

1127

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) Define biotechnology and explain the meaning of old and new biotechnologies. Comment on the applications of Blue Biotechnology.
- b) Discuss the importance of GLP and its significance in biotechnology? (7,6)
- II. a) Describe the various centers of Biotechnology in India with major emphasis on their objectives?
- b) What are applications of bacteriophages in Biotechnology? (6,7)
- III. a) What is the importance of *C. elegans* as a model organisms in research?
- b) Give the structure and significance of *Agrobacterium tumefaciens* in Biotechnology? (7,6)
- IV. a) Write a note on restriction enzymes. Give the restriction modification system briefly?
- b) Give the structural details and differences of Prokaryotic and Eukaryotic cell? (7,6)

UNIT - II

- V. a) Describe the principle of centrifugation? Write a note on types of centrifuges?
- b) Discuss the physical and chemical methods of sterilization and their application? (7,6)
- VI. a) What is the principle and working of fluorescent microscope?
- b) Discuss principle and technique of thin layer chromatography? (6,7)
- VII. a) Define principle and application of polyacrylamide gel electrophoresis?
- b) Give ray diagram of bright field microscope (7,6)

(2)

- VIII. a) Write a note on output and input parts of computer?
b) Discuss the concept of probability? Define Baye's theorem and its importance?

(6,7)

UNIT - III

- IX. Attempt the following:-

- a) Describe mean, and mode?
b) What is Red and White Biotechnology?
c) Write a note on use of biosafety levels in biotechnology?
d) Explain moist heat sterilization?
e) Describe ion exchange chromatography?

(5x3)

x-x-x