.com, for detailed information on dental books, visit our website www.jaypeebrothers.com, for detailed information on dental boo



Dentogist

MCQs in Dentistry

With Explanatory Answers

Basic Sciences



Anand Mohatta

7th Edition

JAYPEE

Contents

1. **General Anatomy** 1
2. **General Physiology** 97
3. **Biochemistry** 166
4. **Dental Material** 223
5. **General Pathology** 331
6. **Microbiology** 438
7. **Dental Anatomy, Physiology and Occlusion** 522
8. **Oral Histology and Embryology** 542
9. **Oral Pathology** 583
10. **Pharmacology** 678

3 Biochemistry

CARBOHYDRATE

1. **Which is not monosaccharide?** *(AIIMS Nov 2013)*
   a. Glucose b. Galactose
   c. Fructose d. Maltose

2. **Oxygen-dependent killing is done through:** *(AIPG 2010)*
   a. NADPH oxidase
   b. Superoxide dismutase
   c. Catalase
   d. Glutathione peroxidase

3. **Acetyl CoA coverts to all *except*:** *(AIPG 2013)*
   a. Glucose b. Fatty acids
   c. Cholesterol d. Ketone bodies

4. **The most lipogenic carbohydrate is:** *(AIPG 2010)*
   a. Fructose b. Glucose
   c. Ribose d. Sucrose

5. **Regarding HMP shunt, all of the following are true, *except* that:** *(AIPG 2008)*
   a. It occurs in cytosol
   b. Oxidative phase generates NADPH
   c. Nonoxidative phase generates pyruvate
   d. No ATP is produced in the cycle

6. **For glucose estimation in blood, the mode of transport from a PHC to laboratory is:** *(AIPG 2007)*
   a. Sodium fluoride
   b. EDTA
   c. Citrate
   d. 0.9% Saline

7. **During phagocytosis, the metabolic process called respiratory burst involves the activation of:** *(AIPG 2006)*
   a. Oxidase
   b. Hydrolase
   c. Peroxidase
   d. Dehydrogenase

8. **What is the most sensitive indicator of cellular energy?** *(AIPG 2012)*
   a. ATP b. ADP
   c. AMP d. Phosphocreatinine

9. **Maltose, which is produced as a breakdown of starch, is a:** *(AIPG 2012)*
   a. Disachharide b. Monosaccharide
   c. Polysaccharide d. None of above

10. **Carbohydrates when taken in excessive form is stored in which form?** *(AIPG 2012)*
    a. Glycogen b. Fatty acid
    c. Protein d. Glucose

11. **The uptake of glucose by the liver increases following a carboxylate meal because:** *(COMED-KCET 2009)*
    a. There is increased phosphorylation of glucose by glucose by glucokinase
    b. GLUT-2 is stimulated by insulin
    c. Glucokinase has a low Km for glucose
    d. Hexokinase in liver has a high affinity for glucose

12. **Which of the following is false about starvation ketoacidosis?** *(KCET 2013)*
    a. Metabolic acidosis
    b. Smell of acetone in breath
    c. Benedict's test positive
    d. Rothera's test is positive

13. **Glucose transporters present in the Beta cells of the Islets of Langerhans is:** *(COMED-KCET 2014)*
    a. GLUT 1 b. GLUT 2
    c. GLUT 3 d. GLUT 4

14. **Glucose concentration in gingival cervicular fluid is:** *(COMED-KCET 2014)*
    a. 2 to 3 times greater than in serum
    b. 2 to 3 times lesser than in serum
    c. 10 times greater than in serum
    d. 10 times lesser than in serum

JAYPEE BROTHERS

15. Diatary fiber is rich in: *(KCET 2005)*
a. Starch b. Cellulose
c. Collagen d. Inulin

16. The following Carbohydrate is called Animal Starch: *(KCET 2006)*
a. Glucose b. Fructose
c. Sucrose d. Glycogen

17. The storage form of carbohydrates in our body is: *(KCET 2006)*
a. Starch b. Glycogen
c. Sucrose d. Cellulose

18. Glucose tolerance test is usually done to access: *(COMED 2006)*
a. Acute pancreatitis
b. Carcinoma of head and pancreas
c. Acinar function of the pancreas
d. Endocrine dysfunction of the pancreas

19. Which one of the following human tissues contains the greatest amount of body glycogen? *(COMED 2005)*
a. Liver b. Kidney
c. Skeletal muscle d. Cardiac muscle

20. The monosaccharide glucose is best described by which one of the following statements? *(COMED 2005)*
a. It usually exists in the furanose form
b. It is a ketose
c. It possesses an anomeric C-2 carbon atom
d. It forms the part of disaccharide sucrose

