

21/11/25 (M)

Exam.Code:0001
Sub. Code: 17065

2115
B.A./B.Sc. (General) First Semester
Biotechnology
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. Discuss the developments in advent of Biotechnology from Biology. (13)
- II. a) Discuss the role of Biotechnology in Agriculture.
b) Give an overview of Centres for Biotechnology in India (7,6)
- III. a) Describe the structural features of prokaryotic cell.
b) Discuss the characteristics of *Mus musculus* for being a model organism. (7,6)
- IV. a) Discuss the role of viruses in Biotechnology.
b) Discuss the significance and mechanism of action for ligases. (7,6)

UNIT - II

- V. a) Describe the dry and wet sterilization techniques.
b) Discuss principle and working of phase contrast microscope. (7,6)
- VI. a) Discuss principle and apparatus for TLC.
b) Give an overview of the agarose electrophoresis technique. (7,6)
- VII. a) Discuss the applications of and concerns associated with transgenic plants.
b) Discuss different types of Biowarfare and its impact. (7,6)
- VIII. Discuss different types of patents and their significance in Biotechnology research. (13)

P.T.O.

(2)

UNIT - III

IX. Attempt the following:-

- a) Define Red Biotechnology
- b) What are restriction endonucleases?
- c) What is Biosafety?
- d) What is Sedimentation coefficient?
- e) What is trademark?
- f) What is GLP? (6x2)
- g) What is the principle of ion exchange chromatography? (3)

x-x-x