

B.Sc. CBCS Pattern Semester-VI
USMBT-13 - Microbiology Paper-I : Recombinant DNA Technology

P. Pages : 2

Time : Three Hours



GUG/W/23/13333

Max. Marks : 50

1. Explain P^{BR322} and P^{UC18} vector used in genetic engineering. **10**

OR

a) Write short notes on restriction enzymes. **2½**

b) Give the salient features of cloning vector. **2½**

c) Write the role of polynucleotide kinase and terminal transferase. **2½**

d) Write short note on shuttle vector. **2½**

2. Explain the different methods of selection recombinant DNA. **10**

OR

a) Write notes on linker **2½**

b) Explain blue white selection method. **2½**

c) Write notes on gene gun method. **2½**

d) Explain the method of microinjection. **2½**

3. Describe the procedure and application of PCR. **10**

OR

a) Write short notes on C-DNA library. **2½**

b) Explain Sangers method of DNA sequencing. **2½**

c) Describe the process of DNA finger printing. **2½**

d) Write note on automatic DNA sequencing. **2½**

4. Explain the hybridoma technology for monoclonal antibody formation. **10**

OR

a) Write short notes on gene therapy. **2½**

b) Write the pros and cons of GM food. **2½**

c) Write about edible vaccine. **2½**

d) Explain the production of insulin. **2½**

5. Write any two of the following (each carry **one** mark).

10

- a) Give the example of selectable marker genes.
- b) What is endonuclease?
- c) What is BAC and VAC?
- d) What is adapters?
- e) What is electroporation?
- f) What is homopolymer tailing?
- g) What is VNTR?
- h) What is annealing
- i) Name the thermal resistant enzyme used in PCR.
- j) Define monoclonal antibody
- k) Give the example of GM Food.
- l) What is interferon?
