

Exam.Code:0001

Sub. Code: 0065

2012

B.A./B.Sc. (General) First Semester

Bio-Technology

BIOT-Elect-Sem-I-T: Introduction to Biotechnology

Time allowed: 3 Hours

Max. Marks: 67

NOTE: Attempt five questions in all, including Question No. IX (Unit- III) which is compulsory and selecting two questions each from Unit I - II.

x-x-x

UNIT - I

- I. a) Discuss scope of Modern Biotechnology and its application in environmental sciences?
b) Discuss red biotechnology and its applications? (7,6)
- II. a) Describe the concept of biosafety and risk assessment in detail?
b) Explain the various biosafety level. Give their significance. (6,7)
- III. a) Differentiate between eukaryotic and prokaryotic cell?
b) Write a note on *Mus musculus* as a model organism in research? (7,6)
- IV. a) Describe the role of bacteriophages in biotechnology?
b) What are restriction enzymes? Explain the features and mechanism of action. (7,6)

UNIT - II

- V. a) Describe the principle of sterilization? Discuss its types in detail?
b) Discuss the principle and working of fluorescent microscope? (7,6)
- VI. a) Define principle and working of centrifugation?
b) Discuss principle and technique of gel permeation chromatography? (6,7)
- VII. a) Discuss the ethical issues associated with stem cell research.
b) Discuss the importance of patents in biotechnology. (6,7)
- VIII. a) Discuss the risks and concerns associated with transgenic animals.
b) Which life forms are patentable in India? (7,6)

P.T.O.

(2)

UNIT - III

IX. Attempt the following:-

- a) Define green biotechnology and its application?
- b) Write a note on use of *E. coli* in biotechnology?
- c) Give examples of organisms with a potential of bioweapons.
- d) Mention various centers of Biotechnology in India.
- e) Describe thin layer chromatography?

(5x3)

x-x-x