CHEMISTRY

BOOKS - SURA CHEMISTRY (TAMIL ENGLISH)

BIOMOLECULES

Evaluation Choose The Correct Answer

1. Which one of the following rotates the plane polarized light towards left?

A. D(+) Glucose

B. L(+) Glucose

C. D(-) Fructose

D. D(+) Galactose

Answer:

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2. The correct corresponding order of names of four aldoses with configuration given below Respectively is

A. L-Erythrose, D-Threose L-Threose, L-Erythrose,

B. D-Threose, D-Erythrose, L-Threose, L-Erythrose,

C. L-Erythrose, L-Threose, D-Erythrose, D-Threos

D. D-Erythrose, D-Threose, L-Erythrose, L-Threose

Answer:

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3. Which one given below is a non-reducing sugar?

A. Glucose

B. Sucrose

C. maltose

D. Lactose

Answer:

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4. Glucose (HCN) Product (hydrolysis) Product (HI + Heat) A, the compound A is

A. Heptanoic acid

B. 2-Iodohexane

C. Heptane

D. Heptanol

Answer:

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5. Assertion:

A solution of sucrose in water is dextrorotatory. But on hydrolysis in the presence of little hydrochloric acid, it becomes levorotatory

Reason.Sucrose hydrolysis gives unequal amounts of glucose and fructose. As a result of this change in sign of rotation is observed

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false.

Answer:

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6. The central dogma of molecular genetics states that the genetic information flows from

A. Amino acids, Protein, DNA

B. DNA, Carbohydrates, Proteins

C. DNA, RNA, Proteins

D. DNA, RNA, Carbohydrates

Answer:

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7. In a protein, various amino acids linked - together by

A. Peptide bond

B. Dative bond

C. α Glycosidic bond d)

D. β Glycosidic bond

Answer:

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8. Among the following the achiral amino add is

A. 2-ethylalanine

B. 2-methylglycine

C. 2.,hydroxymethylserine

D. Tryptophan

Answer:

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9. The correct statement regarding RNA and DNA respectively is

A. the sugar component in RNA is an arabinos and the sugar component in DNA is ribose

B. the sugar component . in RNA is 2' - deoxyribose and the sugar component in DNA is arabinose

C. the sugar component in RNA is an arabinose and the sugar component in

DNA is 2' -deoxyribose

D. the sugar component in RNA is ribose and the sugar component in DNA is 2' -deoxyribose

Answer:

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10. In aqueous solution of amino acids mostly exists in,

A. $NH_2CH(R) - COOH$

B. $NH_2 - CH(R) - COO^-$

C. $H_3N^+CH(R) - COOH$

D. $H_3N^+ - CH(R) - COO^-$

Answer:

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11. Which one of the following is not produced by body ?

A. DNA

B. Enzymes

C. Hormones

D. Vitamins

Answer:

Watch Video Solution

12. The number of sp^2 and sp^3 hybridised carbon in fructose are respectively

A. 1 and 4

B. 4 and 2

C. 5 and 1

D. 1 and 5

Answer:

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13. Vitamin B_2 is laso known as

A. Riboflavin

B. Thiamine

C. Nicotinamide

D. Pyridoxine

Answer:

Watch Video Solution

14. The pyrimidine bases present in DNA are

A. Cytosine and Adenine

B. Cytosine and Guanine

C. Cytosine and Thiamine

D. Cytosine and Uracil

Answer: A::C::D

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15. Among the following, L-serine is

A. 

B. 

C. 

D. 

Answer:

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16. The secondary structure of a protein refers to

A. fixed configuration of the polypeptide backbone

B. hydrophobic interaction

C. sequence of a-amino acids

D. α helical backbone

Answer: A::B::C

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17. Which of the following vitamins is water soluble?

A. Vitamin E

B. Vitamin K

C. Vitamin A

D. Vitamin B

Answer: A::B

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18. Complete hydrolysis of cellulose gives

A. L-Glucose

B. D-Fructose

C. D-Ribose

D. D-Glucose

Answer: C::D

19. Which of the following statement is correct?

A. Ovalbumiri is a simple food reserve in egg- white

B. Blood proteins thrombin and fibrinogen are involved in blood clotting

C. Denaturation makes protein more active

D. Insulin maintains the sugar level of in the human body.

Answer:

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20. Glucose is an aldose. Which one of the following reactions is not expected with glucose ?

