

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)