasma cell (3) Reticular cell (4) Mast cell

72. The Rh antibodies from the mother (Rh – ve) can leak into the blood of the foetus (Rh + ve) and destroy the:-
(1) Foetal RBCs (2) Mother RBCs (3) Foetal WBCs (4) Both (1) and (2)

73. Blood clotting requires
(1) Na^+ and K^+ (2) Na^+ and prothrombin
(3) Na^+ and thromboplastin (4) Ca^{2+} and thromboplastin.

74. Agranulocytes are
(1) Eosinophils and neutrophils (2) Monocytes and lymphocytes
(3) Eosinophils and lymphocytes (4) Lymphocytes and basophils.

75. Platelets are a source of
(1) Rbrinogen (2) Calcium (3) Thromboplastin (4) Heamoglobin

76. Which is unrelated to blood coagulation ?
(1) Rbrinogen (2) Fibrin (3) Bilirubin (4) Calcium

77. Major component of blood plasma is
(1) Water (2) Inorganic Substances
(3) Organic substances (4) Blood cells.

78. Maximum number of white blood corpuscles is that of
(1) Basophils (2) Neutrophils (3) Monocytes (4) Eosinophils

79. Life span of human white blood corpuscles is
(1) 24 hours (2) Less than 10 days
(3) 120 days (4) 100 hours

80. Which of the following is not a granulocyte ?
(1) Lymphocyte (2) Basophil (3) Neutrophil (4) Eosinophil

81. Which of the followingare involved in body defence
(1) Neutrophils (2) Lymphocytes (3) Macrophages (4) All the above

82. Largest corpuscles in human blood are
(1) Erythrocyrtes (2) Monocytes (3) Lymphocytes (4) Basophils

83. Prothrombin, albumin and fibrinogen are synthesised by
(1) Pancreas (2) Bone marrow (3) Spleen (4) Liver

84. Blood leucocytes are
(1) Epithelial (2) Endothelial (3) Glandular (4) Connective

85. Which one is a factor for maturation of erythrocytes
(1) Vitamin B_{12} (2) Vitamin A (3) Vitamin D (4) Vitamin C

86. In which state iron is present in haemoglobin

(1) Unionic (2) Fe^{2+} (3) Fe^{3+} (4) None of the above

87. Percentage of haemoglobin in RBCs is
(1) 10% (2) 20% (3) 34% (4) 48%

88. Immature RBCs of mammals have
(1) No nucleus (2) Single beaded nucleus
(3) Many nuclei (4) Single nucleus.

89. Megakaryocytes
(1) Produce leucocytes (2) Forms blood platelets
(3) Are carriers of oxygen (4) Are carriers of oxygen

90. During blood clotting, fibrin is produced by
(1) Thrombin (2) Prothrombin (3) Liver (4) Proteolysis

91. Number of erythrocytes per mm^3 of human blood is
(1) 4 million (2) 5 million (3) 6 million (4) 0.5 million

92. Number of WBCs per mm3 of human blood is
(1) 8000 (2) 4000 (3) 3000 (4) 16000

93. RBCs are nucleated in
(1) Man (2) Rabbit (3) Rat (4) Frog

94. An anticoagulant is
(1) Heparin (2) Hirudin (3) EDTA (4) All the above

95. The rarest leucocyte of human blood is
(1) Basophil (2) Monocyte (3) Neutrophil (4) Eosinophil

96. Blood has a pH of
(1) 7.4 (2) 7.8 (3) 6.9 (4) 6.3

97. The RBCs in human are
(1) Oval (2) Circular, biconcave and nucleated
(3) Circular, biconcave and nonnucleated (4) Oval, nonnucleated, Circular

98. Bilirubin and biliverdin are derived from
(1) Globin (2) Heam (3) Iron (4) Fat

99. Protein required for coagulation of blood is
(1) Haemoglobin (2) Globulin (3) Fibrinogen (4) Albumin

100. Globulin is
(1) Plasma protein (2) Antigen
(3) Serum (4) Found in lymphatic tissue.

101. Structure absent from fresh frozen blood plasma is
(1) Immunoglobulin (2) Plasma
(3) Albumin (4) Platelets

102. To prevent clotting, donor's blood is treated with
(1) Sodium glycocholate (2) Sodium hydroxyde
(3) Heparin (4) Sodium tatirocholate