A. It dose not form oxime

B. It does not react with Grigned reagent

C. It does not form osazones

D. It does not reduce tollens reagent

Answer:

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21. If one strand of the DNA has the sequence 'ATGCTTGX, then the sequence of complementary strand would be

A. TACGAACT

B. TCCGAACT

C. TACGTACT

D. TACGRAGT

Answer:

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22. Insulin, a hormone chemically is

A. Fat

B. Steroid

C. Protein

D. Carbohydrates

Answer:

 Watch Video Solution

23. α D(+) Glucose and β D (+) glucose are

A. Epimers

B. Anomers

C. Enantiomers

D. Conformational isomers

Answer:

Watch Video Solution

24. Which of the following are epimers

A. D(+)-Glucose and D(+)-Galactose

B. D(+)-Glucose and D(+)-Mannose

C. Neither (a) nor (b)

D. Both (a) and (b)

Answer:

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25. Which of the following amino acids are achiral

A. Alanine

B. Leucine

C. Proline

D. Glycine

Answer:

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Evaluation Short Answer Questions

1. What type of linkages hold together monomers of DNA?

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2. Give the differences between primary and secondary structure of proteins

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3. Name the Vitamins whose deficiency cause.

i) rickets ii) scurvy

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4. Write the Zwitter ion structure of alanine.

Watch Video Solution

5. Give any three difference between DNA and RNA.

Watch Video Solution

6. Write a short note on peptide bond.

Watch Video Solution

7. Give two difference between Hormones and vitamins

Watch Video Solution

8. Write a note on denaturation of proteins.

Watch Video Solution

9. What are reducing and non-reducing sugars ?

Watch Video Solution

10. Why carbohydrates are generally optically active?

Watch Video Solution

11. Classify the following into monosaccharides, , oligosaccharides and polysaccharides

i) Starch

ii) fructose

iii) sucrose

iv) lactose

v) maltose

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12. How are vitamins classified?

Watch Video Solution

13. What are hormones? Give examples.

Watch Video Solution

14. Write the structure of all possible dipeptides which can be obtained form glycine and alanine

Watch Video Solution

15. Define enzymes.

Watch Video Solution

16. Write the structure of $\alpha - D(+)$ glucophyranose.

View Text Solution

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Answer: d

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Watch Video Solution

40. Define enzymes.

Watch Video Solution

41. (i) Write the structure of alpha-D(+) glucopyranose.

(ii) What happens when fructose is treated with sodium amalgam and water ?

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42. What are different types of RNA which are found in cell?

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43. Write a note on formation of α-helix.

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44. What are the functions of lipids in living organism ?

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Additional Questions And Answers Choose The Correct Answer 1 Mark

1. Which among the following is called fruit sugar?

A. Glucose

B. Fructose

C. Sucrose

D. Maltose

Answer:

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2. Disaccharides have general formula

A. $C_n(H_2O)_n$

B. $(CO_2 \_ (n)H_n$

C. $C_n(H_2O)_{n-1}$

D. $C_n(H_2O)_{2n-1}$

Answer:

Watch Video Solution

3. Name the base present only in RNA

A. adenine

B. guanine

C. uracil

D. thymine

Answer:

Watch Video Solution

4. Which is a monosaccharide among the following?

A. Sucrose

B. Cellulose

C. Maltose

D. Glucose

Answer:

Watch Video Solution

5. Identify the reducing sugar.

A. Sucrose

B. Cellulose

C. Starch

D. Glucose

Answer:

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6. Sucrose is not

A. a di-saccharide

B. a non-reducing sugar.

C. hydrolysed to only glucose

D. hydrolysed to glucose & fructose

Answer:

Watch Video Solution

7. Sucrose contains glucose and fructose linked by

A. $C_1 - C_1$

B. $C_1 - C_2$

C. $C_1 - C_4$

D. $C_1 - C_6$

Answer: A::B::C

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8. Glucose is not oxidised to gluconic acid by

A. Bra_2 / H_2O

B. Fehling's solution

C. Tollen's reagent

D. Conc.HNO_3

Answer:

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9. Inversion of sucrose refers to

A. oxidation of sucrose

B. reduction of sucrose

C. hydrolysis of sucrose to glucose and fructose

D. polymerisation of sucrose

Answer:

 Watch Video Solution

10. The amino acid without chiral carbon is

A. Glycine

B. Alanine

C. Proline

D. Tyrosine

Answer:

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11. The building block of proteins are

A. α hydroxy acid

B. α - amino acids

C. $B\eta$-hydroxy acids

D. $B\eta$-amino acids.

Answer:

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12. Which is not true of amino acid ?