21. Substrate for gluconeogenesis is:
a. Glycogen b. Acetyl CoA
c. Glycerol d. Leucine

LIPIDS

22. Richest source of cholesterol is: *(AIIMS Nov 2013)*
a. Coconut oil b. Ghee
c. Hydrogenated fat d. Eggs

23. Which of the following fatty acid should be present in breast milk for normal growth of baby? *(AIIMS May 2011, Nov 2013)*
a. Palmitoleic acid
b. Arachidonic acid
c. Linolenic acid
d. Docosahexaenoic acid (DHEA)

24. N3-polyunsaturated fatty acid (PUFA) is present in least quantity in which of the following? *(AIIMS Nov 2007)*
a. Mustard oil b. Corn oil
c. Groundnut oil d. Fish oil

25. Membrane fluidity is increased by: *(AIIMS May 2005)*
a. Stearic acid b. Palmitic acid
c. Cholesterol d. Linoleic acid

26. Rothera's test is used for the detection of: *(AIPG 2011)*
a. Ketones b. Glucose
c. Fatty acid d. Proteins

27. In Niemann Pick disease, which of the following substance accumulation in CNS is in excess? *(AIPG 2011)*
a. Glycerophosphatidase
b. Phosphoinositides
c. Sphingomyelins
d. Glucocerebrosides

28. The highest percentages of polyunsaturated fatty acids (PUFAs) are present in: *(AIPG 2010)*
a. Groundnut oil b. Palm oil
c. Margarine d. Soya bean oil

29. Eicosapentaenoic acid is present in: *(AIPG 2010)*
a. Soya bean oil b. Corn oil
c. Safflower oil d. Fish oil

30. The most important source of reducing equivalents for fatty acid synthesis in the liver is: *(AIPG 2010)*
a. Glycolysis
b. TCA cycle
c. Uronic acid pathway
d. HMP pathway

31. Insulin causes lipogenesis by all, *except*: *(AIPG 2010)*
a. That it increases acetyl-CoA carboxylase activity
b. That it increases the transport of glucose into the cells
c. That it inhibits pyruvate dehydrogenase
d. That it increases intracellular CAMP level

32. N-3 PUFA is present in all of the following, *except*: *(AIPG 2008)*
a. Mustard oil b. Fish oil
c. Corn oil d. Groundnut oil

JAYPEE BROTHERS

33. Which of the following has maximum cholesterol content? *(AIPG 2008)*
a. Egg
b. Coconut oil
c. Hydrogenated fat
d. Ghee

34. Calorific value of fat is? *(AIPG 2012)*
a. 7
b. 9
c. 5
d. 4

35. Non polar lipids act as: *(COMED 2008)*
a. Electric insulators
b. Ions
c. Non-electric insulators
d. Electrolytes

36. Lipofuscin is an insoluble endogenous pigment, also known as: *(KCET 2008)*
a. Lipochrome
b. Wear-and-tear pigment
c. Aging pigment
d. All of the above

37. Which of the following fatty acids cannot be synthesized in humans? *(KCET 2009)*
a. Palmitic acid
b. Stearic acid
c. Oleic acid
d. Linoleic acid

38. Under metabolic conditions associated with a high rate of fatty acid oxidation the liver produces: *(COMED 2010)*
a. Glutamate
b. Aceto acetate
c. Cholesterol
d. Glycine

39. The main pathway for '*De Novo*' synthesis of fatty acids occurs in: *(KCET 2010)*
a. Mitochondria
b. Nucleus
c. Cytosol
d. None of the above

40. In prolonged starvation the main source of energy to brain is: *(KCET 2011, COMED 2013)*
a. Glucose
b. Fructose
c. Fatty acids
d. Ketone bodies

41. The main function of HDL is: *(KCET 2013)*
a. Transport cholesterol from liver to peripheral tissues
b. Esterification with PUFA
c. Both of the above
d. None of the above

42. Cholesterol levels in a normal person should be preferably less than: *(KCET 2013)*
a. 200 mg/dl
b. 180 mg/dl
c. 150 mg/dl
d. 120 mg/dl

43. The absorption of dietary triglycerides from the gut is mainly as: *(COMED 2014)*
a. Triglycerides
b. Mono acyl glycerol
c. Di acyl glycerol
d. Fatty acids and glycerol

PROTEIN AND AMINO ACIDS

44. Which of the following amino acid is both ketogenic and glucogenic is? *(AIIMS May 2013)*
a. Isoleucine
b. Leucine
c. Arginine
d. Glycine

45. Amino acid residue used in the detection of the strength of collagen is: *(AIIMS Nov 2007)*
a. Proline
b. Hydroxyproline
c. Glycine
d. Hydroxylysine

46. Which of the following separation techniques depends on the molecular size of proteins? *(AIIMS May 2006)*
a. Chromatography on a carboxymethyl cellulose column
b. Isoelectric focusing
c. Gel filtration chromatography
d. Chromatography on a diethylaminoethyl (DEAE) cellulose column

47. The protein rich in basic amino acids, which functions in the packaging of DNA in chromosomes, is? *(AIIMS May 2006)*
a. Histone
b. Collagen
c. Hyaluronic acid-binding protein
d. Fibrinogen

