

(i) Printed Pages : 3 Roll No. ....

(ii) Questions : 9

Sub. Code :

0	9	6	3
---	---	---	---

Exam. Code :

0	0	3	3
---	---	---	---

B.Sc. (Hons.) Biotechnology 1<sup>st</sup> Semester

(2123)

## INTRODUCTION TO BIOTECHNOLOGY

Paper : BIOT-106-T

Time Allowed : Three Hours]

[Maximum Marks : 67

**Note** :—Attempt **FIVE** questions in all by selecting **ONE** question from each Unit. Question No. 1 is compulsory.

### (Compulsory Question)

1. Answer the following in brief :—

(i) *E.coli* as workhorse.

(ii) What is metabolomics ?

(iii) What are restriction enzymes ?

(iv) What is Bioethics ?

(v) Use of centrifuge in biotechnology.

5×3

### UNIT—I

2. (a) Mention the advent and scope of Biotechnology. 7

(b) Why is *Sacharomyces cerevisiae* used as model system for biotechnology ? 6



3. (a) Among the multicellular organisms, why do we use different organisms as model system ? Explain in context to *Drosophila melanogaster*, *Mus musculus* and *Arabidopsis thaliana* ? 8
- (b) Discuss the role of Bacteriophages in biotechnology. 5

## UNIT—II

4. Write notes on :—
- (i) Electrophoresis
- (ii) Sonication. 2×6.5
5. (a) Mention the structural differences between an eukaryotic and prokaryotic cell ? 7
- (b) Discuss the structure and properties of pBR322 and pUC18 ? 6

## UNIT—III

6. (a) Discuss the applications of biotechnology in the present and in the future. 8
- (b) Discuss the relation of biotechnology and fermentation technology. 5
7. (a) What is green technology and how is it used to control pollution ? 7
- (b) Give an account of gene therapy with one example. 6



## UNIT—IV

8. (a) Discuss the applications of transgenic animals in Biotechnology. 7
- (b) Discuss the ethical implications of biotechnology. 6
9. (a) Discuss the different types of risks associated with biotechnology. 7
- (b) What are the social implications of biotechnology ? 6