CHEMISTRY

BOOKS - CHETANA PUBLICATION

Biomolecules

Example

1. What are the components of a balanced diet ?

Watch Video Solution

2. What are the products of digestion of carbohydrates?

Watch Video Solution

3. Major constituent of muscle is

Watch Video Solution

4. Which constituent of diet is a source of high energy?

Watch Video Solution

5. Which are the primary structural materials of organisms?

Watch Video Solution

6. How do plants produce proteins?

Watch Video Solution

7. What are the main ingredient of vegetable oils and milk fats?

Watch Video Solution

8. What constitute the genetic material of organisms?

Watch Video Solution

9. What are Carbohydrates? OR

Define Carbohydrates

Watch Video Solution

10. Which is the most commonly used sugar.

Watch Video Solution

11. Where is sucrose obtained from.

Watch Video Solution

12. What is the sugar present in milk called.

Watch Video Solution

13. Give another name for carbohydrates.

Watch Video Solution

14. How are carbohydrates classified?

Watch Video Solution

15. What are monosaccharides? (orglycose) Give examples.

Watch Video Solution

16. What are oligosaccharides? Give examples.

Watch Video Solution

17. Classify the following carbohydrates.

Cellulose

Watch Video Solution

18. Classify the following carbohydrates.

Maltose

Watch Video Solution

19. Classify the following carbohydrates.

Raffinose

20. Classify the following carbohydrates.

Fructose

21. Classify Monosaccharides

22. Name the functional group present in the following:

Glucose

Watch Video Solution

23. Name the functional group present in the following:

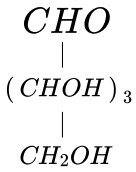
Fructose

Watch Video Solution

24. Give IUPAC names to the following monosaccharides.

Watch Video Solution

25. Give IUPAC names to the following monosaccharides.



Watch Video Solution

26. Give IUPAC names to the following monosaccharides.

Watch Video Solution

27. Describe the laboratory method for the preparation preparation of glucose.

OR How is glucose prepared from sucrose in the laboratory?

Watch Video Solution

28. Write a note on the preparation of glucose from starch. OR

Write a note on the commercial preparation of glucose.

Watch Video Solution

29. What do you mean by aldohexose structure of glucose?

Watch Video Solution

30. How can you prove that the six carbons in glucose molecules form a straight chain?

Watch Video Solution

31. What happens when glucose is treated with

Bromine water

Watch Video Solution

32. What happens when glucose is treated with

Dilute nitric acid

Watch Video Solution

33. What happens when glucose is treated with

Hydrogen cyanide

Watch Video Solution

34. Write the reaction that indicates the presence of -CHO group in glucose.

Watch Video Solution

35. Write the reaction that indicates the presence of -CHO group in glucose.

Watch Video Solution

36. What are the products df reaction of

$CH_3 - CO - CH_3 with NH_2OH$

Watch Video Solution

37. What are the products df reaction of

$CH_3 - CHO with HCN$

Watch Video Solution

38. What are the products of reaction of

$CH_3OH with CH_3 - CO - O - CO - CH_3$

Watch Video Solution

39. Name the reagent which on reaction with glucose confirms the presence of five hydroxyl group in glucose.

Watch Video Solution

40. Which reaction indicates that glucose has five hydroxyl group?

Watch Video Solution

41. Write the structural formula of glucose showing all the bonds in the molecule. OR

Number all the carbons in the molecules giving number 1 to the (-CHO) carbon. OR

Mark the chiral carbons in the molecule with asterisk (*).OR

How many chiral carbons are present in glucose.