103. Continuous bleeding from an injured part of body is due to deficiancy of:-
(1) Vitamin-A (2) Vitamin-B (3) Vitamin-K (4) Vitamin-E

104. Abnormal increase in number of RBC in blood is called
(1)Anaemia (2) Polycythemia (3) Leukemia (4) Sarcoma

105. Liquid which remain after clotting of blood is called as:-
(1) Serum (2) Plasma (3) Lymph (4) Blood

106. Which of the following substances, if introduced into the blood stream, would cause coagulation of blood at the site of its introduction -
(1) Thromboplastin (2) Fibrinogen (3) Heparin (4) Prothrombin

INDRODUCTION (TYPES OF CIRCULATION)

107. Sinus venosus in mammals is believed to have merged with the wall of :-
(1) Right auricle (2) Left auricle
(3) Right ventricle (4) Left ventricle

108. Closed circulatory system occurs in
(1) Cockroach (2) Tadpole/Fish (3) Mosquito (4) Housefly

109. Systemic heart refers to :-
(1) The heart that contracts under stimulation from nervous system
(2) Left auricle and left ventricle in higher vertebrates
(3) Entire heart in lower vertebrates
(4) The two ventricles together in humans

STRUCTURE OF HEART, HEART HEAT, CONDUCTING SYSTEM

110. Where is the pace maker situated :-
(1) In left auricle near opening of pulmonary vein
(2) In right auricle hear eustachian valve .
(3) On inter - auricular septum
(4) On inter-ventricular septum

111. Papillary muscles are found in :
(1) Haemocoel of cockroach (2) Auricles of heart
(3) Ventricles of heart (4) Arm

112. In mammalian embryo the pulmonary aorta communicates with carotico-systemic aorta by a narrow ductus arteriosus, in the adult this connection closes leaving :-

(1) Fossa – ovalis (2) Carotico pulmonary aperture
(3) Ligamentum arteriosus (4) None of these

113. To reach the left side of heart the blood must pass through
(1) Sinus venosus (2) Kidneys (3) Liver (4) Lungs

114. Characteristics of cardiac muscles are that they :-
(1) Contract quickly and get fatigued (2) Contract quickly and of not get fatigued
(3) Contract slowly and get fatigued (4) Contract slowly and do not get fatigued

115. Eustachain value occurs in :-
(1) connection between middle ear and Pharynx
(2) Middle ear
(3) Left ventricles of heart
(4) Right auricle of heart

116. In heart of Human bicuspid valve is situated in :-
(1) Right auricle and pulmonary aorta (2) Post caval and auricle
(3) Left auricle and left ventricle (4) Right auricle and right ventricle

117. When the right ventricle contracts the blood is pump into :-
(1) Superior vena cave (2) Dorsal aorta
(3) Pulmonary aorta (4) Pulmonary veins

118. The blood leaving the lungs is richer than the blood entering the lung in :-
(1) Oxygen (2) CO_2 (3) Hydrogen (4) Moisture

119. Pace maker influences :-
(1) Contraction of heart muscles (2) Flow of blood in heart
(3) Rate of heart beat (4) Generation of action potential

120. Purkinje fibres are found in :-
(1) Brain (2) Liver (3) Eyes (4) Heart

121. Coronary artery supplies blood to :-
(1) Mammary glands (2) Rib muscles
(3) Skin (4) Heart

122. In children, heart rate is :-
(1) More than adult (2) Less than adult (3) Equal to adult (4) None of these

123. The wall of Human heart is thick due to presence of
(1) Inner layer endocardium (2) Middle layer myocardium
(3) Outer most layer pericardium (4) Outer layer epicardium

124. The pulmonary aorta aries from :-
(1) Left ventricle (2) Right ventricle (3) Left auricle (4) Right auricle

125. When right ventricle of human heart contract then blood pumped into :-

(1) All parts of body (2) Lungs (3) Pulmonary veins (4) Systemic aorta

126. Bundle of His originates from :-
(1) Sinu-auricular node (2) Auriculo-ventricular node
(3) Pulmonary aorta (4) Systemic aorta

