



HDA-003-103022 Seat No. _____

B. Sc. (Sem. III) (CBCS) Examination

November/December – 2017

Biochemistry - 301

(Biomolecules)

Faculty Code : 003

Subject Code : 103022

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (a) Answer in one or two sentences only : 4
- (1) Give the name of the most common monomer of carbohydrates.
 - (2) Giving example define anomers.
 - (3) State the name of storage carbohydrates in plant and animal cells.
 - (4) Define carbohydrate.
- (b) Answer any one of the following questions. 2
- (1) What do you understand by reducing and non-reducing sugars ?
 - (2) What do you understand by optical activity of sugars ?
- (c) Answer any one of the following questions : 3
- (1) Describe the formation of glycoside bond and give its significance.
 - (2) How carbohydrates are different from proteins and nucleic acids with respect to structure ?
- (d) Answer any one of the following questions : 5
- (1) Give an account of the structural configuration of monosaccharide, with special reference to glucose.
 - (2) Write a detailed note on polysaccharides with examples and their structures.
- 2 (a) Answer in one or two sentences only : 4
- (1) Define Glycolipid.
 - (2) Name good and bad serum lipoproteins.
 - (3) Name the components of TAG.
 - (4) Name the disease caused by increased deposition of cholesterol in arteries.

- (b) Answer any one of the following questions : **2**
 (1) Write functions of triglycerides.
 (2) How sphingophospholipids are different from glycerophospholipids ?
- (c) Answer any one of the following questions : **3**
 (1) What are the functions of cholesterol in human body ?
 (2) Write a short note on wax.
- (d) Answer any one of the following questions : **5**
 (1) Discuss classification of lipids with suitable examples.
 (2) Write in short about the different tests to check purity of fats and oils.
- 3** (a) Answer in one or two sentences only : **4**
 (1) Give example of chromoprotein.
 (2) Insulin is made up of how many polypeptide chains ?
 (3) Define denaturation of protein.
 (4) Explain Biuret reaction.
- (b) Answer any one of the following questions : **2**
 (1) Give the two types of protein based on the conformation.
 (2) What is dansyl chloride ? Give its mode of action.
- (c) Answer any one of the following questions : **3**
 (1) Write the biological importance of peptide with examples.
 (2) Draw structure of Aromatic amino acid.
- (d) Answer any one of the following questions : **5**
 (1) Write the various properties of proteins.
 (2) Explain the Edman's degradation and Sanger's reagent method.
- 4** (a) Answer in one or two sentences only : **4**
 (1) Give major difference between DNA and RNA.
 (2) Name the scientist who postulated $A + G = T + C$
 (3) Which proteins play role in packaging of DNA in nucleus ?
 (4) State difference between Nucleoside and Nucleotides.
- (b) Answer any one of the following questions : **2**
 (1) What do you understand by denaturation and renaturation of DNA ?
 (2) What would be the central Dogma for life ?
- (c) Answer any one of the following questions : **3**
 (1) Explain briefly about functional RNA.
 (2) Briefly give the structural features of A, B and Z DNA.

- (d) Answer any one of the following questions : **5**
- (1) Give the experimental evidences that proved DNA is genetic material.
 - (2) Explain Double Helical structure of DNA.
- 5** (a) Answer in one or two sentences only : **4**
- (1) Which compound suppresses the synthesis of haem ?
 - (2) Give the name of Vitamin B12.
 - (3) Give rich source of Riboflavin.
 - (4) Name the disease caused by deficiency of Vitamin E.
- (b) Answer any one of the following questions : **2**
- (1) Write about the deficiency disease of Vitamin A.
 - (2) What is porphyria ?
- (c) Answer any one of the following questions : **3**
- (1) Give the biological significance of porphyrin.
 - (2) Describe the characteristics and functions of Vitamin C.
- (d) Answer any one of the following questions : **5**
- (1) Write in detail about breakdown of haem.
 - (2) Describe about Vitamin-D.
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