

B.Sc.- III (CBCS Pattern) Sem-V
011A - DSE-I : Biotechnology Paper-I : Genetic Engineering

P. Pages : 1

Time : Three Hours



GUG/W/22/13126

Max. Marks : 50

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

1. Discuss in detail different DNA manipulation enzymes. 10
OR
a) Write short note on PCR 5
b) Explain Genomic DNA library construction with the help of suitable diagram. 5
2. Discuss different methods of insertion of foreign DNA into vector. 10
OR
a) Write a note on BAC 5
b) Discuss in detail PBR322 vector. 5
3. Discuss different methods of screening of recombinants. 10
OR
a) Write a note on Lipofection. 5
b) How microinjection can be used for insertion of rDNA into host cells. 5
4. Discuss in detail about Monoclonal Antibody production. 10
OR
a) Write a note on DNA fingerprinting. 5
b) Write short note on somatic gene therapy. 5
5. Answer **any ten**
- a) Define Restriction enzymes. 1
 - b) What is cDNA 1
 - c) Give two application of genetic engineering. 1
 - d) Give two examples of vector. 1
 - e) What is YAC 1
 - f) Give 2 characteristics to be a ideal vector. 1
 - g) What is used to fascilitate the process of transformation? 1
 - h) How DEAE dextran helps in transfection. 1
 - i) Lipofection is brought about by which organelle 1
 - j) Give 2 application of genetic engineering in health care field. 1
 - k) What is the role of genetic counselling in disease diagnosis. 1
 - l) What are DNA probes? 1
