



**PAQ-003-1192001** Seat No. \_\_\_\_\_

**M. Sc. (Micro) (Sem. II) (CBCS) Examination**

**August / September - 2020**

**Micro - 207 : Biochemistry**

**Faculty Code : 003**

**Subject Code : 1192001**

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

[Total Marks : 70

- 1 Answer any seven : (2 marks each) 14**
- (i) What is the importance of monosaccharides to a living cell?
  - (ii) State the differences between starch and cellulose.
  - (iii) What are lipids?
  - (iv) Enlist functions of proteins in the cell.
  - (v) What is alpha helix?
  - (vi) State the distinction between coenzymes and cofactors.
  - (vii) Define  $K_M$ .
  - (viii) State the net reaction for TCA.
  - (ix) What are the two key enzymes of ED Pathway?
  - (x) Name the three unique reactions in gluconeogenesis.
- 2 Answer any two of the following : (7 marks each) 14**
- (i) Give an account of beta-oxidation of fatty acids.
  - (ii) Describe the types and properties of mono- and di-saccharides.
  - (iii) Describe the classification and properties of simple and compound lipids.
- 3 Answer the following : (7 marks each) 14**
- (i) Describe quaternary structure of protein.
  - (ii) Give an account of amino acid properties.

**OR**

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**[ Contd....**

- 3** Answer the following : (7 marks each) **14**
- (i) Give an account of secondary structures of protein.
  - (ii) Explain Ramachandran plot.
- 4** Answer the following : (7 marks each) **14**
- (i) Give an account of enzyme classification.
  - (ii) Derive mathematical equation for Michaelis-Menten Constant.
- 5** Write a short note on any **two** of the following : **14**  
(7 marks each)
- (i) Feedback inhibition
  - (ii) Energy-rich compounds
  - (iii) Glycolysis
  - (iv) Anaplerotic reactions
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