48. The primary role of chaperones is to help in: *(AIIMS May 2006)*
a. Protein synthesis
b. Protein degradation
c. Protein denaturation
d. Protein folding

JAYPEE BROTHERS

49. Which of the following is the main function of serum albumin? *(AIPG 2011)*
a. Oncotic pressure maintenance
b. Toxin transport
c. Buffering action
d. Drug binding and transport

50. All are genetic amino acid deficiency diseases *except*: *(AIPG 2013)*
a. Phenylketonuria
b. Homocystinuria
c. Galactosemia
d. Alkaptonuria

51. False about denaturation of proteins is all, *except* that: *(AIPG 2009)*
a. Unfolding occurs
b. Disruption of secondary structure
c. Sequence of amino acid remains the same
d. Biological activity is retained

52. Proteins that precipitate on heating at 45°C and redissolve on boiling are: *(AIPG 2008)*
a. Albumin
b. Bence Jones proteins
c. Gamma globulin
d. Myosin

53. Folding of proteins is done by all of the following, *except*: *(AIPG 2008)*
a. Chaperons
b. Zinc finger motif
c. Peroxidase
d. None of these

54. Ketones cannot be taken by: *(AIPG 2008)*
a. Brain
b. Heart
c. Liver
d. RBCs

55. Protein purification and separation is done by all of the following, *except*: *(AIPG 2008)*
a. Chromatography
b. Centrifugation
c. Electrophoresis
d. Densitometry

56. All of the amino acids are involved in the formation of urea and ammonia in kidney, *except:*
a. Glycine
b. Aspartate
c. Glutamate
d. Arginine

57. The human plasma lipoprotein containing the highest percentage of triacylglycerol by weight is: *(AIPG 2006)*
a. Chylomicrons
b. HDL
c. LDL
d. All of the above

58. Proteins are linear polymers of amino acids. They fold into compact structures. Sometimes these folded structures associate to form homo- or heterodimers. Which one of the following refers to this associated form? *(AIPG 2006)*
a. Denatured state
b. Molecular aggregation
c. Precipitation
d. Quaternary structure

59. The amino acid residue having an imino side chain is: *(AIPG 2005)*
a. Lysine
b. Histidine
c. Tyrosine
d. Proline

60. Phenylketonuria is a disease due to: *(AIPG 2012)*
a. Improper metabolism of amino acids
b. Improper metabolism of carbohydrates
c. Improper metabolism of enzymes
d. Inability to convert fatty acids into carbohydrates

61. Cofactor required for lipoprotein lipase activity is: *(COMED 2008)*
a. Apo A-II
b. Apo C-II
c. Apo C-III
d. Apo B-II

62. The first plasma protein to be generated after severe protein deficiency: *(COMED 2008)*
a. Albumin
b. Globulin
c. Fibrinogen
d. Thrombin

63. Bence Jones protein found in the urine may be suggestive of: *(KCET 2008)*
a. Hyperparathyroidism
b. Hodgkin's disease
c. Multiple myeloma
d. Christian's syndrome

64. Ehrlich test is done to detect: *(COMED 2011)*
a. Bilirubin
b. Urobilinogen
c. Bile salts
d. Protein

65. Plasma ceruloplasmin is a: *(COMED 2011)*
a. Alpha 1 globulin
b. Alpha 2 globulin
c. Beta 1 globulin
d. Beta 2 globulin

66. The nitrogen content in 50 gm of a typical dietary protein is most likely to be: *(COMED 2011)*
a. 5 g
b. 8 g
c. 10 g
d. 16 g

JAYPEE BROTHERS

67. Mannose 6 phosphate containing freshly synthesized proteins are directed to: *(COMED 2012)*

a. Nucleus b. Lysosomes
c. Mitochondria d. Golgi apparatus

68. In the body, metabolism of 10 g of protein would produce approximately: *(COMED 2012)*

a. 1 Kcal b. 41 Kcal
c. 410 Kcal d. 4100 kcal

69. The first plasma protein to be generated after severe protein deficiency is: *(COMED 2014)*

a. Albumin b. Globulin
c. Fibrinogen d. Thrombin

70. The amino acid which undergoes most significant hepatic oxidative deamination which is used for urea synthesis is: *(COMED 2014)*

a. Glutamine b. Glutamate
c. Aspartate d. Arginine

71. The class of amino acids that contain only non-essential amino acids is: *(COMED 2007)*

a. Acidic b. Basic
c. Aromatic d. Branded chain

72. Aspartate aminotransferase is released: *(COMED 2005*

a. By viable cells b. After cell necrosis
c. Either of the two d. None of the above

NUCLEIC ACID AND NUCLEOTIDE

73. The sigma (σ) subunit of prokaryotic RNA polymerase: *(AIPG 2006)*

a. Binds the antibiotic rifampicin
b. Is inhibited by β-amanitin
c. Specifically recognizes the promoter site
d. Is part of the core enzyme

