

B.Sc.- III (C.B.C.S. Pattern) Sem-V  
**Biotechnology DSE-I - Genetic Engineering**

P. Pages : 1

Time : Three Hours



**GUG/W/19/13126**

Max. Marks : 50

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

1. What are Restriction enzymes? Give its types and uses. **10**  
**OR**  
a) Write a note on PCR. **5**  
b) write a note on construction of cDNA library. **5**
2. What are plasmid vectors? Give characteristics of PUC18 plasmid with diagram. **10**  
**OR**  
a) Write a note on feast artificial chromosome. **5**  
b) What are phagemid vectors. **5**
3. Discuss various transfection methods for insertion of rDNA into host. **10**  
**OR**  
a) Explain pBR322 vector with suitable diagram. **5**  
b) Explain insertion of rDNA into host with the help of transformation. **5**
4. What are monoclonal antibodies? Explain the process of monoclonal antibody production with suitable diagram. **10**  
**OR**  
a) Explain the process of DNA fingerprinting. **5**  
b) Write a note on interferon production. **5**
5. Answer **any 10** (1 mark each) **10**  
a) Give one role of alkaline phosphatase in RDT.  
b) What is Genomic DNA library  
c) What is the role of ligase in Genetic engineering technique.  
d) Give two characteristics of a ideal vector.  
e) Which enzyme is used in homopolymer tailing.  
f) What are Linkers.  
g) Lipofection is brought about with the help of organdle  
h) Which method of transferring foreign DNA is used in case of animal cells.  
i) What is the other name of particle gun method.  
j) Which cells are involved in Somalia gene therapy?  
k) Who is the known as father of DNA fingerprinting in India.  
l) Define antenatal diagnoses.

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