

B.Sc. III (with Credits)-Regular-Semester 2012 Sem VI  
**B.Sc.4533-Microbiology: Paper-I (Recombinant DNA Technology)**

P. Pages : 2

Time : Three Hours



**GUG/W/16/5650**

Max. Marks : 50

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

1. Give salient features of cloning vectors. Write in detail on plasmid and its types. 10

**OR**

Describe any two methods for transfer of r-DNA into suitable host cell. 10

2. a) Write a note on human genome sequencing project. 5

b) Explain DNA fingerprinting. Add a note on its applications. 5

**OR**

Explain hybridoma technology of monoclonal antibody formation with its applications. 10

3. a) Write characteristics of ideal host cell. 2½

b) Write a note on homopolymer tailing. 2½

c) Discuss principle and applications of PCR. 2½

d) Explain Gene therapy. 2½

**OR**

e) Explain Artificial chromosome. 2½

f) Describe protoplast fusion. 2½

g) Write a note on cDNA library. 2½

h) Give the production of interferon using rDNA technology. 2½

4. a) Write a note on DNA modifying enzymes. 2½

b) Discuss transfer of r-DNA by microinjection. 2½

c) Write a note on Maxam-Gilbert method of DNA sequencing. 2½

d) What is Genetically modified food? Explain. 2½

**OR**

- e) What are molecular Scissors. 2½
- f) Write an account on colony hybridization. 2½
- g) Describe in short method of polymerase chain reaction. 2½
- h) Define Vaccine. write about different types of vaccines. 2½

**5. Solve any ten of followings.**

- a) Give the names of Restriction enzymes. 1
- b) Which selection marker are present in pBR 322. 1
- c) What is BAC? 1
- d) What are adapters? 1
- e) What are vector DNA? 1
- f) Define transfection. 1
- g) What is amplification of DNA? 1
- h) Define denaturation and annealing 1
- i) What is genomic library? 1
- j) Define gene therapy. 1
- k) Write any two applications of stem cells in medical field. 1
- l) What is transgenic plant. 1

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