

1. Which of the following is a non-reducing sugar_____?

- A. Glucose
- B. Maltose
- C. Lactose

D. Sucrose

2. What high energy phosphate compound is formed in the citric acid cycle through substrate level phosphorylation_____?

- A. ATP
- B. TTP
- C. ITP

D. GTP

3. The main enzyme responsible for activation of xenobiotics in (detoxification)_____?

- A. **Cytochrome P-450**
- B. Glutathione S-transferase
- C. NADPH cytochrome P-450 reductase
- D. Glucuronyl transferase

4. Which acid is formed in the citric acid cycle ?

A. **Oxaloacetic acid**

B. Glutamic acid

C. Nitric acid

D. None of the above

5. Kreb's cycle occurs in _____ conditions?

A. **Aerobic**

B. Anaerobic

C. Microaerophilic

D. Aerobic and anaerobic

6. Which of them is multienzyme complex_____?

A. Pyruvate dehydrogenase

B. Alpha ketoglutarate dehydrogenase

C. Succinate dehydrogenase

D. Enolase

E. **Both A & B**

7. Which of the following statement is TRUE?

The hydrolysis of lactose yields glucose and galactose_____?

A. **The hydrolysis of lactose yields glucose and galactose**

B. The hydrolysis of maltose yields glucose and fructose

C. The hydrolysis of sucrose yields only glucose

D. All of the above statements are true

8. The compound that can give rise to glucose by gluconeogenesis is_____?

A. Acetyl CoA

B. Lactate

C. Palmitic acid

D. Fructose

9. Insulin acts on which enzyme in glycolysis ?

A. **Glucokinase**

B. Hexokinase

C. Glucose 6 phosphatase

D. Adenylate kinase

10. Adrenaline acts on which enzyme in glycogenolysis ?

A. Glucokinase

B. Hexokinase

C. Phosphorylase

D. Glucose diphosphatase

11. Gluconeogenesis occurs in the liver and _____?

A. **Kidney**

B. Muscle

C. Heart

D. Fat

12. Glycogen synthesis is increased by _____?

A. Cortisone

B. Insulin

C. GH

D. Epinephrine

13. Which of the following is not a polymer of glucose?

A. Glycogen

B. Cellulose

C. Amylase

D. Inulin

14. The rate of absorption of sugars by the small intestine is highest for _____?

A. Pentoses

B. Disaccharides

C. Polysaccharides

D. Hexoses

15. Biotin is required for the activity of _____?

A. **Pyruvate carboxylase**

B. Lactate dehydrogenase

C. Succinate thiokinase

D. Phosphohexose isomerase

16. Mutation in the oxidative enzymes (peroxisomes) could lead to _____?

A. **Zellweger's syndrome**

B. Gaucher's disease

C. Epidermolysis bullosa

D. Leber's neuropathy

17. Cofactor required for lipoprotein lipase activity is_____?

A. Apo A-II

B. Apo C-II

C. Apo C-III

D. Apo B-II

18. Inactive precursors of enzymes are known as_____?

A. Apoenzymes

B. Coenzymes

C. Proenzymes

D. Holoenzymes

19. Iron is present in all of the following except_____?

A. Myoglobin

B. Cytochrome

C. Catalase

D. Pyruvate kinase

20. Enzymes stored in muscle is_____?

A. Alkaline phosphatase

B. SGOT

C. SGPT

D. CPK

21. Lactate dehydrogenase is _____?

A. **Isozyme**

B. Coenzyme

C. Antienzyme

D. Zymogen

22. The combination of main supporting enzyme is called _____?

A. Apoenzyme

B. Coenzyme

C. Holoenzyme

D. Constitutive enzyme

23. Which of the following is a membrane bound enzyme that catalyzes the formation of cyclic AMP from ATP ?

A. Tyrosine kinase

B. Polymerase

C. ATP synthase

D. Adenylate cyclase

24. An example of isoenzymes is _____?

A. Glutamine synthetase

B. Fumarase

C. Cholinesterase

D. Amylase

25. An enzyme that makes a double stranded DNA copy from a single stranded RNA template molecule is known as _____?

A. DNA polymerase

B. RNA polymerase

C. Reverse transcriptase

D. Phosphokinase

26. The enzymes that catalyse the same reaction but differ in physical properties are called as _____?

A. Pro enzyme

B. Iso enzyme

C. Co-enzyme

D. Holoenzyme

27. In myocardial infarction the first enzyme to rise_____?

- A. **CPK**
- B. LDH
- C. SGOT
- D. Amylase

28. Enzymes involved in degradation of epinephrine_____?

- A. Cholinesterase
- B. Anticholinesterases
- C. **Catechol O-transferase**
- D. Oxidases

