ALLEN CAREER INSTITUTE KOTA (RAJASTHAN)

path to success

PRE-MEDICAL

ZOOLOGY

ENTHUSIAST | LEADER | ACHIEVER

EXERCISE

Body fluids and circulation

ENGLISH MEDIUM

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
CS0001

2. Eosinophilia is caused by :-
(1) Taeniasis (2) Ascariaris
(3) Allergy (4) All of above
CS0003

3. Blood group Antigen are :-
(1) Found in Hb molecule
(2) Found in Plasma protein
(3) Found on RBC
(4) None
CS0004

4. Adult Hb has chain :-
(1) 2 α , 2 β (2) 2 α , 2 γ
(3) 2 α , 2 δ (4) 4 α
CS0005

5. Hb F (Foetal Hb) has chain :-
(1) 2 α , 2 β (2) 2 α , 2 γ
(3) 2 α , 2 δ (4) 4 β
CS0006

6. Life span of platelets is :-
(1) 4 days (2) 9 - 12 days
(3) 20 - 30 days (4) 90 days
CS0007

7. Mature RBC contains :-
(1) Enzymes of TCA cycle
(2) Glycolytic enzyme
(3) Enzymes of Kreb cycle
(4) All of above
CS0010

8. Blood colloidal osmotic pressure mainly maintained by which plasma protein :-
(1) Globulin (2) Albumin
(3) Fibrinogen (4) Prothrombin
CS0011

9. Mammalian RBC are :-
(1) Biconcave, circular, non nucleated
(2) Biconcave, Nucleated
(3) Oval, Nucleated
(4) None
CS0012

10. Globulin protein of blood plasma mainly involved in the :-
(1) Clotting
(2) Osmotic balance
(3) Defence mechanism
(4) None
CS0013

11. Which WBCs resist infections and are also associated with allergic reactions :-
(1) Lymphocytes (2) Neutrophils
(3) Eosinophils (4) Monocytes
CS0014

12. Persons with _____ and _____ blood group are called universal recipients & universal donors respectively :-
(1) AB^-, O^+ (2) O^+, AB^-
(3) O^-, AB^+ (4) AB^+, O^-
CS0015

13. ABO blood grouping is based on :-
(1) Surface antibodies on RBC.
(2) Surface antigen on WBC.
(3) Surface antigen on RBC.
(4) Plasma antigens.
CS0016

14. Which leucocyte has bean shaped nucleus:-
(1) Basophil (2) Monocyte
(3) Neutrophil (4) Lymphocyte
CS0017

15. Smallest blood element :-
(1) RBC (2) WBC
(3) Platelets (4) None
CS0019

16. Blood clotting requires :-
(1) $Na^+ + K^+$
(2) Na^+ + Prothrombin
(3) Na^+ + Thromboplastin
(4) Ca^{++} + Thromboplastin
CS0021

17. Lymph differ from blood in possessing :-
(1) Only WBC
(2) More RBC & WBC
(3) More RBC & few WBC
(4) More WBC & few RBC
CS0023

18. Blood platelets found in :-
(1) Pisces (2) Reptiles
(3) Birds (4) Mammals
CS0024

19. Diapedesis means :-
(1) Formation of WBC
(2) Formation of RBC
(3) Process by which certain WBCs squeeze through thin capillary wall
(4) Movement of food in gut
CS0025

20. Which of following act as middleman :-
(1) WBC (2) Lymph
(3) Plasma (4) Blood
CS0027

21. Process by which blood cells are formed in bone marrow :-
(1) Haemopoiesis
(2) Haemolysis
(3) Thrombopoiesis
(4) Erythroblastosis
CS0028

22. Largest leucocytes :-
(1) Neutrophil (2) Basophil
(3) Monocyte (4) Lymphocyte
CS0029

23. Content of haemoglobin / 100 ml of Blood:-
(1) 15 gm (2) 20 gm
(3) 10 gm (4) 5 gm
CS0030

24. Micropolice man of blood :-
(1) Neutrophil (2) Basophil
(3) Eosinophil (4) Lymphocyte
CS0031

25. Which of following has least consistency is shape:-
(1) RBC (2) WBC
(3) Mast cell (4) Bone cells
CS0033

26. Ratio WBC / RBC in human blood :-
(1) 1 : 100 (2) 1 : 200
(3) 500 : 1 (4) 1 : 500
CS0034

27. In comparison to WBC, RBC have :-
(1) Antigen (Agglutinogen) surface on RBC
(2) Carbonic anhydrase
(3) Donnan's membrane
(4) All of above
CS0035

28. One is more in lymph than blood :-
(1) RBC (2) Nutrients
(3) Lipids (4) Oxygen
CS0036

29. Serum is :-
(1) Blood - Blood cells
(2) Plasma - Fibrinogen
(3) Blood - Plasma
(4) Blood - RBC
CS0038

30. Blood bank of body is :-
(1) Liver (2) Spleen
(3) Heart (4) Bone marrow
CS0039

31. Worn out RBC are destroyed by :-
(1) Kupffer's cells (2) Bone cells
(3) Mast cells (4) None
CS0040

32. Spleen & thymus are haemopoeitic for (in adult) :-
(1) RBC (2) WBC
(3) Platelets (4) All of above
CS0043

33. Ist site of haemopoesis :-
(1) Bone marrow (2) Spleen
(3) Liver (4) Yolk sac
CS0044

34. Which WBC has maximum lobs of nucleus:–
(1) Neutrophil (2) Acidophil
(3) Basophil (4) Lymphocyte
CS0045

35. Blood cells are produced by Bone marrow in :-
(1) All bones (2) Some bones
(3) Most of the bones (4) None
CS0046

36. Which WBC has maximum life span :–
(1) Basophil (2) Monocyte
(3) Acidophil (4) Neutrophil
CS0047

37. Blood :–
(1) Contains plasma
(2) Contains corpuscles
(3) Contains proteins
(4) All of the above
CS0048

38. A reduction in platelets number causes
(1) Clotting disorder
(2) Immune disorder
(3) Digestive disorder
(4) Respiratory disorder
CS0049

