

MULTIPLE CHOICE QUESTIONS

- Holoenzyme is made of
 - Apoenzyme and Zymogen
 - Apoenzyme and Co-enzyme
 - Co-enzyme and Prosthetic group
 - Prosthetic group and Co-factor
- Which of the following organelle is called 'Suicidal Bag'
 - Mitochondria
 - Endoplasmic reticulum
 - Lysosome
 - Ribosome
- Most abundant blood cells in the human body are
 - WBCs
 - RBCs
 - Platelets
 - Plasma Cells
- Number of iron atoms in one haemoglobin molecule are
 - 1
 - 3
 - 4
 - 8
- Which of the following is not a co-enzyme-
 - NAD
 - NADP
 - FAD
 - Mn⁺⁺
- Activity of allosteric enzymes are influenced by
 - Allosteric modulators
 - Allosteric site
 - Catalytic site
 - None of the above
- In competitive inhibition, inhibitors bears a close structural similarity with the
 - Co-enzyme
 - Co-factor
 - Prosthetic group
 - Substrate
- Enzyme acts best at a particular temperature called
 - Catalytic Temperature
 - At normal Body temperature
 - Optimum temperature
 - None of the above
- Lock and Key model is also known as
 - Template model
 - Induced fit model
 - Khosland's Model
 - Enzyme-substrate interaction model
- Which bond is not associated with Enzyme-substrate interaction -
 - Hydrogen bonds
 - Ionic bonds
 - Di-sulfide bonds
 - Van deer Waal's force of attraction
- Which of the following statement is incorrect
 - Enzymes are protein in nature
 - Enzymes are colloidal in nature
 - Enzymes are thermolabile
 - Enzymes are inorganic catalyst
- Apoenzymes dissociates from co-enzymes due to
 - Change in pH
 - Change in temperature
 - Change in substrate concentration
 - Change in inhibitor concentration
- Which of the following enzyme inhibitions shows decreased Km Value ?
 - Competitive inhibition
 - Un-competitive inhibition
 - Non-competitive inhibition
 - Feed back inhibition

14. Amount of total blood volume in an individual is approximately-
- 50 ml/Kg body weight
 - 60 ml/Kg body weight
 - 90 ml/Kg body weight
 - 80 ml/Kg body weight
15. Normal blood pH is
- 7.3
 - 7.2
 - 7.4
 - 8.4
16. Haematocrit value is the ratio of
- WBC to plasma
 - Platelets to plasma
 - RBCs to plasma
 - Total blood cells to plasma
17. Plasma represents _____ percent of total blood volume
- 35
 - 45
 - 55
 - 5
18. Normal amount of plasma protein ranges from
- 2.2-4.3 gm%
 - 4.4-6.3 gm%
 - 6.4-8.3 gm%
 - 8.4-10.2 gm%
19. Which component of protein contribute to maximum percentage to total plasma protein
- Albumin
 - Globulin
 - Fibrinogen
 - Prothrombin
20. Serum does not contain
- Calcium
 - Prothrombin
 - Factor VIII
 - Factor-X
21. Combination of haem with O₂ is called
- Oxyhaemoglobin
 - Oxidation
 - Oxygenation
 - Oxidized haem
22. Adult haemoglobin contains _____ polypeptide chains
- 2 α ,2 γ
 - 2 α ,2 β
 - 2 α ,2 δ
 - 2 β ,2 γ
23. Each haemoglobin molecules carries _____ number of O₂ molecules
- 2
 - 4
 - 1
 - 8
24. Each gram% of haemoglobin, when fully saturated, can carry _____ ml of O₂
- 1.34 ml
 - 3.14 ml
 - 4.13 ml
 - 5ml
25. In Sickle cell anaemia, the defect lies in which polypeptide
- Alpha chain
 - Beta chain
 - Gamma chain
 - Delta chain
26. Average mean corpuscular diameter is _____ μ m
- 5.1
 - 6.3
 - 7.3
 - 8.5
27. Increase in RBC count beyond 10 million per cu mm is known as
- Anisocytosis
 - Poikilocytosis
 - Polycythemia
 - Leucocytosis
28. During erythropoiesis haemoglobin first appears in
- Early normoblast
 - Intermediate normoblast

