2015

M.Sc.

1st Semester Examination

MICROBIOLOGY

PAPER—MCB-104

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any two questions from each group.

Group—A

[Marks : 20]

Answer any two questions.

1. (a) What do you mean by allosteric modulation of enzymes activity?

(b) State the importance of LB plot over hyperbolic plot of enzyme kinetics.
(c) Describe the process of electron transport through respiratory chain.  

2. (a) What is zwitterion? Write the acid-base properties of glycine.
   
   (b) State the role of proline and lysine in the stabilization of collagen structure.
   
   (c) Write the cleavage site of:
   
      (i) Cyanogen bromide;
   
      (ii) Trypsin;
   
      (iii) Thrombin.  

3. Write short notes on (any four):

   (a) Ubiquation of protein.
   
   (b) Abzyme.
   
   (c) ATP binding cassette.
   
   (d) Chemo autotrophs.
   
   (e) Cell wall synthesis in bacteria.
**Group—B**

*Marks : 20*

Answer any two questions.

1. (a) How lactose is catabolized in physiological system?

(b) Briefly describe about the committed steps of purine and pyrimidine biosynthesis. 

(c) What are the different catabolic fates of pyruvate generated through glycolysis?

(d) How TCA cycle is regulated?

2. (a) State the components of nif gene. Describe how nif gene regulates the activity of nitrogenase complex.

(b) Mention how covalent modification regulates glutamine synthesis.

3. Write short notes on any four:

(a) Anaplerosis;

(b) Carnitine shuttle;

(c) Entuer -Dandoff Pathway;

(d) Pasture effect;

(e) Precursor of purine biosythesis.

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C/16/M.Sc./1st Seme./MCB-104 *(Turn Over)*