39. Nucleus of granular WBC is mainly :–
(1) Spindle shape (2) Round
(3) Oval shape (4) Lobed
CS0051

40. Which WBC increase in Allergy :–
(1) Acidophil (2) Basophil
(3) Lymphocyte (4) Neutrophil
CS0052

41. How many polypeptide chains are present in single molecule of Haemoglobin protein:–
(1) 1 (2) 3 (3) 4 (4) 2
CS0053

42. Thromboplastin is secreted by :–
(1) Kidney (2) Platelets
(3) Leucocyte (4) Erythrocyte
CS0054

43. Universal recipient blood group :-
(1) AB^{-ve} (2) O^{-ve}
(3) O^{+ve} (4) AB^{+ve}
CS0056

44. Antibody are absent in which blood group:–
(1) A (2) B (3) AB (4) O
CS0057

45. In total WBCs, lymphocytes are :-
(1) 60 – 65 % (2) 2 – 3 %
(3) 6 – 8 % (4) 20 – 25 %
CS0058

46. Which clotting factor acts as antiheparin :-
(1) Serotonin (2) Fibrin
(3) Fibrinogen (4) Thromboplastin
CS0061

47. Blood group 'A' can receive blood from which group–
(1) A, AB, O (2) A, O
(3) O (4) B, AB
CS0062

48. Which is not a plasma protein :–
(1) Heparin (2) Albumin
(3) Prothrombin (4) Fibrinogen
CS0063

49. Megakaryocyte cell is :–
(1) RBC producer
(2) Thrombocyte producer
(3) WBC producer
(4) Protein producer
CS0064

50. Person having 'B' blood group have antibody :-
(1) Anti A (2) Anti B
(3) Both (4) None
CS0065

51. Colouring agent of plasma is :–
(1) Billiverdin (2) Stercobillinogen
(3) Urobillinogen (4) Urochrome
CS0066

52. Basophil does not secrete :–
(1) Prothrombin (2) Heparin
(3) Histamine (4) Serotonin
CS0067

53. In which pair erythroblastosis foetalis can occur :-
(1) Rh^{+} male & Rh^{-} female
(2) Rh^{-} male & Rh^{-} female
(3) Rh^{+} male & Rh^{+} female
(4) Rh^{-} male & Rh^{+} female
CS0068

54. Blood of AB blood group can be donated to:-
(1) A (2) B (3) AB (4) O
CS0069

55. 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)
CS0072

56. Agranulocytes are
(1) Eosinophils and neutrophils
(2) Monocytes and lymphocytes
(3) Eosinophils and lymphocytes
(4) Lymphocytes and basophils.
CS0074

57. Platelets are a source of
(1) Fibrinogen (2) Calcium
(3) Thromboplastin (4) Heamoglobin
CS0075

58. Which is unrelated to blood coagulation ?
(1) Fibrinogen (2) Fibrin
(3) Bilirubin (4) Calcium
CS0076

59. Major component of blood plasma is
(1) Water
(2) Inorganic Substances
(3) Organic substances
(4) Blood cells
CS0077

60. Maximum number of white blood corpuscles is that of
(1) Basophils (2) Neutrophils
(3) Monocytes (4) Eosinophils.
CS0078

61. Which of the following is not a granulocyte?
(1) Lymphocyte (2) Basophil
(3) Neutrophil (4) Eosinophil.
CS0080

62. Which of the following are involved in body defence
(1) Neutrophils (2) Lymphocytes
(3) Macrophages (4) All the above.
CS0081

63. Largest corpuscles in human blood are
(1) Erythrocytes (2) Monocytes
(3) Lymphocytes (4) Basophils
CS0082

64. Prothrombin, albumin and fibrinogen are synthesised by
(1) Pancreas (2) Bone marrow
(3) Spleen (4) Liver
CS0083

65. Which one is a factor for maturation of erythrocytes
(1) Vitamin B_{12} (2) Vitamin A
(3) Vitamin D (4) Vitamin C.
CS0085

66. In which state iron is present in haemoglobin
(1) Unionic
(2) Fe^{2+}
(3) Fe^{3+}
(4) None of the above.
CS0086

67. Immature RBCs of mammals have
(1) No nucleus
(2) Single beaded nucleus
(3) Many nuclei
(4) Single nucleus.
CS0088

68. Megakaryocytes
(1) Produce leucocytes
(2) Forms blood platelets
(3) Are carriers of oxygen.
(4) Are carriers of carbon dioxide
CS0089

69. During blood clotting, fibrin is produced by
(1) Thrombin
(2) Prothrombin
(3) Liver
(4) Proteolysis
CS0090

70. Number of erythrocytes per mm^3 of human blood is
(1) 4 million (2) 5 million
(3) 6 million (4) 0.5 million
CS0091

71. Number of WBCs per mm^3 of human blood is
(1) 8000 (2) 4000
(3) 3000 (4) 16000
CS0092

72. RBCs are nucleated in
(1) Man (2) Rabbit
(3) Rat (4) Frog
CS0093

73. An anticoagulant is
(1) Heparin (2) Hirudin
(3) EDTA (4) All the above
CS0094

74. The rarest leucocyte of human blood is
(1) Basophil (2) Monocyte
(3) Neutrophil (4) Eosinophil.
CS0095

75. Blood has a pH of
(1) 7.4 (2) 7.8
(3) 6.9 (4) 6.3
CS0096

76. The RBCs in human are
(1) Oval
(2) Circular, biconcave and nucleated
(3) Circular, biconcave and nonnucleated
(4) Oval, nonnucleated, Circular
CS0097

77. Bilirubin and biliverdin are derived from
(1) Globin (2) Heam
(3) Iron (4) Fat.
CS0098

78. Protein required for coagulation of blood is
(1) Haemoglobin (2) Globulin
(3) Fibrinogen (4) Albumin
CS0099

79. Globulin is
(1) Plasma protein
(2) Antigen
(3) Serum
(4) Found in lymphatic tissue.
CS0100

80. To prevent clotting, donor's blood is treated with
(1) Sodium glycocholate
(2) Sodium hydroxide
(3) Heparin
(4) Sodium taurocholate.
CS0102

81. Continuous bleeding from an injured part of body is due to deficiency of :-
(1) Vitamin–A (2) Vitamin–B
(3) Vitamin–K (4) Vitamin–E
CS0103

82. Abnormal increase in number of RBC in blood is called
(1) Anaemia (2) Polycythemia
(3) Leukemia (4) Sarcoma
CS0104

83. Liquid which remain after clotting of blood is called as :-
(1) Serum (2) Plasma
(3) Lymph (4) Blood
CS0105

84. 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
CS0106

TYPES OF CIRCULATION

85. Closed circulatory system occurs in
(1) Cockroach (2) Tadpole/Fish
(3) Mosquito (4) Housefly
CS0108

86. 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
CS0109

STRUCTURE OF HEART, HEART BEAT, CONDUCTING SYSTEM

87. Where is the pace maker situated :-
(1) In left auricle near opening of pulmonary vein
(2) In right auricle near eustachian valve
(3) On inter - auricular septum
(4) On inter-ventricular septum
CS0110

