M.Sc.(Microbiology) Sem-III (Old)

MB3-T010 - Paper-II : Recombinant DNA Technology

P. Pages : 1 **GUG/S/19/2297**

Time : Three Hours * 1 6 9 7 * Max. Marks : 80

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

1. Describe in detail restriction endonucleases and its types. **16**

OR

a) Discuss in detail transformation of DNA. **8**

b) Describe mode of action of reverse transcriptase. **8**

2. Explain PBAD vector as vector for amplification and expression? **16**

OR

a) Describe DNA cloning with single stranded DNA vectors. **8**

b) Explain concept of gene library construction and give ideal examples of each library. **8**

3. Describe in detail the production of insulin hormone with the help of flow sheet diagram. **16**

OR

a) Give an account on genetically engineered microorganisms. **8**

b) Describe promoter probe vectors. **8**

4. Describe in detail physical mapping of genome. **16**

OR

a) Explain real time quantitative PCR. **8**

b) Explain principle and procedure of PCR. **8**

5. Write short notes on-

a) Chemical synthesis of DNA. **4**

b) Cloning and selection of individual gene. **4**

c) Artificial chromosome. **4**

d) Applications of PCR. **4**

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