29. Muscle glycogen cannot contribute directly to blood glucose level because_____?

- A. **Muscle lacks glucose 6 phosphatase**
- B. Muscle lacks phospho gluco isomerase
- C. Absence of glucokinase
- D. Muscle does not contain glycogen phosphorylase

30. The main site of fluoride inhibition in the Embden Meyerhof pathway of acid_____?

A. ATPase

B. Enolase

C. Pyruvate Kinase

D. Fructose 6 phosphatase

31. Enzymes help by_____?

A. **Lowering the activation energy**

B. Increasing the substrate concentration

C. Decreasing the surface tension

D. Increasing the activation energy

32. The activity of the following enzyme is affected by biotin deficiency_____?

A. Transketolase

B. Dehydrogenase

C. Oxidase

D. Carboxylase

33. The deficiency of thiamine can be identified by measuring the red cell_____?

A. **Transketaolase**

B. Transaldolase

C. Alpha ketoglutarate dehydrogenase

D. Pyruvate dehydrogenase

34. Competitive enzyme inhibition will cause_____?

A. Decrease of k_m and increase of V_{max}

B. increase of k_m and increase of V_{max}

C. Decrease of k_m and decrease of V_{max}

D. Increase of k_m and Unchanged of V_{max}

35. Which of the following is correct of the pyruvate dehydrogenase enzyme complex ?

A. It is present in cytoplasm

B. Catalyzes the conversion of pyruvate to oxaloacetate

C. Requires TPP as cofactor

D. Catalyzes a reversible reaction

36. Dehydrogenase used as coenzymes all of the following, except_____?

A. FMN

B. FAD

C. NADP+

D. Ferro protoporphyrin

37. Benzidine test is positive with the enzyme_____?

A. Cytochrome oxidase

B. Dehydrogenase

C. Hydrolase

D. Peroxidase

38. Key glycolytic enzymes_____?

A. **Phosphofructokinase**

B. Hexokinase

C. Pyruvate kinase

D. Glucose 1,6 diphosphatase

39. Multiienzyme complex in human_____?

A. **Fatty acid synthetase**

B. Malonyl CoA carboxylase

C. Carbomoyl Phosphate synthetase

D. Adenosine phospho ribosyl transferase

40. Which of the following is NOT a characteristic feature of allosteric enzymes ?

A. They are multienzyme complex

B. Follow Michaelis-Menton Kinetics

C. Presence of Modulator site

D. Give sigmoid shaped curve

41. A example of a preventive antioxidant is_____?

A. **Catalase**

B. Tocopherol

C. Superoxide dismutase

D. Urate

42. LDH has following number of isoenzymes_____?

A. **5**

B. 3

C. 11

D. 2

43. One of the earliest symptoms of Vit. A deficiency is_____?

A. **Nyctalopia**

B. Xerophthalmia

- C. Bitot's spot
- D. Keratomalacia

44. The enzyme phosphofructo kinase-1 is strongly activated by_____?

- A. Cyclic AMP
- B. Adenosine tri phosphate
- C. Citrate

D. Fructose 2,6 bis phosphate

45. Megnesium is needed for the activity of which enzymes ?

- A. Phosphatase
- B. Aldolase
- C. Dismutase

D. ATPase

46. When the prosthetic group of an enzyme is an inorganic ion, it is called a_____?

- A. **Cofactor**
- B. Coenzyme
- C. Apoenzyme
- D. Holoenzyme

47. Coenzyme, in an enzymatic reaction usually functions to_____?

- A. Activate the substrate
- B. Increase the active sites of apoenzyme
- C. Enhance the specificity of apoenzyme
- D. Accept one of the cleavage products**

48. The most common enzyme deficiency in man is_____?

- A. Glucose 6 phosphate dehydrogenase**
- B. Glucose 6 phosphatase
- C. Hexokinase
- D. Glucose 1,6 diphosphatase