88. Papillary muscles are found in :-
(1) Haemocoel of cockroach
(2) Auricles of heart
(3) Ventricles of heart
(4) Arm
CS0111

89. To reach the left side of heart the blood must pass through :-
(1) Sinus venosus (2) Kidneys
(3) Liver (4) Lungs
CS0113

90. Characteristics of cardiac muscles are that they :-
(1) Contract quickly and get fatigued
(2) Contract quickly and do not get fatigue
(3) Contract slowly and get fatigued
(4) Contract slowly and do not get fatigue
CS0114

91. In heart of Human bicuspid valve is situated between :-
(1) Right auricle and pulmonary aorta
(2) Post caval and auricle
(3) Left auricle and left ventricle
(4) Right auricle and right ventricle
CS0116

92. When the right ventricle contracts the blood is pump into :-
(1) Superior vena cava (2) Dorsal aorta
(3) Pulmonary aorta (4) Pulmonary veins
CS0117

93. The blood leaving the lungs is richer than the blood entering the lung in :-
(1) Oxygen (2) CO_2
(3) Hydrogen (4) Moisture
CS0118

94. Pace maker influences :-
(1) Contraction of heart muscles
(2) Flow of blood in heart
(3) Rate of heart beat
(4) Generation of action potential
CS0119

95. Purkinje fibres are found in :-
(1) Brain (2) liver
(3) eyes (4) Heart
CS0120

96. Coronary artery supplies blood to :-
(1)Mammary glands (2) Rib muscles
(3) Skin (4) Heart muscle
CS0121

97. In children, heart rate is :-
(1) More than adult
(2) Less than adult
(3) Equal to adult
(4) None of these
CS0122

98. 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
CS0123

99. The pulmonary aorta arise from :-
(1) Left ventricle (2) Right ventricle
(3) Left auricle (4) Right auricle
CS0124

100. When right ventricle of human heart contract then blood pumped into :-
(1) All parts of body (2) Lungs
(3) Pulmonary veins (4) Systemic aorta
CS0125

101. Bundle of His originates from :-
(1) Sinu-auricular node
(2) Auriculo-ventricular node
(3) Pulmonary aorta
(4) Systemic aorta
CS0126

102. The small oval depression found on inter auricular septum in adult Human is termed:-
(1) Foramen ovale
(2) Fossa ovalis
(3) Foramen of monero
(4) Foramen magnum
CS0127

103. Purkinje fibres help in contraction of :-
(1) Right auricle (2) Left ventricle
(3) Ventricles (4) Aorta
CS0128

104. 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

CS0129

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

CS0130

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

CS0131

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

CS0134

108. Blood supply to heart musculature is via :-
(1) Cardiac artery (2) Coronary artery
(3) Aorta (4) Pulmonary vein

CS0135

109. The remnant of foramen ovale (Fossa Ovalis) is located in :-
(1) Inter atrial septum
(2) Interventricular septum
(3) Between pulmonary & aortic arches
(4) Superior vena cava

CS0136

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

CS0137

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

CS0138

112. The mitral valve is supported by :-
(1) Bundle of HIS
(2) Ductus Arteriosus
(3) Foramen ovale
(4) Chorda tendinae

CS0139

113. Normal Heart rate in a two months old infant is
(1) <72/min. (2) 60 to 72/min.
(3) >72/min. (4) 16/min.

CS0141

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

CS0142

115. 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) Sino-auricular node that provides impulse for heart beat

CS0143

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

CS0144

117. 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

CS0146

118. The hormone that stimulates heart beat is
(1) Insulin (2) Adrenaline
(3) Glucagon (4) Gastrin
CS0147

119. Heart beat is accelerated by
(1) Sympathetic nerves and noradrenaline
(2) Cranial nerves and adrenaline
(3) Cranial nerves and acetylcholine
(4) Sympathetic nerves and acetylcholine
CS0148

120. Neurogenic heart is characteristic of
(1) Humans
(2) Invertebrates
(3) Rat
(4) Rabbit
CS0149

121. In circulatory system, valves occur in
(1) Heart and blood vessels 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.
CS0150

122. Pericardial fluid is secreted by
(1) Myocardium
(2) Parietal peritoneum
(3) Visceral peritoneum
(4) Pericardium
CS0152

123. Which one generates heart beat?
(1) Purkinje fibres
(2) Cardiac branch of vagus nerve
(3) SA node
(4) AV node
CS0153

124. Heart wall is made of
(1) Myocardium
(2) Epicardium
(3) Endocardium
(4) All the above
CS0154

125. Match the columns

	Column I		Column II
a	Superior Vena Cava/SVC	p	Carries deoxygenated blood to lungs
b	Inferior Vena Cava/IVC	q	Carries oxygenated blood from lungs
c	Pulmonary Artery	r	Brings deoxygenated blood from lower parts of body to right atrium
d	Pulmonary Vein	t	Brings deoxygenated 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
CS0155

126. Blood vessel which brings oxygenated blood to left auricle is
(1) precaval vein/SVC
(2) Post caval vein/IVC
(3) Pulmonary vein
(4) Pulmonary artery
CS0156

127. Ventricular contraction is in command of :-
(1) S.A. Node
(2) A.V. Node
(3) Purkinje fibers
(4) Papillary muscles
CS0157

128. 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
CS0158

129. Endothelium and Endocardium originate from :-
(1) Ectoderm (2) Mesoderm
(3) Endoderm (4) All of the above
CS0374

130. The cardiac impulse that results into the heart beat is delayed at :-
(1) Internodal tract (2) AV node
(3) Bundle of His (4) Purkinje fibres
CS0161

131. Bicuspid (mitral) valve 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
CS0162

132. "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
CS0163

133. Papillary muscles are located in
(1) Ventricle, heart of human
(2) Dermis of mammalian skin
(3) Orbit of vertebrates eyes
(4) Pylorus of vertebrate stomach
CS0164

134. The heart beat of which animal is myogenic in nature
(1) Cockroach (2) Leech
(3) Elephant (4) All of these
CS0165

REGULATION OF HEART BEAT, CARDIAC CYCLE AND HEART SOUNDS

135. Blood pressure and heart beat is influenced by:-
(1) Insulin
(2) Adrenaline
(3) Optic nerve
(4) Growth hormone
CS0166

