

Roll No. ....

Total Pages : 2

Exam. Code

6132

8060

BT-2/M-11

INTRODUCTION TO BIOTECHNOLOGY

Paper : BT-101(E) (2004-08)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt five questions in all, selecting at least *one* question from each unit.

## UNIT-I

1. (a) Differentiate between Prokaryotic & Eukaryotic cell on the basis of their structure and functions of different organelles. 10
- (b) Define & explain Homeostasis with the help of suitable examples. Draw different levels of hierarchy and explain the factors which regulate these levels with the help of examples. = 5+5
2. (a) List the general characteristics of enzymes and classify them into different types. 10
- (b) Explain the experiments by which you can prove that DNA is a genetic material. 10

## UNIT-II

3. Explain Cyclic and Non-cyclic photo-phosphorylation. Define Photosynthesis. 20
4. (a) Discuss the history of Microbiology indicating the year, name of scientists and their contribution in tabular form. 10
- (b) Explain the economic importance and control of microbes. 10

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[P.T.O.]

## UNIT-III

5. Write short notes on any *two* :
  - (a) Theories of evolution.
  - (b) Central dogma. —
  - (c) Genomics.
6. (a) How does variation and speciation play an important role in the process of evolution ? 10
- (b) Write short notes on Monohybrid & Dihybrid crosses conducted by Mendel. 10

## UNIT-IV

7. What are the applications of Biotechnology in the field of Medical Technology and Environmental Science ? How can a student of Electronics/Computer Science/Mechanical or any other branch of engineering make use of Biotechnology in their field of specialization ? \* 10+10
8. Explain the different tools used in Biotechnology with the help of which a recombinant organism can be created. 20

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