

**D****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.

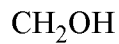
*O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ  
O.M.R. Sheetની પાછળ છાપેલ છે.  
Important instructions to fillup O.M.R. Sheet  
is given back side of provided O.M.R. Sheet.*

- 1 Lipids are relatively insoluble in....
- (A) Water
  - (B) Benzene
  - (C) Ether
  - (D) Chloroform
- 2 Which of the following statement regarding the Fatty acid is not correct?
- (A) Saturated fatty acids are capable of accepting hydrogen or halogen atoms.
  - (B) Butyric acid and palmitic acids are Saturated fatty acids
  - (C) Crotonic acid and oleic acid are Unsaturated fatty acids.
  - (D) Unsaturated fatty acids are two successive carbon atoms at certain places therein are linked by a double bond.
- 3 Which of the following statement regarding to Lipid is not correct ?
- (A) The lipids are a heterogenous group of compounds related to Fatty acids.
  - (B) Lipids are the important constituents of the diet because of their high energy value.
  - (C) Lipids are formed of C, H and O atoms, The number of H atom is less than that of O.
  - (D) Lipids are of three types i Simple ii Complex iii Steroids
- 4 Which of the following statement regarding to Amylase is not correct ?
- (A) Amylase occur in the constitution of glycogen.
  - (B) Amylase occur in more amount in starch.
  - (C) None of these
  - (D) Unbranched polysaccharide chains made up of glucose units.
- 5 Which of the following options suggest number of carbons in descending order ?
- |            |                 |
|------------|-----------------|
| P Fructose | Q Palmitic acid |
| R Ribulose | S Oleic acid.   |
- (A) R-P- Q - S
  - (B) S - Q - P-R
  - (C) S -P - Q -R
  - (D) R- Q - P - S
- 6 In the formation of triglyceride, glycerol get linked with any Fatty acids by..
- (A)  $-\text{COOH}$
  - (B)  $-\text{CHO}$
  - (C)  $>\text{C}=\text{O}$
  - (D)  $-\text{NH}_2$

7 Which of the following is an aldose sugar ?

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

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



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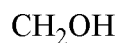
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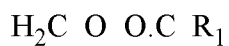


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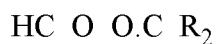


- (A) Aldo pentose sugar
- (B) Keto triose sugar
- (C) Keto pentose sugar
- (D) Aldo triose sugar

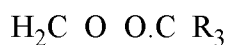
9 Which molecules are the consist of a following molecule structure ?



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

10 Which of the following the general formula of Carbohydrate ?

- (A)  $\text{C}_n(\text{H}_2\text{O})_{n-1}$
- (B)  $(\text{C}_6\text{H}_1\text{O}_5)_n$
- (C) None of these
- (D)  $\text{C}_n(\text{H}_2\text{O})_m$

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

- 21 Which of the following is an epimeric pair ?  
 (A) Glucose and galactose  
 (B) Galactose and mannose  
 (C) Lactose and maltose  
 (D) Glucose and fructose
- 22 Mucopolysaccharides are  
 (A) Heteropolysaccharides  
 (B) Proteins  
 (C) Amino acids  
 (D) Homopolysaccharides
- 23 All proteins contain the  
 (A) Different amino acids  
 (B) 300 Amino acids occurring in nature  
 (C) Only a few amino acids  
 (D) Same 20 amino acids
- 24 Sulphur containing amino acid is  
 (A) Leucine  
 (B) Valine  
 (C) Asparagine  
 (D) Methionine
- 25 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) Wheat (B) Soy Protein  
 (C) Milk (D) Pulses
- 26 Which out of the followings is not a fibrous protein ?  
 (A) Collagen  
 (B) Fibrinogen  
 (C) Keratin  
 (D) Carbonic anhydrase
- 27 Which of the following is not an aromatic amino acid ?  
 (A) Phenylalanine  
 (B) Tryptophan  
 (C) Tyrosine  
 (D) Serine
- 28 Which of the following amino acid is polar ?  
 (A) Histidine (B) Leucine  
 (C) Isoleucine (D) Valine
- 29 Which of the following is not a type of protein secondary structure ?  
 (A)  $\alpha$ -helix  
 (B) Third level folding to form small globules  
 (C) Turns  
 (D)  $\beta$ -pleated sheet
- 30  $\alpha$ -helix has  
 (A) 3.6 amino acid residues/turn  
 (B) 3.8 amino acid residues/turn  
 (C) 3.0 amino acid residues/turn  
 (D) 3.4 amino acid residues/turn

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

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

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