Watch Video Solution

42. How many stereoisomers or optical isomers can a structural formula containing 'n' number of chiral atoms have?

Watch Video Solution

43. How many optical isomers are possible for glucose?

Watch Video Solution

44. What are the ways to represent three dimensional structure of an organic molecule?

Watch Video Solution

45. How is a Fischer projection formula drawn?

Watch Video Solution

46. Give the Fischer projection formulae of

Glucose

Watch Video Solution

47. Give the Fischer projection formulae of

Gluconic acid

Watch Video Solution

48. Give the Fischer projection formulae of

Saccharic acid

Watch Video Solution

49. How will you prove that Glucose contains one primary alcoholic group?

Watch Video Solution

50. Give the specific rotation of glucose?

Watch Video Solution

51. Why is glucose called dextrose?

Watch Video Solution

52. How is a monosaccharide assigned D / L configuration.

Watch Video Solution

53. Draw the simple Fisher projection formulae of D- (+)- glucose and D-(-) fructose)

Watch Video Solution

54. Assign D/L configuration to the following monosaccharide.

Threose

Watch Video Solution

55. Classify the following carbohydrates.

Maltose

Watch Video Solution

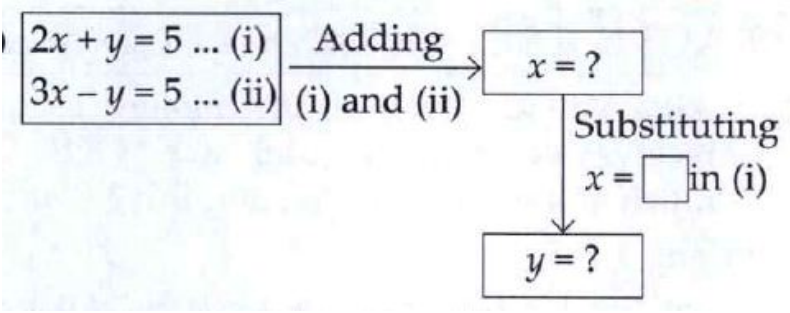
56. Represent the ring structure of glucose using Fischer projection formulae.

Watch Video Solution

57. How is the ring structure of glucose formed?

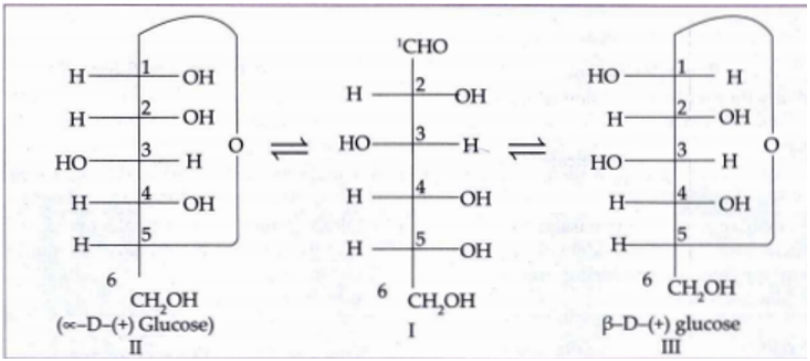
Watch Video Solution

58.



Watch Video Solution

59. In fig. 14.2 which carbon is called the anomeric carbon?



Watch Video Solution

60. Draw a neat diagram for the Haworth formula of glucopyranose. Write Haworth projection formulae of `alpha-D-(+)-glucopyranose

Watch Video Solution

61. Draw a neat diagram for the Haworth formula of glucopyranose. Write Haworth projection formulae of `beta-D-(+)-glucopyranose

Watch Video Solution

62. Distinguish between reducing and non-reducing sugar.

Watch Video Solution

63. What are reducing and non-reducing sugars?

Watch Video Solution

64. Why is fructose called levulose?

Watch Video Solution

65. How does fructose exist in the free state and combined state.

Watch Video Solution

66. What are disaccharides?

Watch Video Solution

67. What is a glycosidic linkage?

Watch Video Solution

68. How is a glycosidic linkage formed?

Watch Video Solution

69. Write a note on Glycosidic linkage.

Watch Video Solution

70. Give the Haworth formula of

Maltose

Watch Video Solution

71. Give the Haworth formula of

Sucrose

Watch Video Solution

72. Give the Haworth formula of

Lactose

Watch Video Solution

73. Give the Haworth formula of

Glucopyranose

Watch Video Solution

74. Give Scientific reasons.

The disaccharide sucrose gives negative Tollen's test while the disaccharide maltose gives positive Tollen's test.

Watch Video Solution

75. Give Scientific reasons.

Hydrolysis of sucrose is called inversion.

Watch Video Solution

76. Explain why Lactose gives positive Tollen's test.

Watch Video Solution

77. Explain term polysaccharides.

Watch Video Solution

78. Is galactose, an aldohexose or ketohexose.

Watch Video Solution

79. Which carbon in galactose has different configuration compared to glucose?

Watch Video Solution

80. Draw Haworth formula of $\alpha - Dgalactose$ and $\beta - D - galactose.$

Watch Video Solution

81. Which disaccharides among sucrose, maltose and lactose is / are expected to give positive fehling's test?

Watch Video Solution

82. What are the expected products of hydrolysis of lactose?

Watch Video Solution

83. Name few natural polysacaharides.

Watch Video Solution

84. When you chew plain bread, chapati or bhakari for a long time, it tastes sweet. What could be the reason?

Watch Video Solution

85. Name the two components of starch.

Watch Video Solution

86. Compare amylose and amylopectin in starch.

Watch Video Solution

87. Why can cellulose not be digested by the human digestive system. OR

Give Reason : Cellulose cannot be digested by humans.

