

Roll No.

Total No. of Pages : 2

BT2/M06

8239

Introduction to Biotechnology (2004-05)

Paper : BT-101E

Time : Three Hours]

[Maximum Marks : 100

Note :- Attempt any **FIVE** questions selecting at least **ONE** question from each unit.

UNIT-I

1. (a) What are Nucleic acids ? Describe the main points of differences between DNA and RNA. Mention the biological importance of nucleic acids. 10
- (b) Discuss the effect of substrate concentration and pH on the activity of enzyme. 10
2. What are carbohydrates ? How they are classified ? Discuss the functions of carbohydrates. 20

UNIT-II

3. (a) Write short notes on : 15
 - (i) Koch's postulates
 - (ii) Pasteur effect
 - (iii) Control of Microbes.
- (b) Discuss the respiratory system of human. 5
4. (a) What is the importance of photosynthesis ? 5
- (b) What are different modes of nutrition in plants ? 5
- (c) How microbes help in nitrogen fixation ? 5
- (d) Write down the structure and function of kidneys. 5

UNIT-III

5. Write short notes on : 20
- (i) Genomics
 - (ii) rDNA technology
 - (iii) Speciation
 - (iv) Central Dogma
6. (a) Discuss the Mendel's laws of Inheritance in details. 10
- (b) What is the difference between Mitosis and Meiosis. 5
- (c) Bioinformatics is considered as an alliance between Biology and Information Sciences. Justify. 5

UNIT-IV

7. (a) What is Biotechnology ? What are its scopes and achievements ? 10
- (b) What are different applications of Biotechnology in Medicine ? 5
- (c) Discuss the public perceptions of Biotechnology. 5
8. (a) Write short notes on : 10
- (i) Plasmids as vector
 - (ii) Restriction enzymes
 - (iii) Ligase
 - (iv) Recombinant DNA
 - (v) Transformation
- (b) Discuss the applications of Biotechnology in Agriculture and Environment. 10