- c. Late normoblast
29. During hypoxia Kidney releases
- a. Renin
- c. Erythropoietin
30. Intrinsic factor is secreted by
- a. Liver
- c. Parietal cells of stomach
31. Which of the following extrinsic factor is required for maturation of RBCs
- a. Vit B₁₂
- c. Iron
32. Largest WBCs in peripheral blood is
- a. Neutrophil
- c. Monocyte
33. The process by which WBCs squeeze through pores in capillary wall is
- a. Chemotaxis
- c. Opsonization
34. Smallest blood cell is
- a. Small lymphocyte
- c. RBC
35. Commonest anaemia in India is
- a. Pernicious anaemia
- c. Iron deficiency anaemia
36. The term ER was coined by
- a. Camillo Golgi
- c. Robert Brown
37. Which of the following organelle has a continuous connection with nuclear membrane
- a. Golgi apparatus
- c. RER
38. In RER, ribosomes are located on
- a. the cytoplasmic side
- c. both (a) and (b)
39. Which of the following statements were true regarding ER
- a. ER provides structural framework to the cell
- b. ER acts as intra cellular transporting system
- c. SER is involved in the synthesis of lipid
- d. All of the above
40. Which of the following statements are correct regarding Golgi apparatus
- a. sorting and packaging
- c. exocytosis of thyroxine hormone
41. The term Golgi apparatus was coined by
- a. Camillo Golgi
- c. Robert Hook
42. F₀-F₁ Particles are located on
- a. Thylakoids
- b. Pronormoblast
- b. Renal Erythropoietic factor
- d. None of the above
- b. Chief cells of stomach
- d. Beta cells of pancreas
- b. Folic acid
- d. Both (a) and (b)
- b. Large lymphocyte
- d. Eosinophil
- b. Pinocytosis
- d. Diapedesis
- b. Platelet
- d. Neutrophil
- b. Sickle cell anaemia
- d. None of the above
- b. Porter
- d. Benda
- b. Lysosome
- d. SER
- b. on the luminal side
- d. all throughout
- b. exocytosis of melanin granules
- d. all of the above
- b. Robert Brown
- d. Benda
- b. inner mitochondrial membrane

- c. Golgian vacuoles
d. None of the above
43. In mitochondria cristae act as sites for
a. protein synthesis
b. phosphorylation of flavoproteins
c. breakdown of macromolecules
d. Oxidation–reduction reaction
44. Mitochondrial inner membrane is rich in which phospholipid
a. Phosphatidyl inositol
b. Phosphatidyl serine
c. Cardiolipin
d. Phosphatidyl choline
45. Which of the following is NOT a function of mitochondrion
a. electron transport and associated ATP production
b. Fatty acid breakdown
c. non-shivering thermogenesis
d. glycolysis and associated ATP production
46. Who coined the term mitochondria
a. Kolliker
b. Benda
c. Fleenming
d. Robert Brown
47. Nucleus was first discovered by
a. Robert Hook
b. Strasburger
c. Robert Brown
d. None of the above
48. Nuclear membrane is in continuous connection with
a. SER
b. RER
c. Golgi apparatus
d. Lysosomes
49. The number of nuclear pores depends on
a. Size of cells
b. Transcriptional activity of the cell
c. DNA content of the cell
d. all of the above
50. The DNA Protein ratio in chromatin is
a. 3:1
b. 2:1
c. 1:1
d. 4:1
51. The function of nucleolus is
a. RNA synthesis
b. DNA synthesis
c. Histone synthesis
d. Ribosomal subunit synthesis
52. The basic protein of the nucleus are
a. nucleohistones
b. nuceoprotamines
c. both (a) and (b)
d. none of these
53. Lysosomes are present in all except
a. muscle cells
b. acinar cells
c. erythrocytes
d. hepatocytes
54. Which of the following is the function of lysosomes
a. autophagy
b. autolysis
c. digestion
d. all of the above
55. Lysosomes are involved in
a. Extracellular digestion
b. Intracellular digestion
c. both (a) and (b)
d. none of the above