127. The small oval depression found on inter auricular septum in adult Human is termed :-
(1) foramen ovale (2) Fossa ovalis
(3) Foramen of monro (4) Foramen of magnum

128. Purkinje fibres mainly help in contraction of :-
(1) Right auricle (2) Left ventricle (3) Ventricles (4) Aorta

129. The papillary muscles are helpful in :-
(1) Movement of eye balls (2) Movement of eye lids
(3) Closing & opening the valves of heart (4) Movement of pinnae

130. Heart of human does not have :-
(1) Right auricle (2) Sinus venosus (3) Conus arterious (4) Both 2 & 3

131. The valves of the heart are attached to papillary muscles by :-
(1) Columnae carnae (2) Chordae tendinae
(3) Tendinae (4) Pectinati muscles

132. In cyanosis colouration of body parts appears :-
(1) Bluish (2) Yellowish (3) Reddish (4) Brownish

133. The rate of heart beat per minute is highest in case of :-
(1) Elephant (2) Whale (3) Man (4) Mouse

134. Which has the thickest walls :-
(1) Right auricle (2) Left auricle (3) Right ventricles (4) Left ventricle

135. Blood supply of heart musculature is Via :-
(1) Cardiac artery (2) Coronary artery (3) Aorta (4) Pulmonary vein

136. The remainent of formen ovale (Fossa Ovalis) is located in :-
(1) Inter atrial septum (2) Interventricular septum
(3) Between pulmonary & Aortic arches (4) Superior vena Cava

137. Which organ is by passed in Foetal Circulation :-
(1) Heart (2) Brain (3) Lung (4) Liver

138. The connection between pulmonary & Aortic arches in Foetus is :-
(1) Ligamentum arteriosus (2) Ductus arteriosus
(3) Foramen ovale (4) All of the above

139. The mitral valve is supported by :-

(1) Bundle of HIS (2) Ductus Arteriosus
(3) foramen ovale (4) Chorda tendinae

140. Which of the following is congenital heart disease
(1) Patent ductus arteriosus (2) Patent formen ovale
(3) ventricular septal defect (4) All

141. Normal Heart rate in two month old infant is :-
(1) < 72/min. (2) 60 to 72/min. (3) > 72/min. (4) 16/min.

142. The largest and the thickest heart chamber is
(1) Left ventricle (2) Left atrium (3) Right atrium (4) Right ventricle

143. Pace maker is
(1) Instrument for measuring heart beat
(2) Instrument for measuring pulse rate
(3) Auriculo-ventricular node that provides impulse for heart beat
(4) Sinu-auricular node that provides impulse for heart beat

144. Tricupsid valve is found in between
(1) Sinus venosus and right auricle (2) Right auricle and right ventricle
(3) Left ventircle and left auricle (4) Ventricle and aorta

145. Most fatal thrombosis leading to myocardial infarction is of
(1) Right circumflex coronary artery (2) Right coronary artery
(3) Left anterior descending artery (4) Left circumflex coronary artery

146. Origin of heart beat and its conduction is represented by
(1) Av node → Bundle of His → SA node → Purkinje fibres
(2) SA node → Purkinje fibres → AV node → Bundle of His
(3) Purkinje fibres → AV node → AV node → Bundle of His
(4) SA node → AV node → Bundle of His → Purkinje fibres

147. The hormone that stimulates heart beat is
(1) Insulin (2) Adreanaline (3) Glucagon (4) Gastrin

148. Heart beat is accelerated by :-
(1) Sympathetic nerves and noradrenaline (2) Cranial nerves and adrenaline
(3) Cranial nerves arid acetylcholine (4) Sympthetic nerves and acetylcholine

149. Neurogenic heart is characteristic of
(1) Humans (2) Invertebrates (3) Rat (4) Rabbit

150. In circulatory system, valves occur in
(1) Heart and blood bessels of both vertebrates and invertebrates as well· as vertebrate lymphatics
(2) Both vertebrate and invertebrate hearts
(3) Vertebrate heart only
(4) Both vertebrate and invertebrate hearts and their blood vessels.

