

**3508**

**B.Sc. (Microbiology)**

**Examination, April-2025**

**RECOMBINANT DNA TECHNOLOGY**

**(B-305)**

**[B.Sc. (Micro.)]**

*Time : Three Hours ] [Maximum Marks : 50*

**Note :** Attempt any **five** questions. **All** questions carry equal marks.

1. Describe any two types of restriction enzymes, including examples and their recognition sites?
2. Write detailed note on the following (any **two**) :
  - (i) Site directed mutagenesis
  - (ii) Monoclonal antibodies

- (iii) Gene cloning and its applications
3. Discuss the applications of recombinant technology in agriculture?
4. Write short note on the following :
  - (i) Plasmid
  - (ii) Cosmid
  - (iii) Bacteriophages
  - (iv) cDNA
5. Explain how cDNA libraries can be used in gene expression studies and the advantages they offer over genomic libraries?
6. Give a comparative study on foreign gene expression in prokaryotes & eukaryotes.
7. Write detailed note on the following :
  - (i) PCR & its application
  - (ii) Expression vectors

8. Differentiate between Southern, Northern and Western blotting techniques.
9. Describe Human growth hormone. Explain any two of them with its production and significance?
10. What is hybridisation technique? Explain the concept of fluorescent in situ hybridisation (FISH).