136. Heart beat is controlled by which cranial nerve :-
(1) X (2) IX
(3) III (4) V
CS0167

137. 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
CS0169

138. When heart beat decreases than normal is called
(1) Bradycardia (2) Tachycardia
(3) Hypocardia (4) Nicardia
CS0170

139. The 'Lubb' and "Dup" 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
CS0171

140. Normal Cardiac output is :-
(1) 15 Litres/min.
(2) 5 Litres × 72/min.
(3) 5 Litres/min.
(4) 5/72 Litres/min.
CS0172

141. Acetylcholine causes :-
(1) Bradycardia (2) Tachycardia
(3) Both (4) None
CS0173

142. I^{st} Heart sound is :-
(1) 'LUBB' at end of systole
(2) 'DUBB' at end of systole
(3) 'LUBB' at beginning of Ventricular systole
(4) 'DUP' at beginning of Ventricular systole
CS0174

143. Heart beat becomes faster on stimulation by
(1) Sympathetic nerves and adrenaline
(2) Sympathetic and parasympathetic nerves
(3) Parasympathetic nerves and epinephrine
(4) Parasympathetic nerves and acetylcholine
CS0175

144. The sound of lubb is produced during closure of
(1) Bicuspid valve (2) Tricuspid valve
(3) Semilunar valves (4) Both (1) and (2)
CS0176

145. 'Dup' sound is produced during closure of
(1) Semilunar valves (2) Bicuspid value
(3) Tricuspid value (4) both (2) and (3)
CS0177

146. In diastole, the Heart is filled with the blood. This blood is :-
(1) Deoxygenated
(2) Venous blood
(3) Oxygenated blood
(4) Partial oxygenated blood
CS0375

147. 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
CS0180

148. Tachycardia is :-
(1) Fast heart rate
(2) Slow heart rate
(3) Stop heart rate
(4) Normal heart rate
CS0182

149. A heart "murmur" disorder indicates a defect of :-
(1) Bundle of His
(2) Heart valves
(3) Sinuauricular node
(4) Atrioventricular node
CS0183

150. Blood enters into the heart because muscles of :
(1) Atria relax
(2) Ventricle contract
(3) Ventricle relax
(4) Atria contract
CS0184

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

151. 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
CS0186

152. Cardiac center is present in
(1) Cerebrum
(2) Medulla oblongata
(3) Pons
(4) Epithalamus
CS0376

153. 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
CS0188

154. Oxygenated blood is carried by :-
(1) Pulmonary artery
(2) Pulmonary vein
(3) Renal vein
(4) Hepatic portal vein
CS0189

155. Lymph can be defined as :-
(1) Blood minus corpuscles
(2) Blood minus Plasma
(3) Blood minus WBC
(4) Blood minus RBC & Platelets
CS0190

156. Sphygmomanometer measures :-
(1) Blood pressure (2) Pulse rate
(3) Rate of heart beat (4) All
CS0191

157. Which has no muscular walls :-
(1) Capillary (2) Arteriole
(3) Veins (4) Artery
CS0192

158. Pulse beat is measured in :-
(1) Veins (2) Artery (Radial)
(4) Nerve (4) Capillary
CS0193

159. 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
CS0194

160. 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
CS0195

161. 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.
CS0196

162. 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
CS0197

163. Which artery supplies blood to the diaphragm :-
(1) Phrenic (2) Splenic
(3) Renal (4) Caudal
CS0198

164. Which one of the following organ can be called a sort of "blood bank":-
(1) Heart (2) Liver
(3) Spleen (4) Lungs
CS0199

165. A renal portal system is found in :-
(1) Rabbit
(2) Mouse
(3) Horse
(4) Frog
CS0200

166. All arteries carry oxygenated blood except:-
(1) Systemic
(2) Hepatic
(3) Pulmonary
(4) Cardiac
CS0201

167. 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
CS0203

168. Coagulation of lymph is :-
(1) Faster than blood
(2) Not possible
(3) Slower than blood
(4) A passive process
CS0204

169. An artery can be distinguished from a vein in having
(1) Thicker wall
(2) Lesser lumen
(3) No valves
(4) All of the above
CS0205

170. The most important center of lymph formation is-
(1) Liver (2) Spleen
(3) Bone marrow (4) Mucosa of ileum
CS0206

171. Removal of which organ will have least effect in an adult Human :-
(1) Spleen (2) Liver
(3) Pancreas (4) Pituitary
CS0208

172. Which one of the following is the main graveyard of RBC :-
(1) Bone marrow
(2) Spleen
(3) Liver
(4) Kidney
CS0209

173. Largest lymphoid organ of body is :-
(1) Liver (2) Kidney
(3) Spleen (4) Pancreas
CS0210

174. 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
CS0212

175. 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 provided with valves while veins are devoid of valves
(4) Arteries always carry blood away from the heart, while veins always carry blood towards the heart
CS0213

176. Blood circulation that starts in capillaries and ends in capillaries is called :-
(1) Portal circulation
(2) Hepatic circulation
(3) Cardiac arrest
(4) None
CS0215

177. What is true about vein
(1) All veins carry deoxygenated blood
(2) All veins carry oxygenated blood
(3) They carry blood from organs towards heart
(4) They carry blood from heart towards organs
CS0216

178. In mammals the role of spleen is :-
(1) Graveyard of RBC
(2) Reservoir of blood
(3) Haemopoietic organ
(4) All
CS0217

179. Which of the following is valve less :-
(1) Arteries
(2) Veins
(3) Lymphatics
(4) Chambers in Heart
CS0218

180. Which of the following carries only deoxygenated blood :-
(1) Carotid artery
(2) Pulmonary artery
(3) Pulmonary vein
(4) Aorta
CS0219

181. 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 brought in kidneys then in IVC
CS0221

182. 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
CS0223

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

CS0224

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

CS0225

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

CS0226

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

CS0227

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

CS0228

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

CS0229

189. 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

CS0230

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

CS0232

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

CS0233

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

CS0234

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

CS0235

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

CS0237

195. Coronary artery 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

CS0238

196. 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

CS0239

197. Which one indicates the hypertension ?

(1) 90/60 (2) 120/85

(3) 110/70 (4) 140/100

CS0240

EXERCISE-I (Conceptual Questions)