151. Largest heart is of
(1) Giraffe (2) Elephant (3) Crocodile (4) Lion

152. Pericardia! fluid is secreted by
(1) Myocardium (2) Perietal peritoneum
(3) Visceral peritoneum (4) Pericardium

153. Which one generates heart beat?
(1) Purkinje fibres (2) Cardiac branch of vagus nerve
(3) SA node (4) AVnode

154. Heart wall is made of
(1) Myocardium (2) Epicardium
(3) Endocardium (4) All the above

155. Match the columns

	Column I		**Column II**
a	Superior Vena Cava	p	Carries deoxygenated blood to lungs
b	Inferior Vena Cava	q	Carries oxygenated blood from lungs
c	Pulmonary Artery	r	Brings deoxygenated blood from lower parts of body to right atrium
d	Pumonary Vein	t	Brings deoxygentaed blood from upper parts of body into right atrium

(1) a–q, b–t, c–r, d–p (2) a–t, b–p, c–q, d–r
(3) a–t, b–r, c–p, d–q (4) a–t, b–p, c–r, d–q

156. Blood vessel which brings oxygenated blood to left auricle is
(1) Precaval vein (2) Post caval vein
(3) Pulmonary vein (4) Pulmonary artery

157. Ventricular contraction in command of :-
(1) S.A. Node (2) A.V. Node
(3) Purkinje fibers (4) Papillary muscles

158. Bundle of His is a network of:-
(1) Muscle fibres distributed throughout the heart walls
(2) Muscle fibres found only in the inter ventricular septum
(3) Nerve fibres distributed in ventricles
(4) Nerve fibres found throughout the heart

159. The cardiac pacemaker in a patient fails to function normally. The doctors find that an artificial pacemaker is to be grafted in him. It is likely that it will be grafted at the site of -
(1) Purkinje system (2) Sinuatrial node
(3) Atrioventricular node (4) Atrioventricular bundle

160. Which of the following have thickest wall:-
(1) Right auricle (2) Left auricle
(3) Right ventricle (4) Left ventricle

161. The cardiac impules that results into the heart beat is delayed at :-
(1) Internodal tract (2) AV node
(3) Bundle of His (4) Purkinje fibres

162. Bicuspid valve (mitral) guards the opening in mammals between :-
(1) Left atrium and left ventricle (2) Pulmonary vein and left auricle
(3) Stomach and intestine (4) Right atrium and right ventricle

163. "Bundle of His" are:-
(1) nervous tissue supplied to ventricles (2) nervous tissue supplied to heart
(3) muscular tissue supplied to ventricles (4) muscular tissue supplied to heart

164. Papillary muscles are located in
(1) Ventricle, heart of rabbit (2) Dermis of mammalian skin
(3) Orbit of vertebrates eyes (4) Pylorus of vertebrate stomach

165. The heart beat of which animal is myogenic in nature
(1) Cockroach (2) Leech (3) Elephant (4) All of these

REGULATION OF HEART BEAT, CARDIAC CYCLE AND HEART SOUNDS

166. Blood pressure and heart beat is regulated by:-
(1) Insulin (2) Adrenalin (3) Optic nerve (4) Growth hormone

167. Heart beat is controlled by which cranial nerve :-
(1) X^{th} (2) IX^{th} (3) III^{rd} (4) V^{th}

168. If the vagus branch of frog is stimulate the heart will show:-
(1) Stoppage of heart beat (2) Decreased heart beat
(3) Increased heart beat (4) No change

169. The heart sound "DUP" is Produced when:
(1) Mitral valve opens
(2) Mitral valve closes
(3) Semilunar valve at the base of aorta closes
(4) Tricuspid valve opens

170. When heart beat is decreased than normal is called
(1) Bradicardia (2) Tachycardia (3) Hypocardia (4) Nicacardia

171. The 'Lubb' and "Dupp" heart sound are due to:
(1) Opening of heart valves (2) Action of papillary muscles
(3) Closing of heart valves (4) Activity of pace maker

