

KARNATAKA STATE OPEN UNIVERSITY  
M.Sc. II Semester Examination-February 2015  
MICROBIOLOGY  
Course MB 2.3: Microbial Metabolism and Physiology

Time: 3 Hours

Max. Marks: 80

*Instruction: Answer all the sections.***Section A**Answer any **FOUR** questions from the following $4 \times 5 = 20$ 

1. Induced Fit Model.
2. Vitamin coenzymes.
3. Chlorophyll.
4. Characteristics of genetic code.
5. Factors that affect enzyme activity.
6. Lipid metabolism in bacteria.

**Section B**Answer any **THREE** questions from the following $3 \times 10 = 30$ 

7. Write an essay on the Lac operon and its control elements.
8. Briefly explain the Entner-Doudoroff pathway.
9. Write short notes on the following:
  - a) Effect of temperature on enzyme activity.
  - b) Fermentative metabolism
10. Write short notes on the following:
  - a) Specificity of enzymes.
  - b) Enzyme nomenclature.
11. Write short notes on the following:
  - a) Central dogma.
  - b) Phycobiliproteins

**Section C**Answer any **TWO** questions from the following: $2 \times 15 = 30$ 

12. Describe the glyoxylate cycle pathway.
13. Give an account of photosynthesis in cyanobacteria.
14. Write short notes on the following:
  - a) Properties of enzymes.
  - b) Applications of microbial enzymes.
  - c) tRNA.
15. Describe the process of Glycolysis.

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