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**1**	**4**	**3**	**1**	**2**	**1**	**2**	**2**	**1**	**3**	**3**	**4**	**3**	**2**	**3**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**4**	**1**	**4**	**3**	**2**	**1**	**3**	**1**	**1**	**2**	**4**	**4**	**3**	**2**	**2**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**1**	**2**	**4**	**1**	**2**	**2**	**4**	**1**	**4**	**1**	**3**	**2**	**4**	**3**	**4**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**4**	**2**	**1**	**2**	**1**	**3**	**1**	**1**	**3**	**1**	**2**	**3**	**3**	**1**	**2**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**1**	**4**	**2**	**4**	**1**	**2**	**4**	**2**	**1**	**2**	**1**	**4**	**4**	**1**	**1**
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Ans.	**3**	**2**	**3**	**1**	**3**	**3**	**2**	**1**	**1**	**2**	**2**	**2**	**3**	**4**	**2**
Que.	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Ans.	**3**	**3**	**1**	**1**	**4**	**4**	**1**	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**4**
Que.	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Ans.	**2**	**4**	**2**	**1**	**3**	**2**	**4**	**3**	**1**	**4**	**2**	**4**	**2**	**1**	**2**
Que.	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
Ans.	**1**	**4**	**3**	**4**	**3**	**3**	**1**	**2**	**2**	**2**	**1**	**3**	**1**	**3**	**2**
Que.	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
Ans.	**1**	**3**	**1**	**3**	**3**	**1**	**3**	**1**	**4**	**1**	**2**	**1**	**1**	**2**	**1**
Que.	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
Ans.	**4**	**2**	**2**	**2**	**4**	**1**	**1**	**2**	**1**	**1**	**4**	**1**	**1**	**3**	**4**
Que.	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Ans.	**3**	**1**	**3**	**4**	**4**	**1**	**2**	**3**	**4**	**4**	**1**	**3**	**4**	**1**	**2**
Que.	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195
Ans.	**2**	**3**	**2**	**1**	**1**	**4**	**3**	**1**	**2**	**1**	**1**	**2**	**2**	**1**	**4**
Que.	196	197													
Ans.	**1**	**4**													

EXERCISE-II (Previous Year Questions) AIPMT/NEET

AIPMT 2006

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?

(1) Thiamine

(2) Folic acid and cobalamine

(3) Riboflavin

(4) Iron compounds

CS0241

AIPMT 2007

2. Which one of the following mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically ?

(1) Red blood cells

(2) White blood cells

(3) Unstriated muscle cells

(4) Liver cells

CS0242

3. A drop of each of the following, is placed separately on four slides. Which of them will not coagulate?

(1) Whole blood from pulmonary vein

(2) Blood plasma

(3) Blood serum

(4) Sample from the thoracic duct of lymphatic system

CS0243

AIPMT 2008

4. Which type of white blood cells are concerned with the release of histamine and the natural anticoagulant heparin ?

(1) Eosinophils

(2) Monocytes

(3) Neutrophils

(4) Basophils

CS0244

5. In humans, blood passes from the post caval to the diastolic right atrium of heart due to :-

(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

CS0245

6. The most active phagocytic white blood cells are:-

(1) Eosinophils and lymphocytes

(2) Neutrophils and monocytes

(3) Neutrophils and eosinophils

(4) Lymphocytes and macrophages

CS0246

AIPMT 2009

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:-

(1) No antigens A and B on RBCs

(2) Other antigens besides A and B on RBCs

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

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

CS0247

8. The letter T in T-lymphocyte refers to :-

(1) Thymus

(2) Thyroid

(3) Thalamus

(4) Tonsil

CS0248

9. Compared to blood our lymph has :-

(1) More RBCs and less WBCs

(2) No plasma

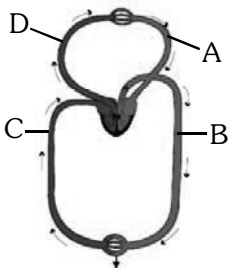
(3) Plasma without proteins

(4) More WBCs and no RBCs

CS0249

NEET-UG 2013

10. Figure shows schematic plan of blood circulation in humans with labels A to D, Identify the label and give its function/s.



(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

CS0251

AIPMT 2014

11. How do parasympathetic neural signals affect the working of the heart ?

(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.

CS0253

AIPMT 2015

12. Blood pressure in the mammalian aorta is maximum during :

(1) Diastole of the right ventricle

(2) Systole of the left ventricle

(3) Diastole of the right atrium

(4) Systole of the left atrium

CS0254

NEET-I 2016

13. Blood pressure in the pulmonary artery is :-

(1) same as that in the aorta.

(2) more than that in the carotid.

(3) more than that in the pulmonary vein.

(4) less than that in the venae cavae.

CS0255

NEET-II 2016

14. Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

(1) Neutrophils

(2) Thrombocytes

(3) Erythrocytes

(4) Leucocytes

CS0256

15. Serum differs from blood in :-

(1) Lacking clotting factors

(2) Lacking antibodies

(3) Lacking globulins

(4) Lacking albumins

CS0257

NEET(UG) 2017

16. Adult human RBCs are enucleated. Which of the following statement(s) is/are **most appropriate** explanation for this feature ?

(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

(1) only (a)

(2) (a), (c) and (d)

(3) (b) and (c)

(4) only (d)

CS0260

17. The hepatic portal vein drains blood to liver from :

(1) Stomach

(2) Kidneys

(3) Intestine

(4) Heart

CS0261

18. Frog's heart when taken out of the body continues to beat for sometime.
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(d) (2) (a) and (b)
(3) (c)and(d) (4) Only(c)

CS0262

NEET(UG) 2018

19. 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
(1)	iii	i	ii
(2)	i	iii	ii
(3)	i	ii	iii
(4)	ii	i	iii

CS0266

20. 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	b	c
(1)	iii	ii	i
(2)	i	ii	iii
(3)	i	iii	ii
(4)	ii	iii	i

CS0267

NEET(UG) 2019

21. Match the **Column - I** with **Column -II**

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 of atria
	(v) Repolarisation of atria

Select the **correct** option -

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

CS0377

NEET(UG) 2019 (ODISHA)

22. All the components of the nodal tissue are auto excitable. Why does the SA node act as the normal pacemakar?
(1) SA node has the lowest rate of depolarisation.
(2) SA node is the only component to generate the threshold potential.
(3) Only SA node can convey the action potential to the other components.
(4) SA node has the highest rate of depolarisation.