172. Normal Cardiac output is :-
(1) 15 Litres/min. (2) 5 Litres × 72/min.
(3) 5 Litres/min. (4) 5/72 Litres/min.

173. Acetyl Choline causes :-
(1) Bradycardia (2) Tachycardia (3) Both (4) None

174. Ist Heart sound is :
(1) 'LUBB' at end of systole
(2) 'DUBB' at end of systole
(3) 'LUBB' at begining of Ventricular systole
(4) 'DUBB' at begining of Ventricular systole

17 5. Heart beat becomes faster on stimulation by
(1) Sympathetic nerves and adrenaline
(2) Sympathetic and parasymapathetic nerves
(3) Parasympathetic nerves and epinephrine
(4) Parasympathetic nerves and acetylcholine

17 6. The sound of lubb is produced during closure of
(1) Bicuspid valve (2) Tricuspid valve (3) Semilunar valves (4) Both (1) and (2)

17 7. 'Dup' sound is produced during closure of
(1) Semilunar valves (2) Bicuspid value (3) Tricuspid value (4) both (2) and (3)

178. Cardiac ouput is blood
(1) Received by heart per minute (2) Pumped by ventricles per sec
(3) Pumped by left ventricle per minute (4) Pumped by left ventricle per hour

179. If parasympathetic nerve of the rabbit is cut then heart beat :-
(1) Unaffected (2) Decreases (3) Increases (4) Stop

180. In human oxygenated blood flows from:-
(1) Left auricle to left ventricle during auricular systole
(2) Right auricle to right ventricle during ventricular systole
(3) Right ventricle to aorta during ventricular systole
(4) Pulmonary vein to left auricle during auricular systole

181. In cardiac cycle, "Dup" sound is heard when
(1) Mitral valves close (2) Mitral valves open
(3) Semilunar valves close (4) Tricuspid valve close

182. Tachycardia is :
(1) Fast heart rate (2) Slow heart rate (3) Stop heart rate (4) Normal heart rate

183. A heart "murmur" disorder indicates a defect of :
(1) Bundle of His (2) Heart valves
(3) Sinuauricular node (4) Atrioventricular node

184. Blood enters into the heart because muscles of:
(1) Atria relax (2) Ventricle contract
(3) Ventricle relax (4) Atria contract

BLOOD PRESSURE, BLOOD VESSELS, PORTAL SYSTEM AND LYMPHATIC SYSTEM AND OTHERS

185. Cells forming the wall of blood capillaries are called
(1) Oxyntic cell (2) Endothelial cell (3) Parietal cells (4) Haemocytes

186. Blood Capillaries are made of :-
(1) Endothelium and thin coat of connective tissue
(2) Endothelium and thin coat of muscle fibres
(3) Endothelium and thin coat of connective tissue and muscle fibres
(4) Only endothelium

187. Red pulp and white pulp are histological structure found in :-
(1) Tooth (2) Spleen (3) Bone (4) Liver

188. Pulmonary veins are those which
(1) Carry deoxygenated blood from lungs to heart
(2) Carrying oxygenated blood from lungs to heart
(3) Carry deoxygenated blood from heart to lung
(4) Carry oxygenated blood from heart to lungs

189. Oxygenated blood is carried by :-
(1) Pulmonary artery (2) Pulmonary vein (3) Renal vein (4) Hepatic portal vein

190. Lymph can be defined as :-
(1) Blood minus corpuscles (2) Blood minus Plasma
(3) Blood minus WBC (4) Blood minus RBC & Platlates

191. Sphygmomanometer measures :-
(1) Blood pressure (2) Pulse rate
(3) Rate of heart beat (4) All

192. Which has no muscular walls :-
(1) Capillary (2) Arteriole (3) Veins (4) Artery

193. Pulse beat is measured in :-
(1) Veins (2) Artery (Radial) (3) Nerve (4) Capillary

194. In a normal man blood pressure is :-
(1) 120/80 mm of Hg (2) 80/100 mm of Hg
(3) 80/120 mm of Hg (4) 100/80 mm of Hg

195. In which of the following character a vein differs from an artery :-
(1) Having valves to control flow of blood (2) Having narrow lumen
(3) Having muscular wall (4) Having pigmented wall to give dark look

196. Systolic pressure is higher than diastolic pressure due to :-
(1) Volume of blood in the heart is greater during systole
(2) Arteries contract during systole
(3) Blood vessels offer resistance to flowing blood during systole
(4) Blood is forced into arteries during systole.

