

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**