49. Enzymes concerned with the citric acid cycle are found in_____?

- A. Nucleus
- B. Mitochondria**
- C. Ribosomes
- D. Non-particulate cytoplasm

50. Serum alkaline phosphatase level increase in_____?

- A. Hypothyroidism
- B. Carcinoma of prostate

C. Hyperparathyroidism

- D. Myocardial infarction

51. The enzyme that splits hydrogen peroxide into water and oxygen is _____?

- A. Cytochromes
- B. Cytochrome P 450
- C. Super oxide dismutase

D. Catalase

52. Enzyme that catalyses the transfer of a molecule group from one molecule to another is _____?

- A. Oxidases
- B. Peptidases

C. Transferases

- D. Lipases

53. The activity of this plasma enzyme is responsible virtually for all plasma cholesterol esters in humans _____?

A. **Lecithin cholesterol acyl transferase (LCAT)**

B. Pyrophospho mevalonate decarboxylase

C. HMG CoA reductase

D. Phospho mevalonate kinase

54. Enzymes are classified according to _____?

A. **Action on substrate**

B. Action of coenzymes

C. Nature of the enzymes

D. All of the above

55. Fraction of CPK is an enzyme that is elevated in a myocardial infarct is _____?

A. MM fraction

B. MB fraction

C. BB fraction

D. Both MM and BB fraction

56. A material that speeds up a chemical reaction without chemically becoming involved is called _____?

A. A solvent

B. A base

C. A catalyst

D. Thermoplastic

57. Km of an enzyme is_____?

A. Dissociation constant

B. The normal physiological substrate concentration

C. Substrate concentration at half maximal velocity

D. Numerically identical for all isozymes that catalyses a given reaction

58. Acetyl Co-A acts as a substrate for all the enzymes except_____?

A. HMG-Co A synthase

B. Malic enzyme

C. Malonyl CoA synthetase

D. Fatty acid synthetase

59. The enzyme that is specifically increased in obstructive jaundice is_____?

A. Glutamate oxaloacetate transaminase

B. Glutamate pyruvate transaminase

C. Alkaline phosphatase

D. Acid phosphatase

60. Elevated levels of serum glutamic oxaloacetic transaminase is indicative of _____?

A. Deficiency of glutamic acid

B. Deficiency of oxaloacetic acid

C. Liver disease

D. All of the above

61. Muscle glycogen, which cannot contribute to blood glucose due to the absence of which enzymes?

A. Phosphoglutamase

B. Branching enzyme

C. Debranching enzyme

D. Glucose-6-phosphatase

62. Michaelis-Menten hypothesis states that _____?

A. Rate of enzymatic reaction is independent of substrate concentration

B. Rate of non enzymatic reaction is proportional to substrate concentration

C. K_m is the enzyme substrate complex association constant

D. Enzyme- substrate complex formation is essential in enzymatic reaction

63. Coenzyme responsible for single carbon transfer is_____?

A. Acetyl co enzyme A

B. Biotin

C. THF4

D. Pyridoxine

64. Hexokinase is a_____?

A. **Transferase**

2. Reductase

3. Oxidoreductase

4. Oxidase

65. Enzyme + coenzyme constitutes_____?

- A. Apoenzyme
- B. Proenzyme
- C. Protoenzyme

D. Holoenzyme

66. The amino acid required for the synthesis of haem is_____?

- A. Glutamine
- B. Glutamic acid

C. Glycine

- D. Lysine

67. Ubiquitin is involved in_____?

- A. **Intracellular proteolysis**
- B. Electron transport chain
- C. Transport of ATP
- D. Protein folding

68. Which of the following is a function of the golgi apparatus ?

- A. **Modification of proteins**
- B. m RNA synthesis
- C. Protein storage
- D. t RNA synthesis