74. RNA interference, all involved *except*: *(AIPG 2012)*

a. Drosha b. Pasha
c. mRNA d. miRNA

75. DNA replication measured by: *(AIPG 2012)*

a. Sphygmomanometer
b. Spirometer
c. Spectrophotometer
d. pH metre

76. In DNA molecule adenine always forms a linkage with: *(COMED 2013)*

a. Guanine b. Cytosine
c. Thymine d. Uracil

77. Lesch-Nyhan syndrome is due to deficiency of: *(KCET 2006)*

a. HGPRTase (Total)
b. PRPP Glutamine Amino Transferase
c. CTP synthetase
d. OMP Decarboxylase

ENZYMES

78. Which of the following liver enzymes is predominantly mitochondrion? *(AIIMS Nov 2010)*

a. SGOT (AST) b. SGPT (ALT)
c. GGT d. 5′ Nucleotidase

79. Enzyme that regulates the conversion of ethanol to acetaldehyde is: *(AIIMS Nov 2007)*

a. Alcohol dehydrogenase
b. Acetaldehyde dehydrogenase
c. Catalase
d. Xanthene oxidase

80. Which of the following enzymes at a pH of 8.6 has a function in bone mineralization and hydrolysis of phosphoric esters? *(AIIMS Nov 2007)*

a. Acid phosphatase
b. Alkaline phosphatase
c. Collagenase
d. Hyaluronidase

81. Enzyme stable at acidic pH is: *(AIPG 2008)*

a. Trypsin
b. Pepsin
c. Chymotrypsin
d. Carboxypeptidase

82. Oxidation of ethanol to aldehydes is done by which of the following enzymes? *(AIPG 2008)*

a. Alcohol dehydrogenase
b. Catalase
c. Acetaldehyde dehydrogenase
d. Xanthene oxidase

83. Coenzyme required for transamination is: *(AIPG 2008)*

a. Thiamine phosphate
b. Pyridoxine
c. Alpha-ketoglutarate
d. Cobalamine

JAYPEE BROTHERS

84. Enzymes that move a molecular group from one molecule to another are known as: *(AIPG 2005)*
a. Ligases
b. Oxidoreductases
c. Transferases
d. Dipeptidases

85. The enzyme phosphofructokinase-l is strongly activated by: *(COMED 2008)*
a. Cyclic AMP
b. Adenosine triphosphate
c. Citrate
d. Fructose-2,6-bisphosphate

86. Biotin is required for the activity of: *(KCET 2009)*
a. Pyruvate carboxylase
b. Lactate dehydrogenase
c. Succinate thiokinase
d. Phosphohexose isomerase

87. Enzymes which play an important role in calcification are: *(COMED 2010)*
a. Enolase and calcitonin
b. Alkaline phosphatase and catalase
c. Alkaline phosphatase and pyrophosphatase
d. Pyrophosphatase and carbonic anhydrase

88. Which one of the following enzyme provides a link between glycolysis and the citric acid cycle? *(COMED 2010)*
a. Lactate dehydrogenase
b. Pyruvate kinase
c. Citrate synthase
d. Pyruvate dehydrogenase

89. Insulin increases the activity of: *(COMED 2010)*
a. HMG-CoA reductase
b. HMG-CoA layse
c. HMG-CoA synthase
d. Thiolase

90. LDH has following number of iso-enzymes: *(KCET 2011)*
a. 5 b. 3
c. 11 d. 2

91. Mutation in the oxidative enzymes (peroxisomes) could lead to: *(COMED 2012)*
a. Zellweger's syndrome
b. Gaucher's disease
c. Epidermolysis bullosa
d. Leber's neuropathy

92. A patient with hereditary fructose intolerance is deficient in which of the following enzymes? *(COMED 2013)*
a. Aldolase B b. Fructokinase
c. Triokinase d. All of the above

93. Which of the following is not a characteristic feature of allosteric enzymes? *(COMED 2013)*
a. They are multienzyme complexes
b. Follow Michaelis-Mentem kinetics
c. Presence of modulator site
d. Give sigmoid shaped curve

94. The level of the following enzymes are elevated in myocardial infarction *except*: *(KCET 2013)*
a. Lactate dehydrogenase
b. Alanine amino transferase
c. Creatine kinase
d. Aspartate amino transferase

95. Enzymes increase reaction rates by: *(KCET 2007)*
a. Altering the free energy of the action
b. Decreasing the energy of activation
c. Enhancing the forward reaction
d. Inhibiting the backward reaction

96. Von Gierke's Disease is associated with a deficiency of: *(KCET - 2007, COMED - 2006)*
a. Glucose-6-Phosphate dehydrogenase
b. Glucose-6-Phosphate in liver
c. Phosphorylase in muscle
d. Hexokinase