56. Who identified lysosome
- Novikoff
 - Claude
 - Palade
 - none of the above
57. All the following has ribosomes except
- nucleus
 - mitochondrion
 - chloroplast
 - cytoplasm
58. In 70S ribosome 'S' stands for
- S.I unit
 - Solubility factor
 - Svedberg unit
 - None of the above
59. 80S ribosomes are found in
- Eukaryotes
 - Prokaryotes
 - Both eukaryotes and Prokaryotes
 - Eukaryotic plant cells
60. The subunits of 80S ribosomes include
- 40S and 50S
 - 30S and 50S
 - 40S and 60S
 - 20S and 60S
61. The subunits of 70S ribosomes include
- 40S and 50S
 - 30S and 40S
 - 30S and 50S
 - 20S and 50S
62. 70S ribosomes occur in
- Viruses
 - prokaryotes
 - eukaryotic plant cells
 - eukaryotic animal cells
63. Ribosomes are made up of
- RNA only
 - RNA and Proteins
 - RNA, DNA and Proteins
 - nucleic acids, proteins and lipids
64. The rough ER is specially well developed in cells actively engaged in
- Protein synthesis
 - Nucleotide synthesis
 - Lipid synthesis
 - Secretory functions
65. The nucleus contains
- Mitochondria
 - Golgi apparatus
 - Chromosomes
 - Lysosomes
66. Plasma membrane is
- Permeable
 - Selectively permeable
 - Impermeable
 - Semi-permeable
67. Most accepted structural model of plasma membrane is
- Sandwich model
 - Unit membrane model
 - Lamellar model
 - Fluid-mosaic model
68. Plasma membrane is composed of
- Glycoproteins
 - Lipoproteins
 - Chromoproteins
 - Lipids
69. Ribosomes contain maximum amount of
- Steroids
 - Lipids
 - RNA
 - DNA
70. Which structure is present in animal cell but is absent from plant cell ?
- Centrioles
 - Golgi apparatus

- c. Mitochondria
71. A unit membrane is about :
a. 50-60 Å thick
c. 75-100 Å thick
- d. Endoplasmic reticulum
b. 60-75 Å thick
d. 100-120 Å thick
72. The enzymes which break up starch into sugar are called
a. Hydrolases
c. Lipases
- b. Amylases
d. Nucleases
73. Apoenzyme is a
a. Protein
c. Vitamin
- b. Carbohydrate
d. Amino acid
74. Coenzyme is :
a. Always a protein
c. Always an inorganic compound
- b. Often a metal
d. Often a vitamin
75. Enzymes are named after their substrates by adding suffix :
a. -in
c. -ose
- b. -ase
d. -sin
76. Enzyme exist in the cells as-
a. Solid
c. Colloid
- b. Crystals
d. None of the above
77. An enzyme brings about :
a. Reduction in activation energy
c. Increase in activation energy
- b. Increase in reaction time
d. All the above
78. Which of the following statement is "NOT" correct
a. All enzymes are thermolabile
c. All enzymes are proteins
- b. All enzymes are biocatalysts
d. All proteins are enzymes
79. Who discovered blood groups
a. F. Galton
c. Edward Jenner
- b. Carl Linnaeus
d. C. Landsteiner
80. Enzymes bringing about hydrolysis of esters and peptides are :
a. Transferases
c. Hydrolases
- b. Lyases
d. All of the above
81. Aerobic respiration is performed by :
a. Glyoxisomes
c. Lysosomes
- b. Mitochondria
d. Chloroplast
82. Bile reduces the surface tension and causes
a. Emulsification of fat
c. Absorption of fat
- b. Digestion of fat
d. All of the above
83. Dialysis causes
a. Separation of colloids from crystalloids
c. Precipitation of colloids
- b. Purification of colloids
d. None of the above
84. Ultrafiltration helps in
a. Formation of Glomerular filtrate
c. Accumulation of proteins
- b. Formation of urine
d. Separation of vitamins