A. amino acid forms zwitter ion

B. has isoelectric point

C. dual behaviours

D. amino acid is insoluble in NaOH solution

Answer:

Watch Video Solution

13. Two amino acids say A, B react to giv

A. two dipeptides

B. three dipeptides

C. four dipeptides

D. only one

Answer:

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14. A dipeptide does not have

A. two peptide units

B. portions of two amino acids

C. an amino group

D. salt like structure

Answer:

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15. Proteins are not sensitive to

A. acids

B. bases

C. elevated temperature

D. water

Answer:

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16. Denaturation does not involve

A. breaking up of H-bonding in proteins

B. the loss of biological action of enzyme

C. he loss of secondary structure.

D. loss of primary structure of proteins

Answer:

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17. Specificity of enzyme is due to

A. the sequence of amino acids

B. secondary structure

C. tertiary structure

D. all of the above

Answer:

View Text Solution

18. Ultimate products of hydrolysis of proteins is

A. aniline

B. aliphatic acid

C. amino acid

D. aromatic acid

Answer:

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19. Proteins are

A. polypeptides

B. polyacids

C. polyphenols

D. polyesters

Answer:

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20. Which of the following contains a lipid?

A. Starch

B. Mineral oil

C. Edible oil

D. Peptide

Answer:

View Text Solution

21. Which among triglyceride the following contains ?

A. Wax

B. Cooking oil

C. Essential oil

D. Albumin

Answer:

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22. An example of a fatty acid obtained from a .cooking oil is

A. acetic acid

B. stearic acid

C. benzoic acid

D. oxalic acid

Answer:

Watch Video Solution

23. Which is not a saturated fatty acid?

A. Palmitic acid

B. Stearic acid

C. Oleic acid

D. Glyceric acid

Answer:

View Text Solution

24. Alkaline hydrolysis of cooking oil gives

A. soap

B. glycerol

C. fatty acid

D. both (a) and (b)

Answer:

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25. Hair and nail contains

A. cellulose

B. fat

C. keratin

D. lipid

Answer:

 Watch Video Solution

26. Important constituent of cell wall is

A. lipid

B. cellulose

C. protein

D. vitamin

Answer:

 Watch Video Solution

27. Sugar is/ are

A. sweet

B. crystalline solid

C. soluble in wate

D. all the above

Answer:

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28. Sucrose on hydrolysis gives

A. maltose

B. glucose and fructose

C. 2 molecules of maltose

D. starch

Answer:

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29. The oxide bridges through which a large number of monosaccharides are called

A. Peptide bond

B. hydrogen bond

C. nitrogen bond

D. glycosidic linkage

Answer:

Watch Video Solution

30. Fructose on reduction with HI/P gives

A. n-hexane

B. iso-hexane

C. 1° alcohol

D. no reaction

Answer:

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31. Starch when heated with enzyme diastase yields

A. glucose

B. sucrose

C. maltose

D. glycogen

Answer:

View Text Solution

32. The storage of energy in plants and animals are

A. oils and fats

B. proteins

C. carbohydrates

D. vitamins

Answer:

Watch Video Solution

33. Which prevents the loss of heat from our body?

A. Oil

B. Fat

C. Protein

D. Wax

Answer:

 Watch Video Solution

34. Pick out odd man out.

A. Wax

B. Starch

C. Glucose

D. Fructose

Answer:

Watch Video Solution

35. Carbohydrates are

A. polyhydroxy aldehydes

B. polyhydroxy ketones

C. polyhydroxy acids

D. both (a) and (b)

Answer:

Watch Video Solution

36. Identify the monosaccharide among the following

A. glucose

B. fructose

C. galactose

D. all the above

Answer:

 Watch Video Solution

37. Sugars that yield two to ten monosaccharide molecules on hydrolysis is

A. monosaccharides

B. disaccharides

C. oligosaccharides

D. polysaccharides

Answer:

Watch Video Solution

38. Raffinose on hydrolysis gives

A. tow monosaccharides

B. three monosaccharides

C. one disaccharide and one monosaccharide

D. two monosaccharides and one disaccharide

Answer:

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39. The tests that confirms the presence the aldehydic group is

A. reduction of Tollen's reagent to metallic silver.

B. reduction of Felings's solution of red cuprous oxide.

C. both (a) and (b)

D. non of the above

Answer:

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40. Carbohydrates in which large number of monosaccharide units linked to each other by oxides bridges are

A. non-sugars

B. polysaccharides

C. tetrasaccharides

D. boht (a) and (b)

Answer:

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41. Fructose is not oxidised by bromine water indicates

A. the presence of aldehydic group

B. presence of ketonic group

C. absence of aldehydic group

D. absence ofketonic group

Answer:

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42. Disaccharides linked through C_1 of the first to C_4 or C_6 of the second component are

A. non-reducing

B. reducing

C. oxidising

D. none of the above

Answer:

Watch Video Solution

43. The amino acid that are synthesised by the tissues of the body are called

A. essential of the amino acid

B. non essential amino acids

C. zwitter ion

D. none of the above

Answer:

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44. Glucose reacts with acetic anhydride in the pressence of pyridine to give

A. monoacetate

B. diacetate

C. penta acetate

D. no reaction

Answer:

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45. Complete the following reaction.