Watch Video Solution

88. What is the role of cellulose in our food?

Watch Video Solution

89. How is chemical hydrolysis of cellulose carried out?

Watch Video Solution

90. What is starch?

Watch Video Solution

91. What is cellulose?

Watch Video Solution

92. What is Glycogen?

Watch Video Solution

93. Where is glycogen found?

Watch Video Solution

94. Give the Haworth formula for amylase.

Watch Video Solution

95. Give the Haworth formula for amylopectin.

Watch Video Solution

96. Give the Haworth formula of cellulose.

Watch Video Solution

97. What is the product of reaction of acetic acid with ammonia?

Watch Video Solution

98. Write the structural formula of N-methyl acetamide.

Watch Video Solution

99. What are the nitrogenous nutrients in human diet?

Watch Video Solution

100. What are the nutrition sources of proteins

Watch Video Solution

101. Chemically what is a protein?

Watch Video Solution

102. What is the expected product of complete hydrolysis of proteins?

Watch Video Solution

103. What are $\alpha - a \min o$ acids?

Watch Video Solution

104. Glycine and Alanine are different with respect to one substituent on the a-carbon. What are the other common

substituent groups?

Watch Video Solution

105. Give the Fischer projection of $\alpha - a \min o$ acid.

Watch Video Solution

106. Classify amino acids

Watch Video Solution

107. What are essential amino acids?

Watch Video Solution

108. From the structure of Tryptophan and histidine, Classify them into neutral/ acidic/basic .oc-amino adds and justify your answer. (Hint : Consider involvement of lone pair in resonance).

Watch Video Solution

109. Compare the molecular masses of the following compounds and explain the observed melting points

Formula	Molecular mass	Melting point
$CH_3-\underset{\displaystyle NH_2}{\underset{\vert}{CH}}-COOH$	89	293.5°C
$C_5H_{11}-NH_2$	87	–55°C
C_3H_7-COOH	88	–7.9°C

Watch Video Solution

110. What is Zwitter ion?

Watch Video Solution

111. Give the three different forms of alanine.

Watch Video Solution

112. What does the enzyme pepsin do?

Watch Video Solution

113. What are the initial and final products of digestion of proteins?

Watch Video Solution

114. What is a peptide bond or Peptide linkage?

Watch Video Solution

115. How is peptide linkage formed?

Watch Video Solution

116. How is tripeptida formed?

Watch Video Solution

117. What is a polypeptide?

Watch Video Solution

118. What does 'C' terminal and 'N' terminal in a polypeptide mean?

What are the -CHR- units in peptide bonds called?

Watch Video Solution

119. Explain the term proteins.

Watch Video Solution

120. How are proteins classified? OR

Distinguish between Globular and Fibrous protein.

Watch Video Solution

121. Where is the protein keratin found?

Watch Video Solution

122. Where is myosin found in living organisms

Watch Video Solution

123. Specify the function of proteins in organisms

Watch Video Solution

124. How can you understand the diverse functions of proteins? OR Into how many levels is the structure of protein divided. Give their names.

Watch Video Solution

125. Write a note on the following.

Primary structure of proteins.

Watch Video Solution

126. Write a note on the following.

Representation of primary structure of proteins.

Watch Video Solution

127. Write a note on secondary structure of protein.

Watch Video Solution

128. Write down the structures of amino acids constituting the following peptide.

$$CH_3 - \underset{\underset{NH_2}{|}}{CH} - CO - NH - \underset{\underset{CH_2OH}{|}}{CH} - CO - NH - \underset{\underset{CH_2SH}{|}}{CH} - COOH$$

Watch Video Solution

129. What is $\alpha - Helix$

Watch Video Solution

130. State the characteristic features of $\alpha - helical$ structure of protein.

Watch Video Solution

131. Name two proteins which have $\alpha - helical$ secondary structure.

Watch Video Solution

132. Write a note on $\beta - pleated$ sheet.

Watch Video Solution

133. State the characteristic of the $\beta - pleated$ sheet.

Watch Video Solution

134. Draw a diagram to show the $\beta - pleated$ sheet of protein structure.

Watch Video Solution

135. What gives strength to the spider dragline silk protein?

Watch Video Solution

Watch Video Solution

136. What gives elasticity to the spider dragline silk protein?

Watch Video Solution

137. Write a note on tertiary structure of proteins?

Watch Video Solution

138. With the helpo of diagrams show the

Tertiary structure of protein.

