PG Odd Semester (CBCS) Exam., December—2017

MICROBIOLOGY

(1st Semester)

Course No. : MIBCC–104

(Microbial Physiology and Biochemistry)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. What are the different classes of amino acids? Write a detailed note on the physical and chemical properties of amino acids. 7+7=14

2. Describe allosterism. Explain the kinetic characteristics of allosteric enzymes. 4+10=14

UNIT—II

3. What is the relation between entropy, free-energy and spontaneity of a biochemical reaction? Explain with the help of second law of thermodynamics. 14

4. Explain the strategy of energy production in the cell. How are redox reactions useful in energy production in cell? 14

UNIT—III

5. Describe the reactions and enzymes of pentose phosphate pathway. What is the importance of pentose phosphate pathway in bacteria? 14

6. Explain the different components of Krebs cycle. 14

UNIT—IV

7. What are the different stages of -oxidation of fatty acids? 14

8. Describe the synthesis of amino acid of serine family. 14

UNIT—V

9. Explain the process of light reaction in blue-green algae. How is this process different from bacterial photosynthesis? 14

10. Explain the process of dark reaction in detail. 14

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