10. Write short notes on the following:

(i) Isoschizomers 3

(ii) Features of BAC 3

(iii) Transgenic crops 4

D (Printed Pages 4)

(20425) Roll No. .....

B.Sc.(Bio-Tech.) - II Yr.

3469

B.Sc. (Biotechnology)

Examination, April-2025

RECOMBINANT DNA TECHNOLOGY

(B-206)

B.Sc. (Bio-tech.)

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

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

1. Define genomic library, its applications, and how it differs from cDNA library. Write the various advantages of cDNA library over genomic library.

2. Write the CTAB method of bacterial genomic DNA isolation and describe the role of various organic solvent used during the procedure. 10

3. Write short notes on any **two** of the following: 5×2=10

   (i) Site-directed mutagenesis

   (ii) Principle of pyrosequencing

   (iii) John craig venter

4. Write the basic principle of sanger sequencing and discuss the advancement in high-through put sequencing technology. 10

5. Write short notes on the following:

   (i) Advantage of using E.Coli as host of choice for cloning. 3

   (ii) Design forward and reverse primers of a given gene 3

5'ATGCTTATATCCGGACTAGGTTAGT3'

   (iii) Approaches in onerexpression of recombinant protein. 4

6. Define PCR, its instrumentation, composition of PCR mixture, and how PCR techniques can be used for introducing desirable mutations. 10

7. Explain various electrophoresis techniques in blotting for studying different biomolecules. 10

8. Discuss the role of recombinant DNA technology in achieving the various goals of sustainable developments. 10

9. Define microarray, its working principle, and applications in detail. 10