(i) Glucose + acetic anhydride $\rightarrow$ _?_

(ii) What does the above reaction suggest?

A. di acetate

B. tetra accetate

C. penta acetate

D. hexa acetate

Answer:

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46. Which one of the following is a poly saccharide ?

A. Sucrose

B. Cellulose

C. Maltose

D. Reffinose

Answer:

Watch Video Solution

47. When cellulose is boiled with dilute H_2SO_4 it gives

A. D-glucose

B. D-Fructose

C. Dextrine

D. starch

Answer:

View Text Solution

48. Sucrose contains glucose and fructose linked by

A. $C_1 - C_1$

B. $C_1 - C_2$

C. $C_1 - C_4$

D. $C_1 - C_6$

Answer:

Watch Video Solution

49. On hydrolysis, the one of the following disaccharide will give a ketose and an aldose ?

A. maltose

B. sucrose

C. Lactose

D. all the above

Answer:

Watch Video Solution

50. Lactose on hydrolysis gives

A. two molecules of glucose

B. glucose and fructose

C. two molecules of fructose

D. glucose and galactose

Answer:

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51. At pH 12, glycine exists as

A. $H_3N^{\pm}CH_2 - COOH$

B. $H_2N - CH_2 - COO^-$

C. $H_2N - CH_2 - COOH$

D. $H_2N - CH_2 - COO^-$

Answer:

Watch Video Solution

52. Name the sugar present in RNA

A. D-ribose

B. 2-deoxy-D-ribose

C. D-raffinose

D. D-Glucose

Answer:

53. An example of non-protein amino acid is

A. Alanine

B. orinithine

C. proline

D. serine

Answer:

Watch Video Solution

54. Which of the following polysaccharide is found in the liver and muscles of animals ?

A. cellulose

B. glycogen

C. Starch

D. heparin

Answer:

Watch Video Solution

55. Pick the vitamin among the following acids ?

A. Ascorbic acid

B. Acetic acid

C. Cinnamic acid

D. Aspartic acid

Answer:

Watch Video Solution

56. Which among the following bases in not found in RNA ?

A. cytosine

B. guanine

C. uracil

D. thymine

Answer:

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Additional Questions And Answers Fill In The Blanks

1. Ribulose is ..... type of sugar

A. Aldopentose

B. Ketotetrose

C. Ketopentose

D. Aldotetrose

Answer:

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2. Sucrose is commonly known as _____.

A. fruit sugar

B. table sugar

C. grape sugar

D. table salt

Answer:

Watch Video Solution

3. The disaccharide found in milk of mammals and referred as milk sugar is _____.

A. Lactose

B. Engthrose

C. galactose

D. Erythrulose

Answer:

Watch Video Solution

4. Sprouting barley is the main source of ___ sugar.

A. glucose

B. fructose

C. cellulose

D. maltose

Answer:

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5. Starch contains 20% of_____ and 80% of _____.

A. ribulose, amylose

B. mylopectin, amylose

C. amylose, amylopectin

D. amylopectin, ribulose

Answer:

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6. _____is called animal starch

A. cellulose

B. heparin

C. glycogen

D. hyaluronic acid

Answer:

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7. _____ enzyme catalyses the hydrolysis of sucrose.

A. glycosidase

B. cellulase

C. lactase

D. Sucrase

Answer:

Watch Video Solution

8. Lipids act as _____in fat metabolism.

A. emulsifier

B. ester linkage

C. substrate

D. both (b) and (c)

Answer:

View Text Solution

9. Deficiency of vitamin D causes _____.

A. neurological dysfunction

B. pellagra

C. Beri-Beri

D. Rickets

Answer:

Watch Video Solution

10. Pyridoxine is _____.

A. vitamin B_6

B. vitamin B_7

C. vitamin B_9

D. vitamin B_5

Answer:

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11. Insulin is an example of ___ hormone.

