

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

P. Pages : 2

Time : Three Hours



**GUG/S/25/13333**

Max. Marks : 50

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**1.** Write in detail about pBR322 vector **10**

**OR**

- a) Write about DNA ligase enzyme. **2½**
- b) Write about restriction enzyme. **2½**
- c) Explain bacteriophage lambda vector. **2½**
- d) Describe the BAC vector. **2½**

**2.** Describe the methods of r-DNA transfer into the host. **10**

**OR**

- a) Write about the insertional inactivation. **2½**
- b) Write about Microinjection. **2½**
- c) Describe the method genomic DNA isolation. **2½**
- d) Explain blue white selection method. **2½**

**3.** Write in about principle, procedure and application of PCR. **10**

**OR**

- a) Write about DNA fingerprinting. **2½**
- b) Explain DNA microarray. **2½**
- c) Write about genomic DNA library. **2½**
- d) Explain Sangers method of DNA sequencing. **2½**

**4.** What is monoclonal antibody? Describe its production by hybridoma technology. **10**

**OR**

- a) Write about Bt cotton plant. **2½**
- b) Explain the production of DNA vaccine. **2½**
- c) What is gene therapy? Describe any one type. **2½**
- d) Describe the production of insulin. **2½**

5. Answer any 10 of the following (1 mark each)

- a) What is selectable marker genes?
- b) What is the role of endonuclease?
- c) What is Ti plasmid?
- d) What is electroporation?
- e) Which protein produce by Lac Z gene?
- f) What is linkers?
- g) What is VNTR sequence?
- h) Name the thermostable enzyme used in PCR.
- i) What is genomics?
- j) What is monoclonal antibody?
- k) What is GM food? Give example.
- l) What is interferon?

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