

Exam. Code : 107406

Subject Code : 1876

B.Sc. (Biotechnology) 6th Semester

rDNA TECHNOLOGY—B

Paper : BT-1

Time Allowed—Three Hours] [Maximum Marks—40

SECTION—A

Note :— Attempt **ALL** questions. **1** mark each.

1. What are the applications of TAC vector ?
2. Explain features of pET280.
3. What are lambda vectors ?
4. What is hot start PCR ?
5. How the blunt end can be converted into sticky ends for cloning ?
6. What is cassette mutagenesis ?
7. What is biopanning ?
8. What are oligonucleotide arrays ?

SECTION—B

Note :— Attempt **FIVE** questions by selecting **ONE** from each unit. **4** marks each.

UNIT—I

1. Explain Ti plasmid in details and its application.
2. What kind of promoters are used in expression vectors ?

UNIT—II

3. Explain construction of genomic libraries.
4. Explain self priming method of cDNA synthesis and cloning.

UNIT—III

5. What is multiplex and touch-down PCR ?
6. Explain, how can we analyze gene expression by microarrays ?

UNIT—IV

7. Explain chemical degradation based method of DNA sequencing.
8. How the site directed mutagenesis improves the function of proteins ?

SECTION—C

Note :— Do any **TWO** questions. **6** marks each.

1. Explain BAC vectors in details. How they are different from YAC and expression vectors ?
2. What are expression libraries ? Explain their construction and screening.
3. Explain the principle of PCR. How can you do qPCR and RT-qPCR ?
4. Explain phage display method for selection of mutants.