97. The enzyme known to cause spontaneous thrombosis as an adverse reaction is: *(COMED 2007)*
a. Tyrosine kinase b. Aromatase
c. Asparaginase d. Collagenase

VITAMINS

98. Which of the following factors are associated with vitamin K? *(AIIMS May 2010)*
a. II, VII, IX and X
b. III, X and XII
c. V, VIII, X and IX
d. II, VII, VII, IX and X

99. Pernicious anemia occurs due to the deficiency of: *(AIIMS May 2010)*
a. Folic acid b. Cobalamine
c. Riboflavin d. Pyridoxine

JAYPEE BROTHERS

100. A patient complains of swollen joints, loose teeth, anemia and tiny bleeding points around the hair orifices. The patient is most likely suffering from the deficiency of: *(AIIMS Nov 2006)*

a. Vitamin A b. Vitamin E
c. Vitamin B1 d. Vitamin C

101. The maximum content of vitamin E is found in: *(AIIMS Nov 2006)*

a. Cod liver oil b. Fish liver oil
c. Wheat germ oil d. Shark liver oil

102. Vitamin which deficiency leads to pyurvate and lactic acid is: *(AIPG 2013)*

a. Thiamine b. Riboflavin
c. Niacin d. Pyrodoxine

103. Vitamin not involved in tooth development: *(AIPG 2013)*

a. Vit A b. Vit C
c. Vit E d. Vit D

104. Wernicke-Korsakoff psychosis is due to: *(AIPG 2010)*

a. Thiamine b. Vitamin C
c. Pyridoxine d. INH

105. Earliest sign of vitamin A deficiency is: *(AIPG 2010)*

a. Conjunctival xerosis
b. Bitot spot
c. Nyctalopia
d. Color blindness

106. Thiamine deficiency causes decreased energy production because: *(AIPG 2009)*

a. It is required for the process of transamination
b. It is a cofactor in oxidative reduction
c. It is a coenzyme for transketolase in pentose phosphate pathway
d. It is a coenzyme for pyruvate dehydrogenase

107. True about vitamin K is: *(AIPG 2008)*

a. Vitamin K2 is produced by plants
b. Vitamin K1 is produced by intestinal *Escherichia coli*
c. Bile is required for the absorption of vitamin K that is water soluble
d. Bile is required for the absorption of vitamin K that is fat soluble

108. Increase in lactate and pyruvate is seen in the deficiency of: *(AIPG 2007)*

a. Pyridoxine
b. Thiamine
c. Niacin
d. Retinoic acid

109. Vitamin B_{12} acts as a coenzyme to which one of the following enzymes?: *(AIPG 2007)*

a. Iso citrate dehydrogenase
b. Homocysteine methyltransferase
c. Glycogen synthase
d. Glucose-6-phosphate dehydrogenase

110. Lactic acidosis takes place in the deficiency of: *(AIPG 2012)*

a. Pantothenic acid b. Pyridoxine
c. Thiamine d. Riboflavin

111. Vitamin B_6 is also known as: *(AIPG 2012)*

a. Pyridoxine b. Niacin
c. Riboflavin d. Thiamine

112. Which vitamin is synthesized by intestinal bacteria? *(KCET 2008)*

a. Vitamin A b. Vitamin K
c. Vitamin D d. Vitamin E

113. One of the symptoms of vitamin A deficiency is: *(KCET 2008)*

a. Nyctalopia b. Xerophthalmia
c. Bitot's spot d. Keratomalacia

114. One molecule of beta carotene gives rise to: *(KCET 2008)*

a. One unit of vitamin A
b. Two units of vitamin A
c. Three units of vitamin A
d. Four units of vitamin A

115. Burning feet syndrome occurs due to deficiency of: *(COMED 2009)*

a. Niacin b. Pantothenic acid
c. Riboflavin d. Folic acid

116. Vitamin D: *(KCET 2009)*

a. Absorption requires bile pigments
b. Synthesis is regulated at the reaction catalyzed by 25 hydroxylase
c. Deficiency in adults leads to rickets
d. Along with PTH increases calcium resorption from bone

JAYPEE BROTHERS

117. The mineral having sparing action on vitamin E: *(COMED 2013)*
a. Chromium b. Iron
c. Iodine d. Selenium

118. The Schilling test is used for detecting: *(COMED 2014)*
a. Presence of intrinsic factor
b. Deficiency of riboflavin
c. Excretion of folic acid
d. Capillary fragility

119. Figlu excretion test is used to detect:
a. Folic acid deficiency
b. Biotin deficiency
c. Pantothenic acid deficiency
d. Vit-B 12 deficiency

120. Deficiency of vitamin C causes the following *except*: *(COMED 2006)*
a. Painful swollen gums
b. Abnormal collagen
c. Anemia
d. Diarrhea

121. Which one of the following vitamin is bound to gastric intrinsic factor? *(COMED 2005)*
a. Vitamin K b. Folic acid
c. Vitamin B12 d. Vitamin D

