

M.Sc.(Biotechnology) (CBCS Pattern) Semester - III
PSBIT111 - Paper-III : Genetic Engineering

P. Pages : 1

Time : Three Hours



GUG/S/23/11238

Max. Marks : 80

Notes : 1. All the questions are compulsory and carry equal marks.

1. Discuss shotgun methods for isolation and purification of gene. 16

OR

a) What are restriction enzyme. Discuss their types and characteristics in detail. 8

b) Discuss in details DNA modification enzymes. 8

2. Discuss different current ligation techniques. 16

OR

Write a note on following.

a) Bacterial vector plasmids. 8

b) Yeast vector plasmid. 8

3. Discuss nucleic acid hybridization with respect to southern and northern hybridization. 16

OR

Write notes on

a) Probes for detecting DNA & protein. 8

b) Genomic DNA library. 8

4. Describe in detail polyethylene glycol chemical methods used for transfection. 16

OR

Write note on the following.

a) Gene transfer by pronuclear microinjection. 8

b) Single and two strain packaging. 8

5. Write a note on:

a) Reverse transcriptase method for gene isolation. 4

b) Boyer-Cohen-Chang experiment. 4

c) Automated DNA sequencing. 4

d) Gene transfer by microinjection. 4