CS0378

23. A specialised nodal tissue embedded in the lower corner of the right atrium, close to Atrio-ventricular septum, delays the spreading of impulses to heart apex for about 0.1 sec. The delay allows.
(1) blood to enter aorta.
(2) the ventricles to empty completely.
(3) blood to enter pulmonary arteries.
(4) the atria to empty completely.

CS0379

NEET(UG) 2020

24. Match the following columns and select the correct option.

	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)	(ii)	(i)	(iii)	(iv)
(2)	(iii)	(iv)	(ii)	(i)
(3)	(iv)	(i)	(ii)	(iii)
(4)	(i)	(ii)	(iv)	(iii)

CS0380

NEET(UG) 2020 (COVID-19)

25. Which of the following conditions cause erythroblastosis foetalis ?

(1) Mother Rh^{+ve} and foetus Rh^{-ve}

(2) Mother Rh^{-ve} and foetus Rh^{+ve}

(3) Both mother and foetus Rh^{-ve}

(4) Both mother and foetus Rh^{+ve}

CS0381

NEET(UG) 2021

26. Persons with 'AB' blood group are called as "Universal recipients". This is due to :

(1) Absence of antigens A and B on the surface of RBCs

(2) Absence of antigens A and B in plasma

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

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

CS0382

27. Which enzyme is responsible for the conversion of inactive fibrinogens to fibrins?

(1) Thrombin

(2) Renin

(3) Epinephrine

(4) Thrombokinase

CS0383

NEET(UG) 2022

28. 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 **Statement I** and **Statement II** are incorrect

(2) **Statement I** is correct but **Statement II** is incorrect

(3) **Statement I** is incorrect but **Statement II** is correct

(4) Both **Statement I** and **Statement II** are correct

CS0384

29. Which one of the following statements is **correct**?

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

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

(3) Increased ventricular pressure causes closing of the semilunar valves.

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

CS0385

NEET(UG) 2022 (OVERSEAS)

30. Inadequate supply of oxygen to heart muscles leads to a symptom of acute chest pain. This disorder of the circulatory system is identified as :

(1) Cardiac arrest

(2) Heart failure

(3) Coronary Heart Disease

(4) Angina pectoris

CS0386

Re-NEET(UG) 2022

31. A unique vascular connection between the digestive tract and liver is called _____ .

(1) Hepato–pancreatic system

(2) Hepatic portal system

(3) Renal portal system

(4) Hepato–cystic system

CS0387

32. Arrange the following formed elements in the decreasing order of their abundance in blood in humans :

(a) Platelets (b) Neutrophils

(c) Erythrocytes (d) Eosinophils

(e) Monocytes

Choose **the most appropriate answer** from the options given below :

(1) (c), (a), (b), (e), (d)

(2) (c), (b), (a), (e), (d)

(3) (d), (e), (b), (a), (c)

(4) (a), (c), (b), (d), (e)

CS0388

EXERCISE-II (Previous Year Questions) ANSWER KEY

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**	**4**	**4**	**1**	**2**	**3**	**2**	**1**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**4**	**3**	**3**	**1**	**4**	**1**	**4**	**4**	**2**	**2**	**4**	**1**	**3**	**2**	**4**
Que.	31	32													
Ans.	**2**	**1**													

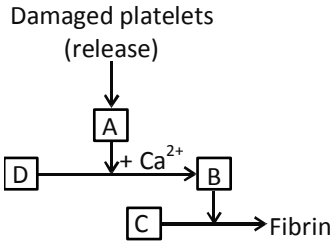
EXERCISE-III(A) (NCERT BASED QUESTIONS)

1. Which of the following WBCs are phagocytic cells.

(a) Monocytes (b) Neutrophils
(c) Basophils (d) Eosinophils
(1) Only (a) (2) (a) and (b)
(3) (a) and (c) (4) (c) and (d)

CS0271

2. Identify A, B and C in the given below blood clotting process.



Options :-

	A	B	C
(1)	Thromoplastin	Prothrombin	Fibrinogen
(2)	Thrombin	Fibrinogen	Thrombo-Kinase
(3)	Thromboplastin	Thrombin	Fibrinogen
(4)	Prothrombin	Thrombin	Fibrinogen

CS0272

3. Platelets are cells fragments produced from:-

(1) Thrombocytes (2) Megakaryocytes
(3) Monocytes (4) Mast cell

CS0273

4. Read the following statements (A-D) :-

A. RBCs are the most abundant of all the cells in blood
B. A healthy adult man has on an average 5 Billions to 5.5 Billions of RBCs mm^{-3} of blood
C. RBCs are formed in liver in the adults
D. RBCs are devoid of nucleus in most of the mammals and are biconcave in shape

How many of the above statements are incorrect:-

(1) Four (2) Three (3) Two (4) One

CS0274

5. Erythroblastosis foetalis can be avoided by administering.....to the mother immediately after the delivery of first child:-

(1) Vitamins
(2) Antibiotics
(3) Anti-Rh antibodies
(4) Rh-antigen

CS0275

6. Read the following (A - D) Statements :-

(A) Plasma is a straw coloured, viscous fluid constituting 55 percent of the blood.
(B) 90-92 percent of plasma is water and proteins contribute 6-8 percent of it
(C) Globulins are needed for clotting or coagulation of Blood
(D) Fibrinogens are primarily involved in defence mechanism of the body.

How many of the above statements are correct:

(1) Four (2) Three
(3) Two (4) One

CS0276

7. Which of the following is incorrect match of W.B.Cs with its functions :-

(1) Neutrophils – Phagocytic cells
(2) Eosinophils – Resist infections and are also associated with allergic reactions
(3) Basophils – Secrete histamine serotonin and Heparin
(4) T-Lymphocytes – Produce antibodies

CS0277

8. The state of heart when it is not pumping blood effectively enough to meet the needs of the body, is :-

(1) Heart attack (2) Cardiac arrest
(3) Angina pectoris (4) Heart Failure

CS0278

9. The opening between the right atrium and the right ventricle is guarded by :-
(1) Tricuspid valve (2) Bicuspid value
(3) Semilunar valve (4) Eustachian valve
CS0279

10. Incomplete double circulation is found in :-
(1) Reptiles and Birds
(2) Amphibian and Reptiles
(3) Birds and Mammals
(4) Fish and Amphibia
CS0280