Watch Video Solution

139. With the helpo of diagrams show the

Four level of protein structure.

Watch Video Solution

140. Name two major molecular shapes resulting from the tertiary structure of proteins.

Watch Video Solution

141. What are the factors that stabilise a particular tertiary structure of protein?

Watch Video Solution

142. How many subunits does haemoglobin consist of?

Watch Video Solution

143. How are the disulfide bonds in the tertiary structure of proteins formed?

Watch Video Solution

144. Write a note on quaternary structure of proteins.

Watch Video Solution

145. What is the function of haemoglobin?

Watch Video Solution

146. When can haemoglobin perform its function?

Watch Video Solution

147. What is the physical change observed when

egg is boiled

Watch Video Solution

148. What is the physical change observed when

milk gets curdled on adding lemon juice?

Watch Video Solution

149. What is meant by Denaturation of proteins?

Watch Video Solution

Watch Video Solution

150. What are the factors that affect the denaturation of proteins?

Watch Video Solution

151. Why does denaturation of proteins take place?

Watch Video Solution

152. What are the effects of denaturation of proteins?

Watch Video Solution

153. Give scientific reason:

On boiling egg albumin becomes opaque white.

Watch Video Solution

154. What is effect of catalyst on energy of activation (E_1).

Watch Video Solution

155. What are factors necessary for chemical reactions taking place in our bodies?

Watch Video Solution

156. What is meant by the term Reaction specific for enzyme catalysis?

Watch Video Solution

157. Write a note on mechanism of enzyme catalysis. OR

Write a note on Lock-and-key mechanism in enzyme catalysis.OR

Draw a neat diagram for enzyme catalysis

Watch Video Solution

158. Why is the rate of reaction very high in case of enzymes?

Watch Video Solution

159. Give examples of industrial application of enzyme catalysis.

Watch Video Solution

160. What is the single term that answers all the following question? OR

What decides whether you are blue eyed or brown eyed? OR

Why does wheat grain germinate to produce what plant and not rice plant? OR

Which acid molecules are present in nuclei of living cells?

Watch Video Solution

161. What is responsible for the transfer of genetic information from one generation to another?

Watch Video Solution

162. Name the two type of nucleic acids and where are they found in the living cells?

Watch Video Solution

163. What is the monomer of a nucleic acid called?

Watch Video Solution

164. Draw the structure of polynucleotide chain.

Watch Video Solution

165. Explain the chemical structures of polypeptides.

Watch Video Solution

166. What is the difference in the pyrimidine found in RNA and DNA.

Watch Video Solution

167. How is a nucleoside formed? Or what is a nucleoside.

Watch Video Solution

168. Write the structures of (a)nucleoside (b) nucleotide

Watch Video Solution

169. What are nucleotides? OR

How are nucleotides formed?

Watch Video Solution

170. Draw a neat diagram of one purine base nuclear acid?

Watch Video Solution

171. What are nucleic acids? How are they formed.

Watch Video Solution

172. Show the structure of a dinucleotide?

Watch Video Solution

173. Give a schematic representaion of a polynucleotide.

Watch Video Solution

174. What does the name CATG mean?

Watch Video Solution

175. Draw a schematic representation of trinucleotide segment 'ACT' of a DNA melocule.

Watch Video Solution

176. Write a note on the salient features of the Watson and Crick model of the DNA.

Watch Video Solution

177. How many strands of RNA have?

Watch Video Solution

178. How many hydrogen bonds are formed between Adenine and thymine?

Watch Video Solution

179. How many hydrogen bonds exist between cytosin and guanine?

Watch Video Solution

180. Name the complementary base pairs in DNA.

Watch Video Solution

181. What is the primary structure of nucleic acids?

Watch Video Solution

182. What bases pair together in RNA?

Watch Video Solution

183. The two strands in DNA are not identical but are complementary.Explain.

Watch Video Solution

184. Write the sequence of the complementary strand of the following portion of a DNA molecule:5' -ACGTAC-3'

Watch Video Solution

185. Write important structural and functional difference between DNA and RNA.

Watch Video Solution

186. On complete hydrolysis DNA gives equimolar quantities of adenine and thymine. Give scientific reason.

Watch Video Solution

187. $\alpha - amino$ acids have high melting points compared to their corresponding amines or carboxylic acid of comparable molecular mass. Give scientific reason.