69. The most abundant protein present in body is_____?

A. Globulin

B. Albumin

C. Collagen

D. Hemoglobin

70. Oligosaccharide is_____?

A. Glucose

B. Gructose

C. Maltose

D. Dextrin

71. Synthesis of protein occurs on_____?

A. Mitochondria

B. Poly ribosomes

C. Nucleus

D. Golgi bodies

72. Bilirubin is produced from_____?

A. Haemoglobin

B. Myoglobin

C. Gall bladder

D. A & B

73. Bile contains_____?

A. Cholic acid

B. Chenodeoxycholic acid

C. Deoxycholic acid

D. Lithocholic acid

E. All of the above

74. Nor epinephrine is converted to epinephrine by_____?

A. Dopamine hydroxylase

B. Dopa decarboxylase

C. O-methylation

D. N-methylation

75. Rate limiting step in adrenaline synthesis is conversion of_____?

A. **Tyrosine to dopa**

B. Phenylalanine to tyrosine

C. Dopa to dopamine

D. Dopamine to nor epinephrine

76. Which of the following has a ketogenic effect on livers_____?

A. Insulin

B. Glucagon

C. GH

D. Androgen

77. Calcitonin is antagonist_____?

A. **Parathyroid hormone**

B. Thyroxine

C. Triiodothyronine

D. Serotonin

78. Ribosomes are usually associated with_____?

A. **Endoplasmic reticulum**

B. Mitochondria

C. Nucleolus

D. Plasma membrane

79. Golgi bodies function are_____?

A. Protein lipid synthesis

B. Protein synthesis

C. Sorting of glycoproteins

D. None of the above

80. Which cell organelle contains DNA_____?

A. **Mitochondrion**

B. Golgi body

C. Endoplasmic reticulum

D. Centriole

81. Most important compensatory mechanism in metabolic acidosis_____?

A. Hyperventilation

B. Increased NH₃ excretion by kidneys

C. Increased urinary phosphates

D. Increased HCO₃ Production

82. To keep blood PH at 7.4 the HCO₃ : H₂CO₃ ratio should be_____?

A. **20 : 1**

B. 30 : 1

C. 15 : 1

D. 1 : 1

83. Normal blood PH is_____?

- A. 6.8 – 7.0
- B. 7.0 – 7.12
- C. 7.38 – 7.4**
- D. 7.7 – 8.0

84. Which of the following about biological membrane is true ?

- A. **Lipid moiety is amphipathic**
- B. Rigid assembly of protein, lipid and carbohydrate
- C. Symmetrical bi leaflet structures
- D. Lipid and protein moiety are held by covalent interactions

85. In Cytochrome p450, P stands for _____ ?

- A. Structural proteins
- B. Substrate proteins
- C. Pigment**
- D. Polymer

86. Which of the following is false about starvation ketoacidosis ?

- A. Metabolic acidosis
- B. Smell of acetone in breath

C. Benedict's test +ve

- D. Rothera's test is +ve

87. A relatively component of the electron transporting respiratory chain is_____?

- A. Flavoprotein
- B. Cytochrome C1

C. Ubiquinone

- D. Cytochrome A

88. During phagocytosis the metabolic process called respiratory burst involves activation of_____?

- A. **Oxidase**
- B. Hydrolase
- C. Peroxidase
- D. Dehydrogenase

89. Which of these organelle functions as the digestive system of the cell ?

- A. Mitochondria
- B. Rough endoplasmic reticulum

C. Golgi apparatus

D. Lysomes

90. Which one of the following human tissues contains the greatest amount of body glycogen ?

A. Liver

B. Kidney

C. Skeletal muscle

D. Cardiac muscle

91. Which of the following is inclusion of cytoplasm ?

A. Endoplasmic reticulum

B. Ribosome

C. Golgi body

D. Glycogen

92. Bile acids are formed from_____?

A. **Cholesterol**

B. Aminoacids

C. Bilirubin

D. Lipoproteins

93. Normal blood bilirubin level is_____?

- A. **0.5 – 1 mg%**
- B. 1 – 3 mg%
- C. 3 – 4 mg%
- D. 4 – 5.5 mg%

94. Which of the following is precursor of adrenaline and thyroxine synthesis ?

- A. Phenyl alanine
- B. Tyrosine**
- C. Tryptophan
- D. None of the above

95. The immediate precursor of norepinephrine is_____?

- A. Epinephrine
- B. Tyrosine
- C. Dopamine**
- D. Phenylalanine

96. The precursor of testosterone is_____?

- A. Aldosterone
- B. Methyl testosterone
- C. Estrogen

D. Pregnenolone

97. Which of the following is not a second messenger ?

- A. c AMP
- B. c GMP
- C. Phosphatidyl inosital

D. Phosphatidyl glycerol

98. A balanced diet consists of _____?

A. **20% proteins, 25% fats, 50% carbohydrates**

- B. 20% proteins, 35% fats, 45% carbohydrates
- C. 25% proteins, 25% fats, 50% carbohydrates
- D. 35% proteins, 15% fats, 50% carbohydrates

