

(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 a note on the following (any four) (5x4=20)
 - a) DNA Gyrase
 - b) Terminal nucleotidyl transferrase
 - c) RAPD
 - d) RNA Interference Technology
 - e) Alpha Complementation
 - f) Adaptors
2. a) Discuss various factors affecting the PCR reaction? (10)
b) Explain the method of construction of cDNA Library? (10)
3. a) What are fusion vectors? Explain with a suitable example? (10)
b) Explain the immunological methods used for screening recombinant clones? (10)
4. a) Comment on plasmids as cloning vehicles? (8)
b) Write a note on production of biomolecules using cell lines? (12)
5. a) Describe the technique of Western blotting and its applications? (10)
b) Discuss the method of isolation and purification of plasmid DNA? (10)
6. a) Explain the usefulness of di-deoxy nucleotide in DNA sequencing? (10)
b) What are restriction endonucleases? Explain different types of restriction endonucleases with examples? (10)