

Roll No. ....

Total Pages : 3

BT-2/M-14

8219

## INTRODUCTION TO BIOTECHNOLOGY

Paper--BT-101-E

Option-II (2004-2008)

Time Allowed : 3 Hours]

[Maximum Marks : 100

**Note :** Attempt five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

### UNIT-I

1. Distinguish between : 5×4
  - (a) Prokaryotic and Eukaryotic cell
  - (b) Monosaccharides and Polysaccharides
  - (c) Saturated and Unsaturated lipids
  - (d) DNA and RNA.
2.
  - (a) Write the important functions of proteins and lipids. 5
  - (b) Describe general characteristics of enzymes. 5
  - (c) Discuss the effect of temperature, pH and substrate concentration on enzyme activity. 10

### UNIT-II

3.
  - (a) Explain light reaction of photosynthesis with the help of diagram only. 5

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- (b) What is the significance of Nitrogen fixation? Which microbes help in this process. 5
  - (c) Draw a well labelled diagram of excretory system of Deing. 5
  - (d) Explain the digestive system and its importance in brief. 5
4. Write a note on "Economic importance and control of microbes". 20

### UNIT-III

5.
  - (a) State different theories of evolution, in brief. 5
  - (b) What do you mean by speciation? How does variation play a role in speciation. 5
  - (c) Describe an experiment to prove that "Nucleic acid is a genetic material". 5
  - (d) Define Bioinformatics and explain its future prospects. <http://www.kuonline.in> 5
6.
  - (a) Distinguish between mitosis and meiosis with the help of suitable diagram of different stages. 15
  - (b) State Mendel's Laws of Inheritance. 5

### UNIT-IV

7. With the help of suitable example, describe the tools used in Recombinant DNA Technology. 20

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8. Write short notes on the following : 4×5

- (a) Bt Cotton
- (b) Transgenic Organisms
- (c) Golden Rice
- (d) Bioremediation
- (e) Biotechnology an interdisciplinary area.