99. Which of the organelles contain DNA _____?

- A. **Nucleus**
- B. Nucleolus

C. Golgi apparatus

D. Ribosomes

100. Cell membrane consists of_____?

A. **Lipids and proteins**

B. Lipids only

C. Protein only

D. None of the above

101. The main function of mitochondria is_____?

A. Protein synthesis

B. Oxidation

C. Electron transfer

D. Fat synthesis

102. In ECF main electrolyte is_____?

A. **Na⁺**

B. K⁺

C. Cl

D. Proteins

103. The most important buffer in RBC is_____?

A. O_2 Hb + Na hemoglobinate

B. O_2 Hb + K hemoglobinate

C. H_2CO_3 + $KHCO_3$

D. H_2CO_3 + $NAHCO_3$

104. The major driving force for formation of membrane lipid bilayer is_____?

A. Hydrogen bonding

B. Hydrophobic interactions

C. Vander wall forces

D. Not known

105. Detoxification or protective synthesis occurs by_____?

A. Oxidation

B. Reduction

C. Conjugation

D. Any of the above

106. Detoxification of drugs is controlled by_____?

A. Cytochrome

B. Cytochrome P450

C. Cytochrome C

D. Cytochrome A

107. Which of the following fatty acids are not synthesised in human body_____?

A. Oleic, linoleic and linolenic acid

B. Arachidonic, linolenic and linoleic acid

C. Palmitic Oleic and arachidonic

D. Linoleic, arachidonic and stearic acid

108. The lipoprotein particles that have the highest percentage concentration of cholesterol is_____?

A. Chylomicron

B. VLDL (Very low density lipoprotein)

C. LDL (Low density lipoprotein)

D. HDL (High density lipoprotein)

109. Fat provides _____% of body's calories?

A. 40%

B. 30%

C. 50%

D. 75%

110. The normal level of serum cholesterol is_____?

- A. 100-140 mgs/100 ml
- B. 260-360 mgs/100 ml
- C. 150-250 mgs/100 ml**
- D. 80-250 mgs/100 ml

111. The following is not a phospholipid_____?

- A. Sphingomyelin
- B. Lecithin
- C. Cerebroside**
- D. Cephalin

112. Examples of monounsaturated fatty acids are_____?

- A. **Oleic acid**
- B. Arachitlonic acid
- C. Linolenic acid
- D. Palmitic acid