122. Which of the following enzymatic reaction is directly related to vitamin K? *(COMED 2005)*
a. Activation of factor X
b. Regulation of blood calcium level
c. Conversion of fibrinogen to fibrin
d. Synthesis of prothrombin

123. All are Antimutagens, *except*: *(MH 2009)*
a. Vitamin A b. Aflatoxin
c. Vitamin C d. Curcumin

NUTRITION

124. Which of the following is the most important constituent of diet? *(AIIMS Nov 2006)*
a. Proteins b. Water
c. Vitamins d. Minerals

HEMOGLOBIN AND PORPHYRINS

125. Beta-oxidation of odd-chain FAs produces all *except*: *(AIIMS May 2006)*
a. Succinyl CoA b. Propionyl CoA
c. Acetyl-CoA d. Malonyl CoA

126. Hb1AC or glycohemoglobulin level of >9% indicates: *(COMED 2012)*
a. Normal
b. Mild diabetes control
c. Gestational diabetes
d. Poor diabetes control

127. The amino acid required for the sysnthesis of haem is: *(COMED 2013)*
a. Glutamine b. Glutamic acid
c. Glycine d. Lysine

MOLECULAR BIOLOGY AND BIOTECHNOLOGY

128. Number of base pairs found in human genome DNA is: *(AIIMS May 2013)*
a. 1.5 billion b. 3 billion
c. 4.5 billion d. 6.2 billion

129. Hybridization of two homologous but not identical DNA strands can be increased by: *(AIIMS May 2011)*
a. Decreasing the sodium chloride concentration in the medium
b. Increasing dimethyl-formamide in the medium
c. Ionic strengths
d. Increasing the wash temperature

130. Which of the following is not a post transcriptional modification of RNA? *(AIIMS May 2006)*
a. Splicing b. 5-Capping
c. 3-Polyadenylation d. Glycosylation

131. During which phase of the cell cycle the cellular content of DNA is doubled? *(AIIMS Nov 2005, COMED 2005)*
a. Mitotic phase b. G1 phase
c. G2 phase d. S phase

132. Denaturation of DNA means: *(AIPG 2010)*
a. Fragmentation of DNA molecules
b. Reversible separation of DNA
c. Irreversible separation of DNA
d. Coagulation of DNA

133. DNA recombination technique is possible due to: *(AIPG 2010)*
a. Restriction endonuclease
b. Cosmid
c. Polymerase chain reaction
d. Exonuclease

JAYPEE BROTHERS

134. The cell component that is genetically continuous from one cell generation to the next is: *(AIPG 2005)*
a. Nuclear membrane b. Golgi complex
c. Central bodies d. Chromatin

135. Transcription is the synthesis of:: *(COMED 2008)*
a. Single-stranded complimentary copy of DNA
b. Double-stranded complimentary copy of DNA
c. Complimentary copy of RNA
d. Complimentary copy of RNA

MISCELLANEOUS

136. The process of studying chromosome shape, size and fine structure under microscope is known as: *(AIIMS May 2013)*
a. Chromosome mapping
b. Karyotyping
c. Gene mapping
d. Genotype

137. Prothrombin time is increased in: *(AIIMS Nov 2008)*
a. Von Willebrand's disease
b. Haemophilia
c. Warfarin therapy
d. Liver disease

138. A patient suffers from hypogonadism, failure to thrive, loss of taste and inability to maintain stability. This is most suggestive of deficiency of: *(AIIMS Nov 2006)*
a. Zinc b. Chromium
c. Copper d. Potassium

139. The type of collagen present in hyaline cartilage is: *(AIPG 2011)*
a. Type I b. Type II
c. Type III d. Type IV

140. Sickle-cell anemia substitution of valine in place of glutamic acid is by: *(AIPG 2010)*
a. Missense mutation
b. Nonsense mutation
c. Deletion
d. Silent mutation

141. All of following have receptors which are transcription factor *except*: *(AIPG 2010)*
a. Insulin b. Estrogen
c. Glucocorticoids d. Vitamin D

142. ATP is the store house of: *(AIPG 2010)*
a. Energy b. Phosphate
c. Protein d. Glucose

143. Ehlers Danlos syndrome (EDS) is all *except*: *(AIPG 2009)*
a. Autosomal dominant
b. Autosomal recessive
c. X-linked dominant
d. X-linked recessive

144. Calcium is primarily found in which of the following forms in blood circulation? *(AIPG 2008)*
a. Calcium phosphate
b. Ion form
c. Free calcium
d. Calcium in bound form

145. Iron is present in all of the following, *except*: *(AIPG 2006)*
a. Myoglobin b. Cytochrome
c. Catalase d. Pyruvate kinase

146. A patient presents with following parameters pH 7.6. The pCO_2 is 30 mm Hg, of 102 mm Hg and HCO_3 is 20 mEq/L. Which of the following correctly describes the compensatory mechanism? *(AIPG 2012)*
a. Respiratory alkalosis
b. Metabolic alkalosis
c. Respiratory acidosis
d. Metabolic acidosis

