

**C****DF-3032**

**B. Sc. (Bioscience) (Sem. III) Examination**  
**March / April – 2016**  
**301 : Biochemistry**

Time : 2 Hours]

[Total Marks : 50

**Instructions :**

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
B. Sc. (BIOSCIENCE) (SEM. 3)

Name of the Subject :  
301 : BIOCHEMISTRY

Subject Code No. : 3 0 3 2 Section No. (1, 2,.....) : Nil

Seat No. :

Student's Signature

- (2) There are total-50 multiple choice questions (MCQ) in question paper.
- (3) All questions are compulsory.
- (4) Select the best one from given options to give an answer.
- (5) Answer the questions only into the OMR answer-sheet which is given to you.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ  
O.M.R. Sheetની પાછળ છાપેલ છે.  
Important instructions to fillup O.M.R. Sheet  
is given back side of provided O.M.R. Sheet.***

- 1 Tertiary structure is maintained by
  - (A) Di-sulphide bond
  - (B) All of these
  - (C) Peptide bond
  - (D) Hydrogen bond
- 2 Denaturation of proteins results in
  - (A) Destruction of hydrogen bonds
  - (B) Irreversible changes in the molecule
  - (C) Disruption of primary structure
  - (D) Breakdown of peptide bonds
- 3 Which of the following is not an amino acid ?
  - (A) Glutamine
  - (B) Palmitic acid
  - (C) Glutamic acid
  - (D) Aspartic acid
- 4 At neutral pH, a mixture of amino acids in solution would be predominantly:
  - (A) Positive and monovalent
  - (B) Hydrophobic
  - (C) Dipolar ions
  - (D) Nonpolar molecules
- 5 An aromatic amino acid is
  - (A) Taurine
  - (B) Arginine
  - (C) Lysine
  - (D) Tyrosine
- 6 Non essential amino acids
  - (A) Have no role in the metabolism
  - (B) May be synthesized in the body in diseased states
  - (C) Are not components of tissue proteins
  - (D) May be synthesized in the body from essential amino acids
- 7 An example of scleroprotein is
  - (A) Glutenin
  - (B) Ovoglobulin
  - (C) Zein
  - (D) Keratin
- 8 Proteins are soluble in
  - (A) Anhydrous alcohol
  - (B) Benzene
  - (C) Anhydrous acetone
  - (D) Aqueous alcohol
- 9 Tertiary structure of a protein describes
  - (A) Loop regions of proteins
  - (B) The ways of protein folding
  - (C) The order of amino acids
  - (D) Location of disulphide bonds
- 10 Protein + prosthetic group = \_\_\_\_\_.
  - (A) Globular protein
  - (B) Fibrous protein
  - (C) Simple protein
  - (D) Conjugated protein

- 11 Which the following is the word regarding steroids is not correct ?
- (A) Glycolipid
  - (B) Ergosterol
  - (C) Cortisone
  - (D) Progesterone
- 12 Which of the following statement regarding to properties of starch is not correct ?
- (A) Soluble in water.
  - (B) Not sweet.
  - (C) Present of amylose and amylopectin chains.
  - (D) Stored food in plants.
- 13 Which one of the following pairs is not correctly matched ?
- (A) Hexose sugar-Fructose -Aldo sugar.
  - (B) Triose sugar-Dihydroxy acetone -Keto sugar.
  - (C) Triose sugar-Glyceraldehydes-Aldo sugar.
  - (D) Pentose sugar-Ribulose-Keto sugar.
- 14 Which the following pair regarding to biological importance of carbohydrates is not correctly matched ?
- (A) Ribose sugar-Structural components of ATP.
  - (B) Glucose-The most widely used in respiration.
  - (C) Cellulose-Forms the plant cell wall.
  - (D) Glycogen -Reserve food in animals.
- 15 Which the following regarding to examples of Keto sugar is not correctly?
- (A) Ribose sugar
  - (B) Dihydroxy acetone
  - (C) Fructose
  - (D) Ribulose