113. The sugar component of cerebrosides is_____?

A. Fructose

B. Sucrose

C. Galactose

D. None of the above

114. The lipid, which accumulates in fatty liver, is_____?

A. **Triglycerides**

B. FFA

C. Lipoprotein

D. Cholesterol

115. The product of oxidation of odd chainfatty acids is_____?

A. Aceto acetyl CoA

B. Malonyl CoA

C. Propionyl CoA

D. Fumaryl CoA

116. The substance essential for transfer of fatty acids across mitochondrial membrane_____?

A. Creatine

B. Creatinine

C. Carnitine

D. Coenzyme A

117. Ketone bodies are normally synthesized from_____?

A. **Acetyl-CoA**

B. Glucose

C. Glycerol

D. Acetone

118. Ketone bodies are by products of metabolism of_____?

A. Carbohydrate

B. Protein

C. Fat

D. All of the above

119. The ketone bodies, which are excreted in diabetic ketoacidosis ?

A. Acetoacetic acid and pyruvic acid

B. Acetoacetic acid and oxalocacetic acid

C. Acetoacetic acid and alpha ketoglutaric acid

D. Acetoacetic acid and beta hydroxyl butyric acid

120. Rate limiting step in cholesterol synthesis is_____?

- A. HMG CoA synthetase
- B. HMG CoA lyase

C. HMG CoA reductase

- D. Mevalonate synthetase

121. Which is not seen in HMG CoA pathway ?

- A. **Pyruvate**
- B. Cholesterol
- C. Mevalonate
- D. Acetyl CoA

122. The precursor of steroid is_____?

- A. Amino acids
- B. Fatty acids

C. Cholesterol

- D. None of the above

123. Lipid from tissue is carried to liver by_____?

- A. LDL
- B. VLDL

C. HDL

D. Chylomicrons

124. Triglycerides in serum are transported by_____?

A. HDL

B. VLDL

C. LDL

D. Chylomicrons

125. Prostaglandin synthesis is partially switched off by_____?

A. Lipo oxygenase inhibition

B. Cyclo-oxygenase inhibition

C. Reductase

D. Peroxidase

126. Triglyceride synthesis synthesis is increased by_____?

A. Growth hormone

B. Insulin

C. Cortisol

D. Gulcagon

127. The total blood concentration of ketone bodies in well fed individual is_____?

- A. **1 mg%**
- B. 5 mg%
- C. 12 mg%
- D. 20 mg%

128. High content of cholesterol is present in_____?

- A. Coconut oil
- B. Egg yolk**
- C. Hydrogenated fat
- D. Ghee (unsaturated)

129. Insulin caused lipogenesis by all except_____?

- A. Increasing acetyl-CoA carboxylase activity
- B. Increases the transport of glucose in to the cells
- C. Inhibits Pyruvate dehydrogenase**
- D. Decreases intracellular cAMP level

130. The main pathway for De – Novo synthesis of fatty acids occurs in_____?

A. Mitochondria

B. Nucleus

C. Cytosol

D. None of the above

131. Adipose tissue releases free fatty acids in the_____?

A. **Fasting state**

B. Resting state

C. Active state

D. All of the above

132. Increase in lactate and pyruvate is seen in deficiency of_____?

A. Pyridoxin

B. Niacin

C. Thiamine

D. Retinotic acid

133. The main function of HDL is_____?

A. Transport cholesterol from liver to peripheral tissues

B. Esterification with PUFA

C. Both of the above

D. None of the above

134. Acetyl CoA is produced from which fuel sources_____?

A. Carbohydrate

B. Lipid

C. Amino acids

D. All of the above

135. The reducing equivalent for fatty acid synthesis is derived from_____?

A. Glycolysis

B. Kreb's cycle

C. Urea cycle

D. Pentose phosphate pathway

136. Lipid is required in the average diet because it_____?

A. has a high caloric value

B. Provides essential fatty acid

C. aids in absorption of carbohydrates

D. is necessary for storage of carbohydrates

137. Fatty acids help in synthesis of all except_____?

- A. **Glucose**
- B. Cholesterol
- C. Ketone bodies
- D. Fat

138. The human plasma lipoprotein containing the highest percentage of triacylglycerol by weight is_____?

- A. VLDL
- B. **Chylomicrons**
- C. HDL
- D. LDL

139. β -oxidation of odd-chain fatty acids produce_____?

- A. Succinyl CoA
- B. **Propionyl CoA**
- C. Acetyl CoA
- D. Malonyl CoA

140. True about prostaglandins is_____?

- A. Short acting
- B. Present in many tissues
- C. Some require C-AMP for their action
- D. All are true**