A. paracrine

B. endocrine

C. autocrine

D. none of the above

Answer:

Watch Video Solution

12. Amino acids . are linked covalently by_____ bonds.

A. hydrogen

B. Co-ordinate

C. both (a) and (b)

D. peptide

Answer:

Watch Video Solution

13. The general formula of carbohydrates is _____.

A. $C_n(H_2O)$

B. $C_n(H_2O)_n$

C. $C(H_2O)_n$

D. $H(CO_2)$

Answer:

Watch Video Solution

14. The number of asymmetric carbon atoms present in glucose is _____.

A. 3

B. 4

C. 5

D. 6

Answer:

Watch Video Solution

15. The number of optical isomers depend on _____.

A. number of chiral carbon

B. number of carbon present

C. number of oxygen present

D. both (b) and (c)

Answer:

Watch Video Solution

16. The number of optical isomers depend on _____.

A. 2^{n+2}

B. 2^{n+2}

C. 2^{n}

D. $2^{n/2}$

Answer:

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17. An example of disaccharide is _____

A. Fructose

B. Glucose

C. Lactose

D. Starch

Answer:

Watch Video Solution

18. Ribose is _____

A. Ketopentose

B. Ketotetrose

C. Aldotriose

D. Aldopentose

Answer:

Watch Video Solution

19. Glucose reacts with hydroxylamine to give _____.

A. Glucose oxime

B. Glucose cyanohydrin

C. Gluconic acid

D. saccharic acid

Answer:

Watch Video Solution

20. Honey is a mixture of _____.

A. glucose and fructose

B. glucose, fructose and sucrose

C. glucose and galactose

D. glucose, fructose and galactose

Answer:

Watch Video Solution

21. With iodine, amylose give ___ colour.

A. yellow

B. purple

C. green

D. blue

Answer:

 Watch Video Solution

22. The enzyme that can hydrolyse cellulose is/ are_____.

A. glycosidases

B. cellulases

C. both (a) and (b)

D. neither (a) nor (b)

Answer:

 Watch Video Solution

23. _____ act as a shok absorber and lubricant.

A. glycogen

B. Ribose

C. starch

D. hyaluronate

Answer:

View Text Solution

24. _____ is an example of non-protein amino acid.

A. Orinithine

B. Glycine

C. Alanine

D. Lysine

Answer:

Watch Video Solution

25. _____ is an example of fibrous protein.

A. Keratin

B. collagen

C. myoglobin

D. both (a) and (b)

Answer:

Watch Video Solution

26. The vitamin used in the building of collagen is _____.

A. Vitamin A

B. Vitamin C

C. Vitamin E

D. Vitamin K

Answer:

Watch Video Solution

27. Vitamin B_2 is called _____.

A. Retinol

B. folic acid

C. Ascorbic acid

D. Riboflavin

Answer:

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28. _____ carries genetic information from DNA to the ribosomes for protein synthesis.

A. mRNA

B. tRNA

C. yRNA

D. DNA

Answer:

Watch Video Solution

29. Glucose reacts with acetic anhydride in the pressence of pyridine to give

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B. tetra acetate

C. penta acetate

D. hexa acetate

Answer:

Watch Video Solution

30. A mixture of D (+)glucose and D (-) fructose is known as _____.

A. cane sugar

B. sweetless sugar

C. invert sugar

D. starch sugar

Answer:

Watch Video Solution

31. The number of asymmetric carbon atoms present in glucose and fructose are _____ .

A. 3,4

B. 4,3

C. 4,5

D. 5,4

Answer:

Watch Video Solution

32. Oxidation of gluconic acid with nitric acid gives _____.

A. saccharic acid

B. CO_2 and water

C. acetic acid

D. maltose

Answer:

Watch Video Solution

33. Fructose when treated with HCN and subjected to hydrolysis followed by reduction gives_____.

A. sorbitol

B. mannitol

C. hexanoic acid

D. 2-methyl he,x:anoic acid

Answer:

View Text Solution

34. The zwitter ion accepts and donates a proton at ___ and ___ pH values.

A. low and high

B. high and low

C. low and zero

D. high and 7

Answer:

View Text Solution

35. Lecithin is required for _____.

A. normal transport and utilization of other lipids

B. organization of cell structure

C. both (a) and (b)

D. none of the above

Answer:

View Text Solution

36. Disaccharides linked through the glycosidic carbon atoms of $C-(1)$ of glucose and C_2 of fructose are _____.

A. non-reducing

B. reducing

C. both (a) and (b)

D. neither (a). nor (b)

Answer:

Watch Video Solution

37. Amino acids are bifunctional containing _____ group.

A. CHO and COOH

B. OH and COOH

C. NH_2 and COOH

D. NO_2 and COOH

Answer:

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38. Nucleic acid is made up of _____.