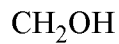
- 16 Which of the following pairs is not correctly matched ?
- (A) Waxes – Monohydroxy alcohol + 1 Fatty acid.
  - (B) Cortisone – Present of –COOH or keto group
  - (C) Butter – Glycerol + 3 Fatty acids.
  - (D) Glycolipid – Glycerol + Lipid.
- 17 Which of the following option is not correctly for glucose molecule ?
- (A) It can pass through the cell membrane
  - (B) Found in the juice of fruits.
  - (C) It is Keto hexoses sugar.
  - (D) Hydrolysis of a molecule of maltose
- 18 Which one of the following pairs is not correctly matched ?
- (A) Fructose – Galactose
  - (B) Ribose – Deoxyribose.
  - (C) Galactose – Lactose
  - (D) Fructose – Glucose
- 19 Which one of the following pairs is not correctly matched ?
- (A) Phospholipid – plasma membrane.
  - (B) Cortisone – sterols.
  - (C) Triose sugar – DHAP.
  - (D) Starch – amylase and amylopectin.
- 20 Which one of the following pairs is correctly matched ?
- (A) Deoxyribose -RNA.
  - (B) Glycogen -Forms the plant cell wall.
  - (C) Fats -Long saturated Fatty acids chain.
  - (D) Derivatives of Lipid -Vitamins A, D, E.

- 21 Lipids are relatively insoluble in....
- (A) Benzene
  - (B) Ether
  - (C) Chloroform
  - (D) Water
- 22 Which of the following statement regarding the Fatty acid is not correct?
- (A) Butyric acid and palmitic acids are Saturated fatty acids
  - (B) Crotonic acid and oleic acid are Unsaturated fatty acids.
  - (C) Unsaturated fatty acids are two successive carbon atoms at certain places therein are linked by a double bond.
  - (D) Saturated fatty acids are capable of accepting hydrogen or halogen atoms.
- 23 Which of the following statement regarding to Lipid is not correct ?
- (A) Lipids are the important constituents of the diet because of their high energy value.
  - (B) Lipids are formed of C, H and O atoms, The number of H atom is less than that of O.
  - (C) Lipids are of three types i Simple ii Complex iii Steroids
  - (D) The lipids are a heterogenous group of compounds related to Fatty acids.
- 24 Which of the following statement regarding to Amylase is not correct ?
- (A) Amylase occur in more amount in starch.
  - (B) None of these
  - (C) Unbranched polysaccharide chains made up of glucose units.
  - (D) Amylase occur in the constitution of glycogen.
- 25 Which of the following options suggest number of carbons in descending order ?
- |            |                 |
|------------|-----------------|
| P Fructose | Q Palmitic acid |
| R Ribulose | S Oleic acid.   |
- (A) S - Q - P-R
  - (B) S -P - Q -R
  - (C) R- Q - P - S
  - (D) R-P- Q - S
- 26 In the formation of triglyceride, glycerol get linked with any Fatty acids by..
- (A) -CHO
  - (B) >C=O
  - (C) -NH<sub>2</sub>
  - (D) -COOH

27 Which of the following is an aldose sugar ?

- (A) both Glucose and Galactose
- (B) None of these
- (C) Glucose
- (D) Galactose

28 Which of the following structure show the types of sugar ?



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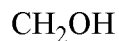
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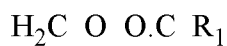


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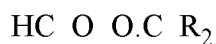


- (A) Keto triose sugar
- (B) Keto pentose sugar
- (C) Aldo triose sugar
- (D) Aldo pentose sugar

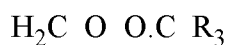
29 Which molecules are the consist of a following molecule structure ?