11. The first heart sound is associated with :-
(1) Closure of the semilunar valves
(2) Closure of the tricuspid and Bicuspid valves
(3) Opening of the semilunar valves
(4) Opening of the Eustachian valve
CS0281

12. Correctly match column-I with column-II

Column-I	**Column-II**
A-Cardiac arrest	(i) Heart not pumping blood effectively
B-Heart Failure	(ii) Heart muscle is suddenly damaged
C-Heart attack	(iii) Acute chest pain
D-Angina	(iv) Heart stops beating

(1) A→(i), B→(ii), C→(iii), D-(iv)
(2) A→(iv), B→(ii), C→(i), D-(iii)
(3) A→(iv), B→(i), C→(ii), D-(iii)
(4) A→(ii), B→(iii), C→(i), D-(iv)
CS0282

13. Match the Column-I with Column-II.

Column-I	**Column-II**
(A) Fish	(i) 3-chambered heart
(B) Amphibia	(ii) Incomplete double circulation
(C) Birds	(iii) 4-chambered heart
	(iv) Single circulation
	(v) 2-chambered heart
	(vi) Double circulation

(1) A→(i), (ii) B→(iii), (vi) C→(iv), (v)
(2) A→ (i), (iv) B→(v), (ii) C→(iii), (vi)
(3) A→(v), (iv) B→(i), (ii) C→(iii), (vi)
(4) A→(iii), (ii) B→(i), (iv) C→(v), (vi)
CS0283

14. In which the following can increase the rate of heart beat?
(A) Sympathetic neural signals.
(B) Parasympathetic neural signals.
(C) Adrenal medullary hormones.
(D) Vagus nerve.
(E) Thyroxine hormone
(F) Acetylcholine
(1) A, C, E (2) D, E, F
(3) A, C, D (4) B, D, F
CS0284

15. During joint diastole :-
(1) Tricuspid and bicuspid valves are open
(2) Semilunar valves are closed
(3) All the four chambers of heart are in a relaxed state.
(4) All of the above
CS0285

16. Which is responsible for initiating and maintaining the rhythmic contractile activity of the heart?
(1) Sino-atrial node (SAN)
(2) Atrio-ventricular node (AVN)
(3) Purkinje fibres
(4) Bundle of his
CS0286

17. In which the following has the ability to generate action potentials without any external stimuli?
(1) Sino-atrial node (SAN)
(2) Atrio-ventricular node (AVN)
(3) Purkinje fibres
(4) All of the above
CS0287

18. Which information is **incorrect** about cardiac output?
(1) It's average value is 5000 ml
(2) The stroke volume multiplied by the heart rate, gives the cardiac output.
(3) It is the volume of blood pumped out by each ventricle per minute.
(4) The body has no the ability to alter the cardiac output.
CS0288

19. Birds and Mammals have :-
(1) Single and closed type circulation
(2) Double and open type circulation
(3) Double and closed type circulation
(4) Single and open type circulation

CS0289

20. Open circulatory system is present in :-
(1) Annelids and Chordates
(2) Annelids and Arthropods
(3) Arthropods and Chordates
(4) Arthropods and Mollusca

CS0290

21. Identify the correct sequence of events in a cardiac cycle :-
(1) Joint diastole → Atrial systole → Ventricular systole
(2) Joint diastole → Atrial diastole → Ventricular systole
(3) Ventricular systole → Atrial systole → Joint diastole
(4) Atrial systole → Joint diastole → Ventricular systole

CS0291

22. During ventricular systole :-
(1) Semilunar valves are closed
(2) About 30 percent blood is pumped into aorta from ventricles.
(3) Tricuspid and Bicuspid valves are closed
(4) Ventricular pressure declines

CS0292

23. The cardiac impulse is initiated and conducted further upto ventricle. The correct sequence of conduction of impulse is

(1)	S A Node	A V Node	Purkinje fiber	A V Bundle
(2)	S A Node	Purkinje fiber	A V Node	A V Bundle
(3)	S A Node	A V Node	A V Bundle	Purkinje fiber
(4)	S A Node	Purkinje fiber	A V Bundle	A V Node

CS0293

24. The second heart sound (dup) is associated with the closure of
(1) Tricuspid valve
(2) Semilunar valves
(3) Bicuspid valve
(4) Tricuspid and bicuspid valves.

CS0294

25. 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	i. Carries oxygenated blood
B. Pulmonary vein	ii. Immune Response
C. Thrombocytes	iii. To drain back the tissue fluid to the circulatory system
D. Lymphocytes	iv. Coagulation of blood

(1) A – (i), B – (ii), C – (iii), D – (iv)
(2) A – (iii), B – (i), C – (iv), D – (ii)
(3) A – (iii), B – (i), C – (ii), D – (iv)
(4) A – (ii), B – (i), C – (iii), D – (iv)

CS0295

26. Cardiac activity could be moderated by the autonomous neural system. Tick the correct answer :-
(1) The parasympathetic system stimulates heart rate and stroke volume
(2) The sympathetic system stimulates heart rate and stroke volume
(3) The parasympathetic system decreases the heart rate but increase stroke volume
(4) The sympathetic system decreases the heart rate but increase stroke volume

CS0296

27. Which among the following is correct during each cardiac cycle ?
(1) The volume of blood pumped out by the Rt and Lt ventricles is same.
(2) The volume of blood pumped out by the Rt and Lt ventricles is different
(3) The volume of blood received by each atrium is different
(4) The volume of blood received by the aorta and pulmonary artery is different

CS0297

EXERCISE-III(B) (ANALYTICAL QUESTIONS)

28. Blood platelets are found only in the blood of :
(1) Birds
(2) Reptiles
(3) Mammals
(4) Amphibians

CS0298

29. What is the main difference in human and frog RBC?
(1) Human RBC are non-nucleated
(2) Haemoglobin is found only in human RBC
(3) Human RBC have nucleus
(4) Human RBC are multinucleated

CS0299

30. Prothrombin is found in :-
(1) Intestine and helps in cellulose digestion
(2) Liver and helps in production of bile
(3) Blood and gives red colour
(4) Blood and helps in blood clotting

CS0300

31. Which type of WBCs are most abundant in blood of rabbit and other vertebrates?
(1) Acidophils
(2) Basophils
(3) Lymphocytes
(4) Neutrophils

CS0301

32. Blood clotting in a test tube can be prevented by adding a little of :
(1) Sodium oxalate
(2) Sodium chloride
(3) Sodium hydroxide
(4) Ammonium chloride