147. Iron absorption is least affected by: *(AIPG 2012)*
a. Milk b. Calcium
c. NaCl d. Ascorbic acid

148. The antibody produced during primary immune response is: *(COMED 2008)*
a. IgM b. IgG
c. IgA d. IgE

149. Serum creatine kinase-3 (CK-3) is elevated in: *(COMED 2009, 2007)*
a. Muscular dystrophy
b. Myocardial infarction
c. Alcoholic cirrhosis
d. Brain tumors

150. The quantity of water lost in expired air in each 24 hrs is about: *(KCET 2011)*
a. 200 ml b. 400 ml
c. 600 ml d. 800 ml

JAYPEE BROTHERS

151. A relatively mobile component of the electron transporting respiratory chain is: *(COMED 2012)*
a. Flavoprotein
b. Cytochrome CL
c. Ubiquinone
d. Cytochrome A

152. Example of a preventive antioxidant is: *(COMED 2012)*
a. Catalase
b. Tocopherol
c. Superoxide dismutase
d. Urate

153. Stain used to make the wetted area of filter paper strip more visible is: *(COMED 2013)*
a. Eosin stain
b. Haemotoxin stain
c. Ninhydrin stain
d. Blue stain

154. Ammonia produces by brain is trapped as: *(KCET 2007)*
a. Urea
b. Uria acid
c. Creatinine
d. Glutamine

155. Thyroxine is derived from: *(KCET 2006)*
a. Tyrosine
b. Tyramine
c. Taurine
d. Tryptophan

156. Mucopolysaccharide which function as a lubricant and shock absorber in synovial fluid is: *(KCET 2005)*
a. Heparin
b. Hyaluronic acid
c. Keratin sulphate
d. Chondroitin-4-Sulphate

157. Electron transport chain (ETC) and ATP synthesizing structures are located in: *(KCET 2005)*
a. Outer membrane of mitochondria
b. Mitochondrial matrix
c. Inner membrane of mitochondria
d. Microsomes

158. Transport form of iron is: *(COMED 2007)*
a. Transferrin
b. Ferritin
c. Apo ferritin
d. Lactoferritin

159. Intestinal absorption of Ca^{2+} is decreased by: *(COMED 2006)*
a. Proteins
b. Lactose
c. Phytic acid
d. Acidity

160. Supporting cells of taste buds are: *(COMED 2005)*
a. Sustenticular cells
b. Taste cells
c. Von Ebner cells
d. Acini

161. Which one of the following is the precursor of both gonadal and adrenocortical hormone?
a. Progesterone *(COMED 2005)*
b. Cortisol
c. Testosterone
d. Corticosterone

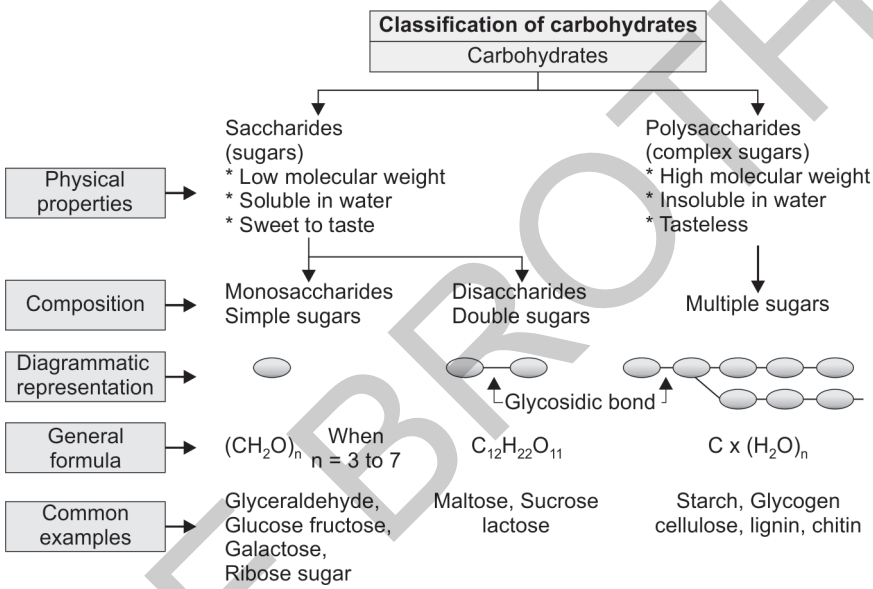
JAYPEE BROTHERS

Answers with Explanations

CARBOHYDRATE

1. Ans. (d) Maltose *Ref: Satyanarayan 3rd ed. p 11*

- A carbohydrate is a large biological molecule, or macromolecule, consisting of carbon (C), hydrogen (H), and oxygen (O) atoms, usually with a hydrogen: oxygen atom ratio of 2:1
- Considering the polymerization degree (PD) of carbohydrates, they can be classified in Monosaccharides, disaccharides and Polysaccharides.



