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(20525)
M.Sc.-II Sem.

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Roll No.

NP-3337

M.Sc. (Biotechnology)

Examination, May-2025

RECOMBINANT DNA TECHNOLOGY

AND GENETIC ENGINEERING

(H-204)

[M.Sc.(Biotech.)]

Time : Three Hours] [Maximum Marks : 50

Note : Attempt **all** the sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt all the **five** questions. Each question carries **2** marks. Very short answer is required not exceeding **50-70** words.

P.T.O.

1. Define the term 'Restriction endonuclease enzyme.' 2
2. What do you understand by term 'Plasmid vector'? 2
3. Define the term 'Molecular Probe.' 2
4. Define the term "Northern Blotting." 2
5. Write down the biological source of 'Reverse Transcriptase enzyme' used in molecular biology laboratory. 2

Section-B

(Short Answer Type Questions)

Note : Attempt any **two** questions out of the following **three** questions. Each question carries **5** marks. Short answer is required not exceeding **200** words.

6. Write a note on shuttle vector. 5
7. Write a note on 'Rapid amplification of cDNA ends (RACE).' 5
8. Write a detail note on methods of gene isolation. 5

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Section-C

(Long Answer Type Questions)

Note : Attempt any **three** questions out of the following **five** questions. Each question carries **10** marks. Answer is required in detail.

9. Write a detail note on 'Recombinant DNA Technology in Prokaryotes.' 10
10. Discuss in detail about the 'Genomic Library and cDNA Library.' 10
11. Write detail notes on the following: 10
 - (a) BAC
 - (b) Maxam-Gilbert method of Sequencing
12. Write a detail note on 'Real-Time PCR' and its applications in biological science. 10
13. Write a detail note on scope and importance of 'genetic engineering' technique. 10