141. Endogenous triglycerides in plasma is maximally bound to_____?

- A. Chylomicrons
- B. LDL

C. VLDL

- D. HDL

142. HMG CoA reductase is inhibited by_____?

- A. Clofibrate
- B. Gemfibrosil

C. Lovastatin

- D. cholestyramine

143. HMG-CoA is formed during metabolism of all except_____?

- A. Cholesterol
- B. Leucine

C. Ketone bodies

D. Bile acids

144. The precursor of cholesterol synthesis is _____?

A. Acetic acid

B. Acetyl CoA

C. Oxalo acetic acid

D. Pyruvate

145. All are derived of cholesterol except _____?

A. Chenodeoxy cholic acid

B. Glycocholic acid

C. Testosterone

D. Cholecystokinin

146. Which of the following organs cannot use ketone bodies _____?

A. Brain

B. Liver

C. Kidney

D. Spleen

147. Which of the following is not a ketone body_____?

A. Acetone

B. Acetic acid

C. Acetocetate

D. Beta hydroxybutyric acid

148. Ketone body formation takes place in_____?

A. **Liver**

B. Kidney

C. Spleen

D. Blood

149. NADPH is required for_____?

A. Gluconeogenesis

B. Glycolysis

C. Fatty acid synthesis

D. Glycogenolysis

150. Limiting factory for fatty acid synthesis_____?

A. Aceto acetate synthetase

B. Acyl transferase

C. Acetyl CoA carboxylase

D. Biotin

151. In Niemann-Pick's disease the following substance accumulate in CNS in excess_____?

- A. Glycerophosphatides
- B. Phosphoinositides

C. Phosphosphingosides

D. Glycerosphingosides

152. Which of the following is a phospholipid_____?

A. Glycogen

B. Sphingomyelin

- C. Prostaglandin
- D. Oleic acid

153. Unsaturated fatty acids are converted to_____?

A. Prostaglandins

- B. Cholesterol
- C. Cell membrane lipid
- D. Saturated fatty acid

154. Saponification means hydrolysis of fats by_____?

A. Acid

B. Alkali

C. Water

D. Enzymes

155. The major lipids that make up the cell membrane are_____?

A. Triglycerides

B. Phospholipids

C. Sphingomyelins

D. Fatty acids

156. The most important role of cholesterol is_____?

A. **It is a component of cell membrane**

B. It is a precursor of polyunsaturated fatty acids

C. It stores up energy

D. None of the above

157. A fatty acid that is not synthesized in man is_____?

A. **Linoleic acid**

B. Oleic acid

C. Palmitic acid

D. Stearic acid

158. Fatty acid oxidation occurs in_____?

A. Cytoplasm

B. Microsomes

C. Mitochondria

D. All of the above

159. True about G protein couple receptors is _____?

A. G proteins bind to hormones on the cell surface

B. All the three subunits alpha, beta and gamma should bind each other for G protein to act

C. G Proteins act as inhibitory and excitatory because of difference in alpha subunit

D. G protein is bound to GTP in resting state

160. Non polar lipid act as_____?

A. **Electrical insulators**

B. Irons

C. Non electrical insulators

D. Electrolytes

161. Iron is present in all,
EXCEPT_____?

A. Myoglobin

B. Cytochrome

C. Catalase

D. Pyruvate kinase

162. If bile acid recycling time is short, then
bile salt reservoir pool will be_____?

A. Increased

B. Decreased

C. Uchanged

D. Has no effect

163. Somatomedin mediates_____?

A. **Deposition of chondroitin sulfate**

B. Lipolysis

C. Gluconeogenesis

D. Decreased rate of glucose uptake by cells

164. Ligand for peroxisome proliferation activating receptor (PPAR) receptors, a group of nuclear hormone receptors that are involved in the regulation of genes related to glucose and lipid metabolism is_____?

