

## Genetic Engineering

20

Q.P. Code : 568902

(3 Hours)

Total Marks : 80

Note : 1) Q.No. 1 is compulsory.

2) Attempt any 3 questions from Q.No. 2 to 6.

3) All questions carry equal marks

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|---|----|
| 1. Write short notes on: (ANY 4)  | 20 |
| (a) Reverse transcriptase   |    |
| (b) Plasmids  |    |
| (c) DNA ligases   |    |
| (d) Micro-injection   |    |
| (e) Lambda phage  |    |
| 2. (a) Describe in detail the process for genomic DNA library construction.                                       | 10 |
| (b) Write a note on ELISA and its variations.   | 10 |
| 3. (a) Explain various factors which govern the choice of vector for cloning large fragments of DNA.              | 10 |
| (b) Justify "Vectors with strong, controllable promoters are used to maximize synthesis of cloned gene products". | 10 |
| 4. (a) Explain Agrobacterium mediated gene transfer.  | 10 |
| (b) Describe in detail the enzyme restriction endonucleases and their action.                                     | 10 |
| 5. (a) Write a note on M13 phage.   | 6  |
| (b) Describe the process for cDNA library construction.   | 8  |
| (c) Explain the method of alkaline lysis for plasmid preparation.   | 6  |
| 6. a) What is Antisense Technology? Explain giving a suitable example?  | 10 |
| b) Explain the usefulness of di-deoxy nucleotide in DNA sequencing?   | 10 |