

1129

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 the significant events in advent of from Biotechnology from Biology.
b) Discuss the applications of red Biotechnology. (7,6)
- II. a) Explain the different levels of Biosafety.
b) Discuss the significance of Good Lab Practices.. (6,7)
- III. a) Discuss the structural features of prokaryotic cells.
b) Explain the applications of *Mus musculus* as a model organism in Biotechnology. (7,6)
- IV. a) Describe the role of viruses in Biotechnology.
b) Describe the mode of action for restriction enzymes. (7,6)

UNIT - II

- V. a) Discuss the principle and working of phase contrast microscope.
b) Describe the principle and technique for TLC. (7,6)
- VI. Discuss in brief different types of centrifugation and its applications. (13)
- VII. a) Discuss the principle and applications of Sonication.
b) Explain the technique of wet sterilization and its significance. (7,6)
- VIII. Describe the principle, technique and applications of agarose electrophoresis. (13)

UNIT - III

IX. Attempt the following:-

- a) Define model organism. (2)
- b) Define green Biotechnology. (2)
- c) What are ligases? (2)
- d) Define mean. (2)
- e) What is probability? (2)
- f) What is a fluorescent microscope? (2)
- g) Define vectors and give two examples? (3)

x-x-x