BACHELOR OF SCIENCE (B.Sc.) SIXTH SEMESTER

B.Sc. 4533 - MICROBIOLOGY : Paper-I (Recombinant DNA Technology)

P. Pages : 2 **GUG/W/18/1356**

Time : Three Hours * 1 0 6 9 * Max. Marks : 50

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1. Describe about various Bacteriophage vectors. **10**

OR

Discuss various methods for transfer of r-DNA into suitable host cell. **10**

2. Discuss PCR technique in detail. **10**

OR

Give the role of r-DNA technology in the formation of transgenic plant Bt cotton. **10**

3. a) Write a note on restriction enzymes. **2½**

b) What is the role of Adopters in r-DNA technology? **2½**

c) Discuss the concept of cDNA library. **2½**

d) Give brief account on Hybridoma technology. **2½**

OR

e) Write a note on pBR322. **2½**

f) Discuss gene gun method. **2½**

g) Discuss in brief about Human genome sequencing project. **2½**

h) Give the role of r-DNA technology in vaccine formation. **2½**

4. a) What are the characteristics of ideal host? **2½**

b) Discuss insertional inactivation method. **2½**

c) Write a note on DNA fingerprinting method. **2½**

d) Discuss the concept of gene therapy. **2½**

OR

e) Write a note on YAC. **2½**

f) Discuss any one method of transfection. **2½**

g) Give the procedure of Maxam-Gilbert method. **2½**

h) How r-DNA technology helps in Interferon production? **2½**

5. Solve **any ten** of the following.

a) Give any two examples of restriction enzymes. **1**

b) What is the function of Ligase enzyme? **1**

c) Give example of selectable marker gene. **1**

d) Define Linker. **1**

e) What is electroporation? **1**

f) Enlist any two methods used for screening of recombinant host cells. **1**

g) Define genomic library. **1**

h) What is the significance Maxam-Gilbert method? **1**

i) Which enzyme is used in PCR technique? **1**

j) Which media is used for monoclonal antibody formation? **1**

k) Which bacteria is used in Bt cotton formation? **1**

l) Give the example of human growth hormone. **1**

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