- A. Repaglinide
- B. Voglibose
- C. Exanatide

D. Rosiglitazone

165. Cholesterol levels in abnormal person should be preferably less than_____?

- A. **200 mg/dl**
- B. 180 mg/dl
- C. 150 mg/dl
- D. 120 mg/dl

166. Hyponatremia is defined as a serum Na⁺ level _____?

- A. **< 135 mmol/L**
- B. >135 mmol/L
- C. < 160 mmo/L
- D. < 100 mmo/L

167. Generation of free radicals occurs by all of the following mechanism EXCEPT_____?

- A. Normal metabolism
- B. Oxygen toxicity

C. Reperfusion after ischemic injury

- D. All of the above

168. The antibacterial substance present in tears which acts by splitting cell wall components is_____?

- A. Penicillin
- B. Lysozyme

C. Betalysine

- D. Lactoperoxidase

169. Glycemic index of a starchy food is a measure of its_____?

- A. Energy
- B. Utility
- C. Collectivity

D. None of the above

170. All are components of basement membrane except_____?

- A. nidogen
- B. Laminin
- C. Eutactin

D. Rhodopsin

171. A patient of type 2 diabetes mellitus is given nutrition rich in_____?

- A. Proteins
- B. Carbohydrates
- C. Fat

D. Fibre rich diet

172. Which of these is not included in parenteral therapy ?

- A. Carbohydrates

B. Fibres

- C. Fats
- D. Micronutrients

173. Free radicals are chemical species which have_____?

A. Single unpaired electron in an outer orbit

B. Single paired electron in an outer orbit

C. Double unpaired electron in an outer orbit

D. Double paired electron in an outer orbit

174. In the physiological system, nitric oxide is known to act through_____?

A. Cyclic AMP

B. Calcium ions

C. Cyclic GMP

D. Prostacyclins

175. True about denaturation of protein is all except_____?

A. Unfolding occurs

B. Disruption of secondary structure occurs

C. Sequence of amino acids remain the same

D. Biological activity is retained

176. Within the RBC hypoxia stimulates glycolysis by which of the following regulating pathways ?

A. Hypoxia stimulates pyruvate dehydrogenase by increased, 2, 3DPG

B. Hypoxia inhibits hexokinase

C. Hypoxia stimulates release of all glycolytic enzymes from Band 3 on RBC membrane

D. Activation of the regulatory enzymes by high PH

177. The abundant glycoprotein in the basement membrane and has binding domain for both ECM and cell-surface receptor is_____?

A. **Laminin**

B. Fibronectin

C. E – Cadherins

D. Tenascin

178. Normal serum alkaline phosphatase level is_____?

A. 100-400 Bodansky units

B. 1000-4000 Bodansky units

C. 0.1-0.4 Bodansky units

D. 1-4 Bodansky units

179. The following are derived from cholesterol, EXCEPT_____?

- A. Bile acids
- B. Steroid hormones
- C. Vitamin D

D. Energy

180. Enzyme regulating the conversion of ethanol to acetaldehyde_____?

- A. **Alcohol dehydrogenase**
- B. Acetaldehyde dehydrogenase
- C. Catalase
- D. Enolase

181. The normal range of serum osmolality (in mosm/L) is_____?

- A. **280 to 295**
- B. 300 to 320
- C. 350 to 375
- D. 200 to 250

182. The fuel value of fat is_____?

- A. 4
- B. 7

C. 9

D. 5

183. Heme is converted to bilirubin mainly in_____?

A. Kidney

B. Liver

C. Spleen

D. Bone marrow

184. In molecular cloning, Blue White screening is used for_____?

A. To screen for recombinant vectors

B. To detect gene mutations

C. To identify desired chromosomal DNA insert in plasmid vectors

D. To detect host DNA in situ

185. Enzymes increase reaction rates by_____?

A. Altering the free energy of the action

B. Inhibiting the backward reaction

C. Enhancing the forward reaction

D. Decreasing the energy of activation

186. Which of the following is most important content of diet ?

- A. Protein
- B. Water
- C. Vitamin

D. Minerals

187. In all the following RNA participates directly except_____?

- A. **Post translation modification**
- B. Post transcriptional modification
- C. DNA replication
- D. Splicing

188. Normal level of serum phosphorous is_____?

- A. **2.5 – 4.5 mgm%**
- B. 7-9 mgm%
- C. 40-50 mgm%
- D. 1-2 mgm%

189. Inside the cell, the substance, which contributes to most of the osmolality, is_____?

A. Protein

B. Potassium

C. Urea

D. Phosphate

190. Daily requirement of iron in man is_____?

A. 1gm

B. 10 microgram

C. 10 mg

D. 20 mg

191. In human body which of the following trace element is next to iron_____?

A. Ca^{++}

B. Zn^{++}

C. Cu^{++}

D. Selenium

192. Ferritin – an inactive form of iron is stored in_____?

A. Gut

B. Spleen

C. Liver

D. All of the above

193. Peroxidase enzyme contain_____?

A. Chromium

B. Selenium

C. Magnesium

D. Calcium

194. Translation occurs at_____?

A. Mitochondria

B. Centrosome

C. Nucleus

D. Ribosome

195. Chargaff rule states that_____?

A. **A+G=T+C**

B. $A/T = G/C$

C. $A=U=T=G=C$

D. $A+T=G+C$

196. Codons are present on_____?

A. **m-RNA**

B. DNA

C. t-RNA

D. Ribosomal RNA

197. The portion of DNA in Which RNA polymerase binds and starts transcription is called_____?

A. Terminator

B. Anti terminator

C. Operator

D. Promoter region

198. End product of purine metabolism is_____?

A. Creatinine

B. Uric acid

C. Xanthine

D. Phosphates

199. All are true of the genetic code except_____?

A. Degenerate

B. Universal

C. Punctuation

D. Non overlapping

200. R-RNA is mainly produced mainly in_____?

A. Nucleus

B. Nucleolus

C. Ribosome

D. Endoplasmic reticulum

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