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JAL-003-1013022 Seat No. _____

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

November – 2019

Biochemistry : Paper - 301

(Biomolecules)

Faculty Code : 003

Subject Code : 1013022

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 (a) Write the correct answer for the following question. **4**

(1) Define Mutarotation.

(2) Define Enantiomers.

(3) Give the name of Non-reducing Disaccharide_____.

(4) Give two example of four carbon sugars.

(b) Answer any one of the following questions : **2**

(1) What is the difference between maltose and isomaltose respect to glyosidic bond ?

(2) Which type of glyosidic bond present in sucrose ?

(c) Answer any one of the following questions : **3**

(1) Write a note on derivatives of monosaccharide.

(2) Write a note on sugar present in milk.

(d) Answer any one of the following questions : **5**

(1) What do you mean by optical isomer ? Explain types of isomers.

(2) Write a detail note on any heteropolysaccharides.

2 (a) Write the correct answer for the following questions : **4**

(1) Define Saponification.

(2) Define RM Number.

(3) Give the name of essential fatty acids.

(4) Give any two names of cholesterol derivatives.

(b) Answer any one of the following questions : **2**

(1) Write the structure of lecithin.

(2) What is the biological function of phospholipids ?

(c) Answer any one of the following questions : **3**

(1) What are the properties of triglycerols ?

(2) Write the structure and function of cholesterol.

(d) Answer any one of the following questions. **5**

(1) Write short note about the different tests to check purity of fat and oil.

(2) Describe the structure and function of Sphingophospholipid.

3 (a) Write the correct answer for the following questions. **4**

(1) Give the name of polar amino acid with positive R group.

(2) Explain Biuret reaction.

(3) Explain Ninhydrin reaction.

(4) Define Isoelectric pH of Amino acid.

(b) Answer any one of the following questions. **2**

(1) Why amino acids acts as an ampholytes ?

(2) Give the name of bonds present in protein structure.

(c) Answer any one of the following questions. **3**

(1) Write a note on denaturation of protein.

(2) Write a note on Sangers method.

(d) Answer any one of the following questions. **5**

(1) Write a structural classification of protein.

(2) Write a physical property of amino acids.

4 (a) Write the correct answer for the following questions. **4**

(1) Define Gene.

(2) Define Genome.

(3) Difference in Nucleotide and Nucleoside.

(4) Which RNA transfer amino acid to m-RNA for protein biosynthesis ?

(b) Answer any one of the following questions. **2**

(1) Why RNA does note obeyed Chargaff's rule ?

(2) Write the structure of Pyrimidine.

(c) Answer any one of the following questions. **3**

(1) Write a note on t-RNA.

(2) Write a note on central dogma.

(d) Answer any one of the following questions. **5**

(1) Write Griffith's experiment.

(2) Write the experimental evidence that proved DNA is genetic material.

5 (a) Write the correct answer for the following questions. 4

(1) Liver damage is caused due to the overdose of which vitamin ?

(2) _____ Vitamin act as a coenzyme in carboxylation reaction.

(3) Give the name of precursor components for porphyrin synthesis.

(4) What is the importance of Beta-carotene in human diet ?

(b) Answer any one of the following questions. 2

(1) Write a deficiency disease of Vitamin D.

(2) What is Porphyrin ?

(c) Answer any one of the following questions. 3

(1) Describe the characteristics and function of Vitamin B_{12}.

(2) Give the function and deficiency condition Vitamin C.

(d) Answer any one of the following questions. 5

(1) Describe Vitamin K.

(2) Write a detailed note on break down of heme.