CS0302

33. Circular, biconcave and non-nucleated RBC's are found in
(1) Rat
(2) Rabbit
(3) Man
(4) All of the above

CS0303

34. Which of the following is an anticoagulant and checks blood coagulation in blood vessels?
(1) Prothrombin (2) Globulin
(3) Thromboplastin (4) Heparin

CS0304

35. In normal healthy female, the number of RBC/mm^3 of blood is :
(1) 6.5-7.0 million (2) 5.5-6.0 million
(3) 4.5-5.0 million (4) 3.5-4.0 million

CS0305

36. Which of the following should be avoided in biological marriages?
(1) A^+ boy and A^+ girl
(2) A^+ boy and A^- girl
(3) O^+ boy and O^+ girl
(4) O^- boy and O^+ girl

CS0306

37. After examining the blood group of husband and wife , the doctor advised them not to have more than one child. The blood groups of the couple are likely to be :
(1) Male Rh^- and female Rh^+
(2) Female Rh^- and male Rh^+
(3) Male Rh^+ and female Rh^+
(4) Male Rh^- and female Rh^-

CS0307

38. Blood colloidal osmotic pressure is maintained by
(1) Albumin (2) Globulin
(3) Fibrinogen (4) Thrombin

CS0308

39. Which one of the following is agranulocyte?
(1) Neutrophil (2) Eosinophil
(3) Basophil (4) Monocyte

CS0309

40. During the process of blood coagulation vitamin K helps in the :
(1) Formation of thromboplastin
(2) Formation of prothrombin
(3) Conversion of prothrombin to thrombin
(4) Conversion of fibrinogen to fibrin

CS0310

41. In mature RBC, nucleus is present in :
(1) Amphibians
(2) Mammals
(3) Both 1 and 2
(4) Neither in frog nor in mammals
CS0311

42. ABO blood group system is given by :
(1) Landsteiner (2) Wallace
(3) De Vries (4) Lamarck
CS0312

43. Which of the following , does not help in clotting of blood?
(1) Heparin (2) Prothrombin
(3) Ca^{2+} (4) Exposure to O_2
CS0313

44. Haematocrit value gives :
(1) Amount of RBC in blood
(2) Number of WBC in blood
(3) Amount of plasma in blood
(4) Haemoglobin concentration in blood
CS0314

45. Which one of the following couple were suggested by Doctors to not have more than one child
(1) Rh^+ male and Rh^- female
(2) Rh^- male and Rh^+ female
(3) Rh^+ male and Rh^+ female
(4) Rh^- male and Rh^- female
CS0315

46. The pH of blood is :
(1) Between 7–8 (2) Between 2–4
(3) Between 12–14 (4) Between 2–5
CS0316

47. Universal blood recipient is :
(1) Blood group–O
(2) Blood group–AB
(3) Blood group–A
(4) Blood group–B
CS0317

48. Life span of RBC is :
(1) 50 days (2) 70 days
(3) 120 days (4) 220 days
CS0318

49. During blood clotting which of the following is used
(1) Co (2) Ca^{++}
(3) Na^+ (4) Cl^-
CS0319

50. Haemoglobin contains
(1) Fe^{++} (2) Mg^{++}
(3) Na^{++} (4) Ca^{++}
CS0320

51. Which of the following does not play a role in blood coagulation ?
(1) Vitamin K (2) Vitamin D
(3) Calcium ions (4) Fibrinogen
CS0321

52. Anaemia is caused by :
(1) Deficiency of Fe
(2) Deficiency of Na
(3) Deficiency of Ca
(4) Deficiency of Mg
CS0322

53. The folllowing are needed for blood clotting :
(1) Ca^{++} and Vitamin E
(2) Ca^{++} and Vitamin K
(3) Ca^{++} and Vitamin A
(4) K^+ and Vitamin K
CS0323

54. The percentage of Hb in RBC is ;
(1) 48% (2) 34% (3) 10% (4) 20%
CS0324

55. Which of the following is enucleate ?
(1) Squamous epithelial cell
(2) Mature human erythrocyte
(3) Mature human leucocyte
(4) Mature frog erythrocyte
CS0325

56. Which one of the following anticoagulant is added in blood during storage?
(1) Sodium carbonate
(2) Sodium oxalate
(3) Sodium chloride
(4) Sodium hydroxide
CS0326

57. pH of blood in arteries and veins is :-
(1) More in veins and less in arteries
(2) More in arteries and less in veins
(3) same
(4) Not definite

CS0327

58. Diapedesis is :-
(1) A type of amoeboid movement shown by RBC
(2) Movement of some WBC to tissue through the wall of blood capillary to destroy harmful bacteria
(3) A type of movement in Hydra
(4) Filtration process of urea in kidney

CS0328

59. After the death of Human :-
(1) Both veins and arteries are full of blood
(2) Both veins & arteries are empty
(3) Arteries are full of blood while veins are empty
(4) Veins are full of blood while arteries are empty

CS0329

60. Heart has to pump blood more forcefully in older persons due to
(1) Increased elasticity of arteries
(2) Decreased elasticity of arteries
(3) Decreased efficiency of heart
(4) Increased efficiency of heart

CS0330

61. Match the columns

	Column I		**Column II**
a	Bicuspid valve	p	Brain
b	Nephron	q	Liver
c	Alveoli	r	Heart
d	Cerebrum	s	Kidney
		t	Lungs

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

CS0332

62. Vasoconstriction causes
(1) Increase in heart beat
(2) Decrease in heart beat
(3) Increase in blood pressure
(4) Decrease in blood pressure

CS0333

63. During high blood pressure, regulations of heart beat and circulation are controlled by
(1) Vasodilator and vasoconstrictor centres
(2) Cardio-stimulatory and vasoconstrictor centres
(3) Cardio-inhibitory and vasoconstrictor centres
(4) Cardio-inhibitory and vasodilator centers.

CS0336

EXERCISE-III — ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**2**	**3**	**2**	**3**	**3**	**3**	**4**	**4**	**1**	**2**	**2**	**3**	**3**	**1**	**4**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**1**	**4**	**4**	**3**	**4**	**1**	**3**	**3**	**2**	**2**	**2**	**1**	**3**	**1**	**4**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**4**	**1**	**4**	**4**	**3**	**2**	**2**	**1**	**4**	**2**	**1**	**1**	**1**	**1**	**1**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**1**	**2**	**3**	**2**	**1**	**2**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**4**	**2**
Que.	61	62	63												
Ans.	**3**	**3**	**4**												