Watch Video Solution

188. How is genetic informatin transformed by DNA?

Watch Video Solution

189. What is a gene?

Watch Video Solution

190. What does a polynucleotide have at 3'end.

Watch Video Solution

191. What is the backbone of nucleic acid made of?

Watch Video Solution

192. Answer the following:

Some of the following statements apply to DNA only, some to RNA only and some to both. Label them accordingly.

The polynucleotide is double stranded.

Watch Video Solution

193. Answer the following:

Some of the following statements apply to DNA only, some to RNA only and some to both. Label them accordingly.

The polynucleotide contains uracil.

Watch Video Solution

194. Answer the following:

Some of the following statements apply to DNA only, some to RNA only and some to both. Label them accordingly.

The polynucleotide contains D-ribose

Watch Video Solution

195. Answer the following:

Some of the following statements apply to DNA only, some to RNA

only and some to both. Label them accordingly.

The polynucleotide contains Guanine

Watch Video Solution

196. Write the sequence of the complementary strand for the following segments of a DNA molecule.

Watch Video Solution

197. Write the names and schematic representation of all the possible dipeptides from alanine, glycine and tyrosine.

Watch Video Solution

Exercise

1. $CH_2OH - CO - (CHOH)_4 - CH_2OH$ is an example of

A. Aldohexose

B. Aldoheptose

C. Ketotetrose

D. Ketoheptose

Answer:

Watch Video Solution

2. Open chain formula of glucose does not contain

A. Formyl group

B. Anomeric hydroxyl group

C. Primary hydroxyl group

D. Secondary hydroxyl group

Answer:

Watch Video Solution

3. Which of the following does not apply to $CH_2NH_2 - COOH$

A. Neutral amino acid

B. L-amino acid

C. Exists as zwitter ion

D. Natural amino acid

Answer:

Watch Video Solution

4. Tryptophan is called essential amino acid because

A. It contains aromatic nucleus.

B. It is present in all the human proteins.

C. It cannot be synthesised by human body.

D. It is essential constituent of enzymes.

Answer:

Watch Video Solution

5. A disulfide link gives rise to the following structure of protein.

A. Primary

B. Secondary

C. Tertiary

D. Quaternary

Answer:

Watch Video Solution

6. RNA has

A. a. A-U base pairing

B. b. P-S-P-S backbone

C. c. double helix

D. d. G-C base pairing

Answer:

Watch Video Solution

7. What is the type of ring structure in glucose?

A. ketal

B. acetal

C. hemiacetal

D. hemiketal

Answer:

Watch Video Solution

8. What is a glycosidic linkage?

A. ether oxide

B. ketone oxide

C. acid oxide

D. aldeyde oxide

Answer:

Watch Video Solution

9. Which sugar is used as sweetener in bakery and confectionery products?

A. Maltose

B. Invert sugar

C. lactose

D. Glucose

Answer:

Watch Video Solution

10. Which is the storage carbohydrate of plants?

A. Cellulose

B. Starch

C. glycogen

D. cellobiose

Answer:

Watch Video Solution

11. Which is the storage carbohydrate of animals?

A. Cellulose

B. Starch

C. glycogen

D. cellobiose

Answer:

Watch Video Solution

12. Which are the fundamental structural materials of animal bodies?

A. Starch

B. proteins

C. carbohydrates

D. lipids

Answer:

Watch Video Solution

13. The enzyme secreted by the pancreas is

A. pepsin

B. trypsin

C. insulin

D. bile

Answer:

Watch Video Solution

14. The enzyme which controls blood sugar is

A. pepsin

B. insulin

C. amylase

D. trypsin

Answer:

Watch Video Solution

15. The enzyme present in saliva and hydrolyses starch is

A. pepsin

B. insulin

C. amylase

D. trypsin

Answer:

Watch Video Solution

16. Milk sugar is

A. sucrose

B. lactose

C. maltose

D. glucose

Answer:

Watch Video Solution

17. The store house for all biological information is

A. mRNA

B. tRNA

C. rRNA

D. DNA

Answer:

Watch Video Solution

18. Raffinose is a

A. monosaccharide

B. disaccharide

C. trisaccharide

D. polysaccharide

Answer:

Watch Video Solution

19. A biological catalyst is essentially _____.

A. an amino acid

B. an enzyme

C. a nitrogen molecule

D. a carbohydrate

Answer:

Watch Video Solution

20. Which of the following is NOT a constituent of RNA?

A. A. Ribose

B. B. Uracil

C. C. Thymine

D. D. Phosphate

Answer:

Watch Video Solution

21. DNA is a polymer of units of

A. sugars

B. ribose

C. amino acids

D. nucleotides

Answer:

Watch Video Solution

22. Which one of the following molecules will form zwitter ion?

A. CH_3COOH

B. $CH_3CH_2NH_2$

C. $\mathbb{C}l_3NO_2$

D. NH_2CH_2COOH

Answer:

Watch Video Solution

23. In metabolic process, the maximum energy is given by

A. carbohydrates

B. proteins

C. vitamins

D. fats

Answer:

Watch Video Solution

24. Insulin is

A. hormone

B. antibiotic

C. antiseptic

D. vitamin

Answer:

Watch Video Solution

25. The secondary structure of a protein is determined by

A. co-ordinate bond

B. covalent bond

C. ionic bond

D. hydrogen bond

Answer:

Watch Video Solution

26. In maltose, glycosidic linkage is present between the two glucose units at positions

A. 1,2

B. 1,1

C. 1,3

D. 1,4

Answer:

Watch Video Solution

27. The sugar present in DNA is

A. deoxyribose

B. ribulose

C. glucose

D. ribose

Answer:

Watch Video Solution

28. Sucrose molecule consists of

A. a glucofuranose and a fructopyranose

B. a glucofuranose and a fructofuranose

C. a glucopyranose and a fructopyranose

D. a glucopyranose and a fructofuranose

Answer:

Watch Video Solution

29. Which of the following statement is not correct about DNA molecule?

A. It has double helix structure.

B. It serves as hereditary material

C. The two DNA strands are exactly similar.

D. Its replication is called semi-conservative mode of replication.

Answer:

Watch Video Solution

30. The number of sp^2 and sp^3 hybridized carbon atoms in fructose are respectively,

A. 4 and 2

B. 2 and 4

C. 1 and 5

D. 5 and 1

Answer:

Watch Video Solution

31. From the following which is non reducing-sugar?

A. fructose

B. glucose

C. sucrose

D. lactose

Answer:

Watch Video Solution

32. Carbohydrate contains

A. $-CHO$

B. $-C=O$

C. $-OHgroup$

D. All of these

Answer:

Watch Video Solution

33. Which of the following is the example of polysaccharide?

A. Glucose

B. Raffinose

C. Cellulose

D. Sucrose

Answer:

Watch Video Solution

Watch Video Solution

34. Select a disaccharide from the following.

A. Arabinose

B. Glucose

C. Sucrose

D. Fructose

Answer:

Watch Video Solution

35. Ribulose is

A. Aldopentose

B. Aldohexose

C. Ketopentose

D. Ketohexose

Answer:

Watch Video Solution

36. Glucose is an example of

A. Aldohexose

B. Ketohexose

C. Ketopentose

D. Aldopentose

Answer:

Watch Video Solution

37. Glucose on oxidation with Br_2 water gives

A. Glutamic acid

B. Saccharic acid

C. Sorbitol

D. Gluconic acid

Answer:

Watch Video Solution

38. Sucrose on hydrolysis with 4% HCl solution gives,

A. only glucose

B. only frucose

C. both a and b

D. Arabinose

Answer:

Watch Video Solution

39. On large scale, glucose is prepared by acid hydrolysis of

A. Maltose

B. Sucrose

C. Starch

D. Cellulose

Answer:

Watch Video Solution

40. Monosaccharides containing aldehyde group are called

A. Aldoses

B. Ketones

C. Polysaccharides

D. Disaccharides

Answer:

Watch Video Solution

41. Select a monosaccharide Ketose from the following.

A. Arabinose

B. Glucose

C. Fructose

D. Sucrose

Answer:

Watch Video Solution

42. Glucose can be prepared on a large scale from which of the following sugar?

A. Galactose

B. Starch

C. Cellulose

D. Canesugar

Answer:

Watch Video Solution

43. Which of the following are functional isomers?

A. Maltose and Lactose

B. Xylsoe and Galactose

C. Glucose and Fructose

D. Both A and C

Answer:

Watch Video Solution

44. Enzymes are made up of,

A. Edible proteins

B. Proteins with specific structures

C. Nitrogen containing carbohydrates

D. Carbohydrates

Answer:

Watch Video Solution

45. Fructose differs from Glucose in

A. the functinal group

B. the number of chiral carbon atoms

C. the number of carbon atoms

D. both a and b

Answer:

Watch Video Solution

46. The grape sugar is :

A. fructose

B. Glucose

C. sucrose

D. starch

Answer:

Watch Video Solution

47. An equimolar mixture of glucose and fructose is called,

A. Invert sugar

B. Retention

C. Racemisation

D. Proteins

Answer:

Watch Video Solution

48. When carbohydrate is composed of large number of monosaccharide units it is called as

A. 2

B. 4

C. 0

D. 6

Answer:

Watch Video Solution

49. Which of the following is the main storage polysaccharide in plants?

A. Glycogen

B. Starch

C. Cellulose

D. Sucrose

Answer:

Watch Video Solution

50. At what temperature is canesugar hydrolysed to glucose?

A. 273K

B. $100^{\circ}C$

C. 373K

D. 333K

Answer:

Watch Video Solution

51. Simplest $\alpha - amino$ acid is

A. Tyrosine

B. Asparagine

C. Glycine

D. Alanine

Answer:

Watch Video Solution

52. How many molecules of acetic anhydride will be required to form glucose penta-acetate from 2M of glucose?

A. 2

B. 5

C. 10

D. 2.5

Answer:

Watch Video Solution

53. Starch and cellulose have same

A. Molecular formula

B. Molecular weight

C. Empirical formula

D. Structural formula

Answer:

Watch Video Solution

54. Product of simple protein on final hydrolysis gives.....

A. mineral acid

B. acetic acid

C. carboxylic acid

D. amino acid

Answer:

Watch Video Solution

55. Which of the following is a globular protein?

A. Collagen

B. insulin

C. Myosin

D. Fibroin

Answer:

Watch Video Solution

56. Cellulose is a

A. Protein

B. Fat

C. Hormone

D. polysaccharide

Answer:

Watch Video Solution

57. Proteins are also called

A. Polysaccharides

B. Polypeptides

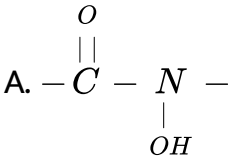
C. Polynucleosides

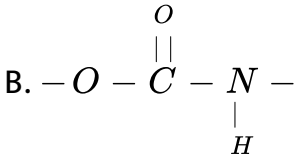
D. Polynucleotide

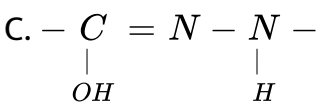
Answer:

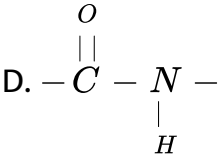
Watch Video Solution

58. Peptide linkage is

A. 

B. 

C. 

D. 

Answer:

Watch Video Solution

59. Nucleic acid is a polymer of

A. Nucleosides

B. a-amino acids

C. Nucleotides

D. Enzymes

Answer:

Watch Video Solution

60. Ribose sugar is. an important component

A. DNA

B. RNA

C. Hormones

D. Enzymes

Answer:

Watch Video Solution

61. Which of the following is NOT a constituent of RNA?

A. Ribose

B. Phosphate

C. Adenine

D. Pyridine

Answer:

Watch Video Solution

62. The water insoluble protein is

A. Casein of milk

B. Albumin

C. Serum albumin

D. Keratin of hair

Answer:

Watch Video Solution

63. The main structural feature of a protein molecule is the presence of

A. an ester linkage

B. an ether linkage

C. an peptide linkage

D. All of these

Answer:

Watch Video Solution

64. RNA and DNA are collectively known as

A. Peptides

B. Nucleotides

C. Nucleosides

D. Nucleic acid

Answer:

Watch Video Solution

65. The amino acids, which can be synthesized in the body, are known as_____amino acids.

A. essential

B. non-essential

C. important

D. non-important

Answer:

Watch Video Solution

66. Rhamnose is a

A. Polyhydroxy compound

B. Protein

C. Lipid

D. vitamin

Answer:

Watch Video Solution

67. Unit formed due to the attachment of a base to I' position of sugar is known as,

A. nucleotide

B. nucleoside

C. biocatalyst

D. none of above

Answer:

Watch Video Solution

68. Hydrolysis of Lactose gives,

A. Glucose+Glucose

B. Glucose+Fructose

C. Glucose+Galactose

D. Fructose+Galactose

Answer:

Watch Video Solution

69. Ribose and 2-deoxyribose are

A. Diasterreomers

B. Isomers

C. Enantiomers

D. Aldopentose

Answer:

Watch Video Solution

Watch Video Solution

70. Naturally occurring glucose is,

A. Dextrorotatory

B. Laevorotatory

C. Racemic mixture

D. All of these

Answer:

Watch Video Solution

71. Sucrose is treated with dilute NaOH. It gives a mixture of D-glucose and

A. D-fructose

B. L-mannose

C. D-mannose

D. I-fructose

Answer:

Watch Video Solution

72. D-glucose and L-glucose differes in

A. configuration at the highest number chiral carbon

B. configuration at first chiral carbon

C. configuration at each chiral carbon

D. configuration at the second last chiral carbon

Answer:

Watch Video Solution

73. Glucose fails to react with

A. Phenyl hydrazine

B. $NaHSO_3$

C. Tollen's reagent

D. Fehling solution

Answer:

Watch Video Solution

74. In which oLfollowing sets both the sugars are examples of reducing sugars?

A. Glucose and Sucrose

B. Fructose and Maltose„

C. Fructose and Sucrose

D. Sucrose and Lactose

Answer:

Watch Video Solution

75. Which of the following is correct about starch?

A. It is a white crystalline powder

B. Coloured amorphous powder

C. It is white - amorphous powder'

D. Coloured crystalline compound

Answer:

Watch Video Solution

76. Hemiacetal group in glucose, is formed between which'C' atoms?

A. C_1 and C_5

B. C_1 and C_4

C. C_1 and C_3

D. C_2 and C_4

Answer:

Watch Video Solution

77. Unit formed due to the attachment of a base to I' position of sugar is known as,

A. Specific rotation

B. Inversion

C. Rotatory motion

D. Mutarotation

Answer:

Watch Video Solution

78. Which of the following statements about starch is correct?

A. It occures in the cell walls of plants.

B. It is a disaccharide.

C. It gives a dark blue colour with iodine solution.

D. It give a red oragne precipitte on boiling with Fehling's solution.

Answer:

Watch Video Solution

79. Which of the following is an example of aldopentose?

A. Glyceraldehyde

B. D-Ribose

C. Fructose

D. Erythrose

Answer:

Watch Video Solution

80. DNA is a polymer of units of

A. Sugar

B. ribose

C. amino acids

D. nucleotides

Answer:

Watch Video Solution

81. Which one of the following molecules will form zwitter ion?

A. CH_3COOH

B. $CH_3CH_2NO_2$

C. $\mathbb{C}l_3NO_2$

D. $\begin{matrix} COOH \\ | \\ (CHOH)_4 \\ | \\ CH_2OH \end{matrix}$

Answer:

Watch Video Solution

82. Which of the following is the example of polysaccharide?

A. Glucose

B. Raffinose

C. Cellulose

D. Sucrose

Answer:

Watch Video Solution

83. Which of the following is the main storage polysaccharide in plants?

A. Glycogen

B. Starch

C. Cellulose

D. Sugar

Answer:

Watch Video Solution

84. What is the monomer of a nucleic acid called?

Watch Video Solution

85. What are proteins?

Watch Video Solution

86. Name the functional group present in the following:

Glucose

Watch Video Solution

87. Describe the laboratory method for the preparation preparation of glucose.

OR How is glucose prepared from sucrose in the laboratory?

Watch Video Solution

88. What happens when glucose is treated with

Bromine water

Watch Video Solution

89. What happens when glucose is treated with

Hydrogen cyanide

Watch Video Solution

90. Give Scientific reasons.

Hydrolysis of sucrose is called inversion.

Watch Video Solution

91. Draw Haworth formula of $\alpha - Dgalactose$ and $\beta - D - galactose.$

Watch Video Solution

92. Write a note on secondary structure of protein.

Watch Video Solution

93. Write a note on the salient features of the Watson and Crick model of the DNA.

Watch Video Solution

94. Explain the chemical structures of polypeptides.

Watch Video Solution

Watch Video Solution

95. Write a note on secondary structure of protein.

Watch Video Solution

96. Write a note on Glycosidic linkage.

Watch Video Solution

97. What are enzymes? How are they classified? Mention example of each class.

Watch Video Solution

98. What are the factors that stabilise a particular tertiary structure of protein?