197. The venous system of frog differs from that of a mammals in the presence of :-
(1) Renal portal system (2) Hapatic portal system
(3) Three superior venacava (4) Hepatic vein

198. Which artery supplies blood to the diaphragm :-
(1) Phrenic (2) Splenic (3) Renal (4) Caudal

199. Which one of the following organ can be called a sort of "blood bank" :-
(1) Heart (2) Liver (3) Spleen (4) Lungs

200. A renal portal system is found in :-
(1) Rabbit (2) Mouse (3) Horse (4) Frog

201. All arteries carry oxygenated blood except :-
(1) Systemic (2) Hepatic (3) Pulmonary (4) Cardiac

202. "Vasa Vasorum" refers to :-
(1) Jugular anastomosis
(2) A netwatk of blood vessels in an organ
(3) "Vessels of vessels" nutritive in function
(4) Carotid labyrinth regulating pressure of blood vessels

203. When there is a sudden loss of blood from the body the organ which supplies blood is :-
(1) Spleen (2) Heart (3) Liver (4) Lung

204. Coagulation of lymph is :-
(1) Faster than blood (2) Not possible
(3) Slower than blood (4) A passive process

205. An artery can be distinguished from a vein in having
(1) Thicker wall (2) Lesser lumen (3) No valve (4) All of the above

206. The most important center of lymph formation is :-
(1) Liver (2) Spleen (3) Bone marrow (4) Mucosa of ileum

207. The renal portal system of vertabrates is significant for
(1) Elimination of excess fats by kidney (2) Removing nitrogenous wastes in kidneys
(3) Sypplying food to the kidneys (4) Draining blood from the kidney

208. Removal of which organ will have least effect in an adult Human :-
(1) Spleen (2) Liver (3) Pancreas (4) Pituitary

209. Which one of the following is the main graveyard of RBC :-
(1) Bone marrow (2) Spleen (3) Liver (4) Kidney

210. Largest lymphoid organ of body is :-
(1) Liver (2) Kidney (3) Spleen (4) Pancrease

211. Brachial arteries supply blood to :-
(1) Neck (2) Fore limbs (3) Chest (4) Abdomen

212. A portal system is that in which :-
(1) A vein begins from an organ and ends in heart
(2) An artery breaks up in an organ & restarts by the union of its capillaries
(3) The blood from gut is brought in to kidneys before it is poured in to heart
(4) A vein breaks up in an organ into capillaries & restarts by their union as a new vein in the same organ

213. Indicate correct statement for Human
(1) Arteries always carry oxygenated blood while veins always carry deoxygenated blood
(2) Venous blood is returned to left auricle
(3) Arteries are provide with valves while veins are devoid to valves
(4) Arteries always carry blood away from the heart, while veins always carry blood towards the heart

214. A vein differ from an artery in having :-
(1) Strong muscular walls
(2) Narrow lumen
(3) Valves control direction of blood flow opposite to heart
(4) Valves control direction of blood flow towards heart

215. Blood circulation that start in capillaries and ends in capillaries is called :-
(1) Portal circulation (2) Hepatic circulation
(3) Cardiac arrest (4) None

216. What is true about vein :-
(1) All veins carry deoxygenated blood
(2) All veins carry oxygenated blood
(3) They carry blood from organs toward heart
(4) They carry blood from heart towards organs

217. In mammals the role of spleen is :-
(1) Graveyard of RBC (2) Reservoir of blood
(3) Haemopoietic organ (4) All

218. Which of the following is valve less :-
(1) Arteries (2) Veins (3) Lymphatics (4) Chambers in Heart

219. Which of the following carries deoxygenated blood only :-
(1) Carotid artery (2) Pulmonary artery
(3) Pulmonary vein (4) Aorta

220. Which vessel carries most oxygenated blood :-
(1) Pulmonary artery (2) Pulmonary vein
(3) Coronary artery (4) Cerebral artery

221. In a Portal system (Man) :-
(1) A vein starts from an organ & ends in Heart
(2) A vein enters into organ other than heart & breaks in Capillaries
(3) An artery breaks in an organ & restarts by union of its Capillaries
(4) Blood from intestine is brough in kidneys then in IVC