85. pH of RBC is lower due to
- Na⁺-K⁺ Pump action
 - Gibb's Donnan Effect
 - Efflux of OH⁻ from RBC
 - None of the above
86. Gibb's Donnan effect creates
- Diffusion
 - Surface tension
 - Osmotic pressure
 - None of the above
87. Transmembrane potential results due to
- Donnan Effect
 - Influx and efflux of oppositely charged ions
 - Retention of anions inside the membrane
 - All the above
88. Rate of diffusion of a substance depends on
- Presence of semi-permeable membrane
 - Concentration gradient of solute
 - Concentration of solvent
 - Concentration of ions
89. Homeostasis means
- Control of internal environment of the body
 - Adaptation with the environment
 - Constant environment of the body
 - All of the above
90. Diffusion is more rapid in
- Solid
 - Liquid
 - Gas
 - Mixture of liquid and gas
91. In Osmosis, movement of _____ occurs through the semi-permeable membrane
- Solvent
 - Solute
 - Both (a) and (b)
 - All the above
92. Viscosity of blood increases with rise in
- Albumin
 - Globulin
 - Fibrinogen
 - Prothrombin
93. Osmotic pressure across the capillary wall is exerted by
- Size of the molecule
 - Shape of the molecule
 - Concentration of the molecule
 - All the above
94. Effect of change of temperature on viscosity involves
- Increase in viscosity
 - Decrease in viscosity
 - No change
 - Both (a) and (b)
95. pH means
- log [H⁺]
 - log₁₀ [H⁺]
 - log [H]
 - log [H⁺]
96. Microcytic anaemia develops in
- Vit B₁₂ deficiency
 - Folic acid deficiency
 - Both (a) and (b)
 - None of the above
97. Extrinsic system of blood clotting is initiated by
- Factor-III
 - Factor-VIII
 - Factor-II
 - Factor-I
98. One of the following is NOT an anticoagulant
- Heparin
 - Protein-C

- c. Antithrombin-III
d. Thrombin
99. Following are the membrane bound cell organelles except
a. Endoplasmic reticulum
b. Lysosome
c. Ribosomes
d. Peroxisome
100. The intrinsic protein present in the cell membrane mainly functions as
a. Enzymes
b. Carrier
c. Pores
d. Channels

ANSWERS

1.(b) 2.(c) 3.(b) 4.(c) 5.(d) 6.(a) 7.(d) 8.(c) 9.(a) 10.(c) 11.(d) 12.(a) 13.(a) 14.(d) 15.(c) 16.(c)
17.(c) 18.(a) 19.(a) 20.(a) 21.(a) 22.(b) 23.(d) 24.(b) 25.(b) 26.(c) 27.(c) 28.(b) 29.(b)
30.(c) 31.(d) 32.(c) 33.(d) 34.(b) 35.(c) 36.(b) 37.(c) 38.(a) 39.(d) 40.(d) 41.(a) 42.(b)
43.(d) 44.(c) 45.(d) 46.(b) 47.(c) 48.(b) 49.(b) 50.(c) 51.(d) 52.(c) 53.(c) 54.(d) 55.(c)
56.(a) 57.(a) 58.(c) 59.(a) 60.(c) 61.(c) 62.(b) 63.(b) 64.(a) 65.(c) 66.(b) 67.(d)
68.(b) 69.(c) 70.(a) 71.(c) 72.(b) 73.(a) 74.(d) 75.(b) 76.(c) 77.(a) 78.(d) 79.(d) 80.(c) 81.(b)
82.(d) 83.(a) 84.(a) 85.(b) 86.(c) 87.(a) 88.(b) 89.(c) 90.(c) 91.(a) 92.(a) 93.(c) 94.(d) 95.(b)
96.(c) 97.(a) 98.(d) 99.(c) 100.(a)