2. Ans. (a) NADPH oxidase *Ref: Lippincott's 3rd ed. p 148*

- NADPH oxidase is a membrane-associated enzyme that catalyzes the production of superoxide.
- It is considered one of the major sources of superoxide anions in humans as well as bacteria, used in oxygen-dependent killing mechanisms for invading pathogens.
- Oxygen-dependent mechanisms are the most potent and they act via respiratory burst, the basis of which is the activation of a flavoprotein oxidase, known as NADPH oxidase.

3. Ans. (a) Glucose *Ref: Satyanarayan 3rd ed. p 149*

- Acetyl coenzyme A or acetyl-CoA is an important molecule in metabolism, used in many biochemical reactions.
- Its main function is to convey the carbon atoms within the acetyl group to the citric acid cycle (Krebs cycle) to be oxidized for energy production.
- Acetyl-CoA is produced during the second step of aerobic cellular respiration, pyruvate decarboxylation, which occurs in the matrix of the mitochondria.
- Acetyl-CoA then enters the citric acid cycle.
- Acetyl-CoA is also an important component in the biogenic synthesis of the neurotransmitter acetylcholine.
- Choline, in combination with acetyl-CoA, is catalyzed by the enzyme choline acetyl transferase to produce acetylcholine and a Coenzyme A byproduct.

JAYPEE BROTHERS

detailed information on dental books, visit our website www.jaypeebrothers.com, for detailed information on dental books, visit our

Dentogist

MCQs in Dentistry
With Explanatory Answers

Basic Sciences

What's new in this edition?

" Change is the only constant in life"

This adage applies to all aspects of life and also to Dental PG entrance preparation. With the changing pattern and exam systems, it has become apparent that getting a good rank is no more a mugging up exercise to be done in the last 6 months before exam but requires a thorough conceptual understanding of the subject. Through this book, effort has been made to cover questions from all the recent exams and also incorporate the new pattern of questions. The explanations provide additive information, sufficient to solve related MCQs on the same topic, as we all know same MCQ might not repeat, but the topic surely repeats. MCQs with latest references and explanations have been included and special input has been put to verify the authenticity of answers. Information in the form of mnemonics, flowcharts and tables will surely help the students to grasp and retain the concepts better and clear the exams with flying colours.

Salient Features

- Thoroughly revised and completely updated edition
- Includes the recent most question bank to provide a edge for students in exams
- References to all the questions from latest editions of standard textbooks
- Relevant explanations that bring the latest cutting edge information of the topic to cover all "new" questions
- Explanations in the form of tables, flowcharts and mnemonics, making it easy to remember
- Good number of Questions with High Yielding Facts covering the subjects in depth and totality
- The complete book for postgraduate dental exam preparation.



Anand Mohatta BDS MDS currently maintains a microscope-based practice concentrating on Micro-Endodontics in Mumbai, Maharashtra; Consultant Endodontist to many clinics in Mumbai, Maharashtra; Academic Director, Dental, Target Educare Pvt Ltd, Mumbai, Maharashtra (www.targeteducare.com); Manager, Dental ED, Australia (www.dentaledglobal.com); Key Opinion Leader, KaVo Kerr Group, North Carolina, USA; Course Coordinator, Complete Clinical Dentistry by Target Educare Pvt Ltd, Mumbai, Maharashtra. He has been regularly taking courses on Clinical Endodontics since the past 3 years and is actively associated with teaching dental graduates for postgraduate entrance exam preparation since the past 8 years. Dr Mohatta completed his BDS from Rural Dental College, Loni, Maharashtra. He was the college topper and gold medalist for all four years with distinctions in many subjects like General Anatomy & Embryology, General Pharmacology, General Pathology & Microbiology, Preclinical Prosthodontics, General Surgery, Preventive and Community Dentistry and Periodontics. He also stood 2nd in 2nd Year & Final Year BDS and 5th in 3rd Year BDS in the Maharashtra University of Health Sciences Nashik, Maharashtra. He was awarded as the "Best outgoing student" in the year 2008. He secured 3rd Rank in PGD-CET-2009 (Maharashtra state Dental PG entrance exam, 2009); 27th Rank in AIPG-2009 and 3rd Rank in COMED-K entrance exam, all in First attempt. He did his Masters in Conservative Dentistry and Endodontics from the prestigious Government Dental College and Hospital, Mumbai, Maharashtra, India, being a college topper and gold medalist there also.

Available at all medical bookstores
or buy online at www.jaypeebrothers.com

JAYPEE BROTHERS
Medical Publishers (P) Ltd.
www.jaypeebrothers.com

Join us on facebook.com/JaypeeMedicalPublishers

Shelving Recommendation
DENTISTRY

ISBN 978-93-86150-42-4