222. Which artery is absent in frog
(1) Renal artery (2) Carotid artery (3) Phrenic artery (4) Right systemic arch

223. Lymph
(1) Transports O_2 to brain (2) Transports CO_2 to lungs
(3) Returns interstitial fluid to blood (4) Returns RBCs and WBCs to lymph nodes

224. Glucose is carried from digestive tract to liver by.
(1) Hepatic artery (2) Hepatic portal vein
(3) Pulmonary vein (4) None of the above

225. Pulmonary artery differs from pulmonary vein in having
(1) Thick wall (2) Thin wall (3) Valves (4) Both (2) and (3)

226. Blood pressure is measured by
(1) Sphygmomanometer (2) Phonocardiogram
(3) Electrocardiogram (4) Stethoscope

227. All veins have deoxygenated blood except
(1) Renal vein (2) Hepatic vein
(3) Hepatic portal vein (4) Pulmonary veins.

228. Normal pulse pressure is
(1) 80 mm Hg (2) 120 mm Hg (3) 40 mm Hg (4) 320 mm Hg

229. Fully digested food reaches to liver by :- . ·
(1) Hepatic portal vein (2) Hepatic artery
(3) Hepatic vein (4) All the above

230. Which of the following statement is true for Lymph
(1) WBC and serum
(2) All components of blood except RBCs, Platelets and some proteins
(3) RBCs, WBCs and Plasma

(4) RBCs, Proteins and Platelets

231. Which of the following vessel in rabbit starts with capillaries and ends in capillaries :-
(1) Pulmonary artery (2) Renal vein
(3) Hepatic portal vein (4) Renal artery

232. Lymph vessels pour their materials in
(1) Subclevian vein (2) Pulmonary artery
(3) Artery which enters in legs (4) Right ventricle

233. Hepatic portal system starts from
(1) Digestive system to liver (2) Kidney to liver
(3) Liver to heart (4) Liver to kidney

234. Blood leaving liver and moving to heart will have more concentration of :-
(1) Bile (2) Urea (3) Glycogen (4) Amino acid

235. Maximum surface area of circulating system is seen in :-
(1) Heart (2) Capillaries (3) Arterioles (4) Veins

236 . All arteries carry oxygenated blood except
(1) Hepatic artery (2) Renal artery (3) Pulmonary artery (4) Cardiac artery

237. The structure of which of the following consist of a layer of single cell thickness ?
(1) Blood capillary (2) Artery (3) Venule (4) arteriole

238. Coronary heart disease is due to :
(1) Streptococci bacteria
(2) Inflammation of pericardium
(3) Weakening of the heart valves
(4) Insufficient blood supply to the heart muscles

239. An artery is a vessel that carries blood:
(1) Away from the heart
(2) Towards the heart
(3) Which is deoxygenated without any exception
(4) none of these

240. Which one indicates the hypertension ?
(1) 90/60 (2) 120/85 (3) 110/70 (4) 140/100

ANSWER KEY

EXERCISE-I (Conceptual Questions)

1.	(1)	**2.**	(1)	**3.**	(4)	**4.**	(3)	**5.**	(1)	**6.**	(2)	**7.**	(1)
8.	(4)	**9.**	(3)	**10.**	(2)	**11.**	(2)	**12.**	(1)	**13.**	(3)	**14.**	(3)

