T.E- V Sem- Biotech

Genetic Engineering

(16)

QP Code : 31070

(3 Hours) [Total Marks : 80]

Notes:

(1) Question No. 1 is compulsory.
(2) Attempt any three questions from Q. Nos. 2 to 6
(3) Draw neat labelled diagram wherever necessary.

1. Write short notes on the following (any four) (5x4=20)
   a) Alkaline Phosphatase
   b) Homopolymer tailing
   c) Cosmids
   d) RFLP
   e) Antisense Technology
   f) Chromosome Walking

2. a) Discuss any two strategies for gene transfer in host? (10)

   b) Describe expression vectors with suitable example? (10)

3. a) Explain how the genomic library is created and how to identify a clone from the library? (10)

   b) What advantage does a thermostable DNA-polymerase offer in PCR? Explain. (10)

4. a) Describe Southern Blotting explaining the rational of each step involved? (10)

   b) Comment on single stranded phages as vectors for gene cloning? (10)

5. a) Describe Sanger and Maxim and Gilbert method of nucleic acid sequencing? (10)

   b) Discuss types, nomenclature and use of restriction endonucleases in gene cloning? (10)

6. a) Discuss the technique of transformation in E. Coli? (10)

   b) Write the applications of recombinant DNA technology in medicine? (10)
