



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

**M. Sc. (Microbiology) (W.E.F. 2016) (Sem. II)  
(CBCS) Examination**

**April / May - 2018**

**Micro-207 : Biochemistry**

**Faculty Code : 003**

**Subject Code : 1192001**

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

[Total Marks : 70

**Instructions :** All questions are compulsory. Support your answers with suitable illustrations where required.

**1** Answer Any **Seven** out of the following 10 Questions : **14**  
(2 Marks each)

- (1) What are epimeric sugars?
- (2) What are reducing and nonreducing sugars?
- (3) Draw the triose sugar in L- and D- form.
- (4) What are different functions of proteins in living systems?
- (5) Draw the structures of the aliphatic aminoacids.
- (6) Comment on the geometry of the peptide bond.
- (7) What are different criteria of enzyme classification?
- (8) What is Michaelis-Menten theory?
- (9) What are the different types of inhibitions of enzyme activity?
- (10) How pyruvate oxidatively decarboxylated to Acetyl-COA?

**2** Answer Any **Two** of the following : (7 marks each) **14**

- (a) Explain why lipids are better option as energy storage material compared to carbohydrate.
- (b) Provide lipid classification with suitable examples.
- (c) Describe beta -oxidation of fatty acids with even number of carbon.

- 3** Write detailed comment on : (7 marks each) **14**  
(a) Primary and secondary structure of the protein  
(b) Quaternary structure of the protein
- OR**
- 3** Answer the following : (7 marks each) **14**  
(a) Discuss the International classification of the enzymes with suitable examples.  
(b) Define  $K_m$  and Line weaver Burk plot and discuss their importance.
- 4** Answer the following : (7 marks each) **14**  
(a) Discuss reversible and irreversible inhibition.  
(b) Discuss Co-enzyme and Co-factor with suitable examples.
- 5** Write detailed comments on Any **Two** of the followings : **14**  
(7 marks each)  
(a) Water soluble vitamins  
(b) Glycolysis and its regulation  
(c) Regulation of TCA Cycle.  
(d) Allosteric protein regulation
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