15.	(4)	**16.**	(3)	**17.**	(2)	**18.**	(1)	**19.**	(3)	**20.**	(1)	**21.**	(4)
22.	(1)	**23.**	(1)	**24.**	(4)	**25.**	(3)	**26.**	(2)	**27.**	(2)	**28.**	(1)
29.	(3)	**30.**	(1)	**31.**	(1)	**32.**	(1)	**33.**	(2)	**34.**	(4)	**35.**	(4)
36.	(3)	**37.**	(2)	**38.**	(2)	**39.**	(2)	**40.**	(1)	**41.**	(4)	**42.**	(3)
43.	(2)	**44.**	(4)	**45.**	(1)	**46.**	(2)	**47.**	(2)	**48.**	(4)	**49.**	(1)
50.	(2)	**51.**	(4)	**52.**	(1)	**53.**	(3)	**54.**	(2)	**55.**	(3)	**56.**	(4)
57.	(3)	**58.**	(4)	**59.**	(3)	**60.**	(3)	**61.**	(4)	**62.**	(2)	**63.**	(1)
64.	(2)	**65.**	(1)	**66.**	(3)	**67.**	(1)	**68.**	(1)	**69.**	(3)	**70.**	(3)
71.	(4)	**72.**	(1)	**73.**	(4)	**74.**	(2)	**75.**	(3)	**76.**	(3)	**77.**	(1)
78.	(2)	**79.**	(2)	**80.**	(1)	**81.**	(4)	**82.**	(2)	**83.**	(4)	**84.**	(1)
85.	(1)	**86.**	(2)	**87.**	(3)	**88.**	(4)	**89.**	(2)	**90.**	(1)	**91.**	(2)
92.	(1)	**93.**	(4)	**94.**	(4)	**95.**	(1)	**96.**	(1)	**97.**	(3)	**98.**	(2)
99.	(3)	**100.**	(1)	**101.**	(4)	**102.**	(3)	**103.**	(3)	**104.**	(2)	**105.**	(1)
106.	(1)	**107.**	(1)	**108.**	(2)	**109.**	(2)	**110.**	(2)	**111.**	(3)	**112.**	(3)
113.	(4)	**114.**	(2)	**115.**	(4)	**116.**	(3)	**117.**	(3)	**118.**	(1)	**119.**	(1)
120.	(4)	**121.**	(4)	**122.**	(1)	**123.**	(2)	**124.**	(2)	**125.**	(2)	**126.**	(2)
127.	(2)	**128.**	(3)	**129.**	(3)	**130.**	(4)	**131.**	(2)	**132.**	(1)	**133.**	(4)
134.	(4)	**135.**	(2)	**136.**	(1)	**137.**	(3)	**138.**	(2)	**139.**	(4)	**140.**	(4)
141.	(3)	**142.**	(1)	**143.**	(4)	**144.**	(2)	**145.**	(3)	**146.**	(4)	**147.**	(2)
148.	(1)	**149.**	(2)	**150.**	(1)	**151.**	(2)	**152.**	(4)	**153.**	(3)	**154.**	(4)
155.	(3)	**156.**	(3)	**157.**	(1)	**158.**	(2)	**159.**	(2)	**160.**	(4)	**161.**	(2)
162.	(1)	**163.**	(3)	**164.**	(1)	**165.**	(3)	**166.**	(2)	**167.**	(1)	**168.**	(2)
169.	(3)	**170.**	(1)	**171.**	(3)	**172.**	(3)	**173.**	(1)	**174.**	(3)	**175.**	(1)
176.	(4)	**177.**	(1)	**178.**	(3)	**179.**	(3)	**180.**	(1)	**181.**	(3)	**182.**	(1)
183.	(2)	**184.**	(1)	**185.**	(2)	**186.**	(4)	**187.**	(2)	**188.**	(2)	**189.**	(2)
190.	(4)	**191.**	(1)	**192.**	(1)	**193.**	(2)	**194.**	(1)	**195.**	(1)	**196.**	(4)
197.	(1)	**198.**	(1)	**199.**	(3)	**200.**	(4)	**201.**	(3)	**202.**	(3)	**203.**	(1)
204.	(3)	**205.**	(4)	**206.**	(4)	**207.**	(2)	**208.**	(1)	**209.**	(2)	**210.**	(3)
211.	(2)	**212.**	(4)	**213.**	(4)	**214.**	(3)	**215.**	(1)	**216.**	(3)	**217.**	(4)
218.	(1)	**219.**	(2)	**220.**	(2)	**221.**	(2)	**222.**	(3)	**223.**	(3)	**224.**	(2)
225.	(1)	**226.**	(1)	**227.**	(4)	**228.**	(3)	**229.**	(1)	**230.**	(2)	**231.**	(3)
232.	(1)	**233.**	(1)	**234.**	(2)	**235.**	(2)	**236.**	(3)	**237.**	(1)	**238.**	(4)
239.	(1)	**240.**	(4)										