

35081

M.Sc. DEGREE EXAMINATION, OCTOBER/NOVEMBER 2019.

THIRD SEMESTER

Biotechnology

Paper I — GENETIC ENGINEERING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Restriction endonuclease.
2. Cohesive and blunt end ligation.
3. Isolation of desired gene.
4. Western blotting.
5. Electroporation.
6. Microinjection.
7. Abiotic stress.
8. Phyto vaccines.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain various types of enzymes that are employed in Genetic Engineering.

Or

10. Discuss the role and properties of different molecular vectors employed in Genetic Engineering.

11. Describe in detail Genomic DNA and cDNA libraries.

Or

12. Explain how sequencing of nucleic acids takes place by Maxam-Gilbert chemical degradation method.

13. Write about Agrobacterium mediated molecular transformation technique with suitable examples.

Or

14. Describe how molecular transformation takes place by PEG mediated and Electroporation methods?

15. What are the different applications of Genetic Engineering in Medicine, Industry and Agriculture?

Or

16. Discuss the possible ecological concerns and risks of transgenic crops and animals.