A. an organic base

B. a sugar unit

C. phosphoric acid

D. all of these

Answer:

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39. The precipitation of protein is called _____.

A. peptisation

B. denaturation

C. renaturation

D. none of these

Answer:

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40. Sorbitol and Mannitol are____ .

A. isomers

B. polymers

C. epimers

D. dimers

Answer:

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41. The optically inactive amino acid is _____.

A. Glycine

B. Alanine

C. proline

D. phenyl alaine

Answer:

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42. proteins are found to have two different type of secondary sturctures, α-helix and β pleated sheet structure α-helix structure of protein is stabilised by _____.

A. Peptide bond

B. vander Waals forces

C. hydrogen bonds

D. dipole - dipole interaction

Answer:

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43. Proteins are polypeptide chains made up of amino acids connected through peptide bonds. This sequence of amino acid is said to be _____ structure of proteins.

A. primary

B. secondary

C. tertiary

D. quaternary

Answer:

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44. Cholesterol is an example of _____ .

A. protein

B. vitamin

C. carbohydrate

D. lipid

Answer:

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45. Primary structure of proteins refer to _____ .

A. amino acid present

B. the shape of protein molecule

C. the peptide bond

D. the sequence of amino acid

Answer:

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46. The sugar unit present in nucleic acid is _____.

A. a hexose

B. tetrose

C. pentose

D. glucose

Answer:

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47. Hereditary traits are carried by _____.

A. nucleic acid

B. protein

C. lipid

D. carbohydrate

Answer:

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48. Penta hydroxy hexanone is _____.

A. an aldo hexose

B. a ketohexose

C. an aldo pentose

D. a ketopentose

Answer:

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49. The properties of protein are determined by _____.

A. nature of the amino acids

B. the position of NH_2 group

C. the position of COOH group

D. all

Answer:

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50. In acidic solution an amino acid, when placed in an electric field _____.

A. moves towards cathode

B. moves towards the anode

C. dissociates to cation and anion

D. does not move either towards the cathode or anode

Answer:

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51. Alanyl glycine is _____.

A. dipeptide

B. tripephide

C. polypeptide

D. nucleic acid

Answer:

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52. The precipitation of protein is called _____.

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53. The helical structure of protein is stabilised by _____.

A. peptide bonds

B. disulphide bonds

C. hydrogen bonds

D. Vanderwaals inter action

Answer:

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54. Hydrolysis of cellulose yields _____.

A. D - glucose

B. amylose and amylopectin

C. D - glucose and D galactose

D. D - Fructose

Answer:

Watch Video Solution

55. The base present in nucleic acids _____ .

A. purine base

B. pyrimidine base

C. an inorganic base

D. both (a) & (b)

Answer:

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Additional Questions And Answers Assertion Reason

1. Assertion : Sucrose is a disaccbaride

Reason : Sucrose on hydrolysis yields glucose and fructose

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2. Assertion : Vitamin D can be stored in our body .

Reason : Vitamin Dis a fat soluble vitamin

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3. Assertion : Except glycine all other amino acide are optiocally inactive.

Reason : Other amino acids do not have chiral carbon.

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4. Assertion : When protein is exposed to a higher temperature, it losses its three dimensional structure.

Reason : Protein. when _denatured does not lose its biological function.

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5. Assertion : Proteins are polymers of α - amino acids

Reason : Glycine is optically 'inactive amino acid.

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6. Assertion : When a starch is heated between 200 - $250^{\circ} C$ changes to dextrin.

Reason : Starch solution gives a blue : I colour with iodine.

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Additional Questions And Answers Correct Statement S

1. Which among the following is correct regarding nucleic acids?

A. Hydrolysis of DNA and RNA gives two components, a pentose sugar and phosphate group

B. Both DNA and RNA have thymine as one of the pyrimidines

C. The two major purine bases of both RNA and DNA are adenine and guanine.

D. The pyrimidine base present only in DNA is uracil.

Answer:

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Additional Questions And Answers Incorrect Statement S

1. Pick out the wrong statement regarding amino acids.

A. They are derived from proteins

B. They are bifunctional

C. All amino acids are optical isomers

D. They exist as zwitter ions

Answer:

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2. Which of the following is incorrect regarding glucose?