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- (A) 3 glycerol + 3 fatty acid
- (B) glycerol + fatty acid
- (C) 3 glycerol + 1 fatty acid
- (D) 1 glycerol + 3 fatty acid

30 Which of the following the general formula of Carbohydrate ?

- (A)  $(\text{C}_6\text{H}_{10}\text{O}_5)_n$
- (B) None of these
- (C)  $\text{C}_n(\text{H}_2\text{O})_m$
- (D)  $\text{C}_n(\text{H}_2\text{O})_{n-1}$

- 31 The general formula of monosaccharides is  
 (A)  $C_nH_2O_{2n}$   
 (B)  $C_nH_{2n}O_{2n}$   
 (C)  $C_nH_{2n}O_n$   
 (D)  $C_{2n}H_2O_n$
- 32 The aldose sugar is  
 (A) Erythrulose  
 (B) Dihydroxyacetone  
 (C) Glycerose  
 (D) Ribulose
- 33 Polysaccharides are  
 (A) Proteins  
 (B) Oils  
 (C) Polymers  
 (D) Acids
- 34 Which of the following is a non-reducing sugar ?  
 (A) Lactose  
 (B) Trehalose  
 (C) Isomaltose  
 (D) Maltose
- 35 Mutarotation refers to change in  
 (A) Conductance  
 (B) Chemical properties  
 (C) pH  
 (D) Optical rotation
- 36 The sugar found in milk is  
 (A) Fructose  
 (B) Lactose  
 (C) Galactose  
 (D) Glucose
- 37 Sucrose consists of  
 (A) Glucose + galactose  
 (B) Glucose + mannose  
 (C) Glucose + glucose  
 (D) Glucose + fructose
- 38 A positive Benedict's test is not given by  
 (A) Maltose  
 (B) Glucose  
 (C) Sucrose  
 (D) Lactose
- 39 Osazones are not formed with the  
 (A) Sucrose  
 (B) Lactose  
 (C) Glucose  
 (D) Fructose
- 40 A carbohydrate, commonly known as dextrose is  
 (A) D-Glucose  
 (B) Glycogen  
 (C) Dextrin  
 (D) D-Fructose

- 41 Which of the following is an epimeric pair ?  
 (A) Galactose and mannose  
 (B) Lactose and maltose  
 (C) Glucose and fructose  
 (D) Glucose and galactose
- 42 Mucopolysaccharides are  
 (A) Proteins  
 (B) Amino acids  
 (C) Homopolysaccharides  
 (D) Heteropolysaccharides
- 43 All proteins contain the  
 (A) 300 Amino acids occurring in nature  
 (B) Only a few amino acids  
 (C) Same 20 amino acids  
 (D) Different amino acids
- 44 Sulphur containing amino acid is  
 (A) Valine  
 (B) Asparagine  
 (C) Methionine  
 (D) Leucine
- 45 Mother of a mal nourished child has been instructed to include a complete protein in diet for her child, which out of the followings proteins should be recommended?  
 (A) Soy Protein (B) Milk  
 (C) Pulses (D) Wheat
- 46 Which out of the followings is not a fibrous protein ?  
 (A) Fibrinogen  
 (B) Keratin  
 (C) Carbonic anhydrase  
 (D) Collagen
- 47 Which of the following is not an aromatic amino acid ?  
 (A) Tryptophan  
 (B) Tyrosine  
 (C) Serine  
 (D) Phenylalanine
- 48 Which of the following amino acid is polar ?  
 (A) Leucine (B) Isoleucine  
 (C) Valine (D) Histidine
- 49 Which of the following is not a type of protein secondary structure ?  
 (A) Third level folding to form small globules  
 (B) Turns  
 (C)  $\beta$ -pleated sheet  
 (D)  $\alpha$ -helix
- 50  $\alpha$ -helix has  
 (A) 3.8 amino acid residues/turn  
 (B) 3.0 amino acid residues/turn  
 (C) 3.4 amino acid residues/turn  
 (D) 3.6 amino acid residues/turn