A. It has one $-CH_2OH$ group

B. It contain one -CHO group

C. It contains one Keto group

D. It has four CHOH group

Answer:

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3. Which among the following is incorrect with respect to starch?

A. Starch is a polymer of glucose molecules

B. Potatoes are rich source of starch

C. The glucose molecules are linked by α (1,4) glycosidic bonds

D. Starch contains $20\,\%$ amylopectin and $80\,\%$ of amylase.

Answer:

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4. Pick out the wrong statement among the following.

A. Consumption of liver oil, carrot, papaya etc prev.ents night blindness

B. Vitamin B_{12} is cobalamin

C. Deficiency of vitamin E causes scurvy

D. Vitamin K is responsible for blood clotting

Answer:

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5. Select the incorrect statement among the following

A. Hemoglobin is soluble in water

B. α - Kela tin is soluble in water

C. Cellulose is a polymer of glucose

D. Chlorophyll is responsible for the synthesis of carbohydrates in plants.

Answer:

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6. Which of the following statements is incorrect about enzyme catalysis?

A. Enzymes are mostly proteinous in nature

B. Enzyme action mostly proteinous in nature

C. Enzymes are denatured by ulteaviolet rays and at hight temperature

D. Enzymes are least reactive at optimum temperature.

Answer:

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Additional Questions And Answers Match The Following

1. 

A. $\begin{matrix} A & B & C & D \\ iv & iii & ii & i \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ iii & iv & ii & i \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ iii & i & iv & ii \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ ii & iv & i & iii \end{matrix}$

Answer:

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Additional Questions And Answers Very Short Answer

1. List the expected products of hydrolysis of lactose.

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2. $6CO_2 + 6H_2O \xrightarrow{\text{Sunlight}} C_6H_{12} + 6O_2$ Name the above process.

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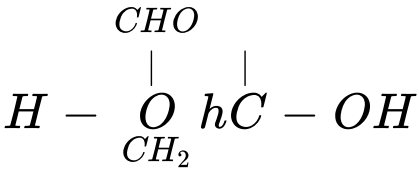
3. Identify whether the following compounds · are D or L isomers



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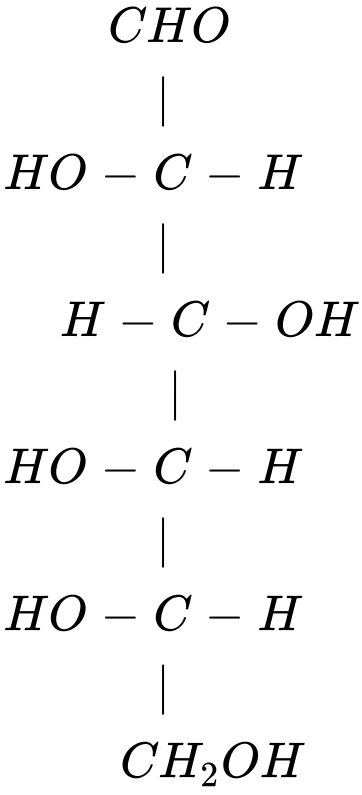
4. Identify whether the following compounds · are D or L isomers



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5. A sugar contains 4 carbon atoms and the functional group lg -CHO group. Identify the type of sugar and give an example for it.

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6. What is epimerisation?

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7. Give the major and minor product when glucose is reduced with Cone. HI/P.

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8. What is meant by blood sugar?

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9. What are anomers? Give example.

Watch Video Solution

10. What are epimers?

Watch Video Solution

11. How is fructose prepared from inulin?

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12. Define mutarotation.

View Text Solution

13. Sucrose is a non reducing sugar. Justify.

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14. Why are polysaccharides called non-sugars?

Watch Video Solution

15. Draw the, structure of maltose.

Watch Video Solution

16. Write a note on homo and heteropoly saccharides with examples.

Watch Video Solution

17. Why cellulose is not used as food by humans ?

Watch Video Solution

18. What are essential and non-essential amino acids? Give examples.

Watch Video Solution

19. Distinguish between fibrous and globular proteins.

Watch Video Solution

20. Define isoelectric point.

Watch Video Solution

21. Give the uses of cellulose.

Watch Video Solution

22. How are lipids classified ?

23. What are vitamins?

24. A child is diagnosed with bleeding gums, is likely to have the deficiency of which vitamin?

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25. Name the vitamin responsible for coagulation of blood.

Watch Video Solution

26. Why is glucose known as dextrose?

Watch Video Solution

27. Answer the questions given below with regard to vitamin D.

(i) Main source

(ii) Function

(iii) Diseases caused due to its deficiency.

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28. Why vitamin C cannot be stored in our body?

Watch Video Solution

29. Name the disease caused by the deficiency of Vitamin B_1

Watch Video Solution

30. Name the two types of nucleic acids.

Watch Video Solution

31. Define nucleotide.

Watch Video Solution

32. Write the main structural difference between RNA and DNA of the four bases, name those which are common to both RNA and DNA.

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33. The two strands in DNA are not identical but are complementary explain.

Watch Video Solution

34. Distinguish between nucleosides and nucleotides.

Watch Video Solution

35. Write a note on rRNA.

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36. What is the main function of tRNA?

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37. What are the biological functions of nucleic acids?

Watch Video Solution

38. What is the action of cone. HI on glucose?

Watch Video Solution

39. What do you mean by zwitter ion?

Watch Video Solution

40. How are disaccharides classified? . Give example.

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41. Glucose dissolves in water to give a neutral solution. What information do you get from

this with regard to the structure of glucose?

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42. Name the two constituent of starch.

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43. What is the significance of the isoelectric point of a protein?

View Text Solution

44. What is renaturation?

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45. Explain mutarotation in glucose.

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46. What do you mean by transcription?

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47. Name the base present in RNA but not in DNA.

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48. Give an example of an amino acid containing sulphur. Write its zwitter ion form.

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49. Differentiate between Keratin and Insulin.

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50. The sucrose that we eat in daily life is converted into glucose and fructose. Name . the enzyme which facilitates this chemical reaction.

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Additional Questions And Answers Short Answer

1. Explain the reaction which Indicates the presence of ketonk group In fructose.

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2. What are amino acid? Explain essential and non - essential amino acids.

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3. Write the product formed when HCN reacts with glucose.

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4. Write a reaction that indicates the presence of an aldehyde group in glucose.

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5. Complete the following reaction.

(i) Glucose + acetic anhydride $\rightarrow$ _?_

(ii) What does the above reaction suggest?

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6. Give the structure of α - D - glucose and β - D - glucose.

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7. Give example of epimers.

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8. Draw the structure of α -D fructose furanose and β -D fructose furanose.

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9. Justify the presence of kefo group inC_2 in fructose.

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10. Why sucrose is called invert sugar?

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11. Give the structure of lactose and show it is

a· reducing sugar.

Watch Video Solution

12. Explain the classification of proteins based on their structure.

Watch Video Solution

13. Distinguish between fat soluble and water soluble vitamins.

Watch Video Solution

14. What are carbohydrates ? Give two example.

Watch Video Solution

15. Amino acids are amphoteric in nature. Explain.

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16. Write a note on tertiary structure of proteins.

Watch Video Solution

17. How do enzymes help a substrate to be attacked by the reagent effectively?

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18. Give the sources of vitamin A and E and list the deficiency disease caused by lack of vitamin A and E in diet.

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19. Give the structure of sucrose.

Watch Video Solution

20. What is starch? What are the ultimate hydrolysis products?

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21. Write the monomers of the following sugars and explain how they are linked.

(i) Sucrose

(ii) Maltose

(iii) Lactose

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22. Write note on oligosaccharides and polysaccharides with examples.

Watch Video Solution

23. Name the two components starch is made up of. How do they differ from each other.

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24. Name two water soluble vitamins, their sources, function and diseases caused due to their deficiency in diet.

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Additional Questions And Answers Long Answer

1. Give the uses of carbohydrates.

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2. Elucidate the structure of glucose.

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3. Elucidate the structure of fructose.

View Text Solution

4. Define the following terms as related to proteins

(i) Primary structure

(ii) Secondary structure

(iii) β - strands

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5. List the importance of proteins in biological processes.

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6. Explain the classification of hormones.

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7. Outline the classification of carbohydrates giving example for each.(OR) How are carbohydrates classified?

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8. Distinguish glucose from fructose.

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9. Show the formation of a peptide bond with an equation. (OR) What is a peptide bond? Illustrate the formation of a peptide bond in glycin alanine.

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Unit Test

1. The central dogma of molecular genetics states that the genetic information flows from

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2. Which of the following vitamins is water soluble?

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3. The pyrimidine bases present in DNA are

Watch Video Solution

4. A dipeptide does not have

Watch Video Solution

5. Sugars that yield two to ten monosaccharide molecules on hydrolysis is

Watch Video Solution

6. Write the Zwitter ion structure of alanine.

Watch Video Solution

7. What are hormones? Give examples.

Watch Video Solution

8. Write a short note on peptide bond.

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9. Give any three difference between DNA and RNA.

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