Roll No. | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech. (Bio Tech) (2018 Batch) (Sem.–2)

APPLIED BIOTECHNOLOGY

Subject Code : MTBT-202-18

M.Code : 76048

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1.Attempt any FIVE questions out of EIGHT questions.

2.Each question carries TWELVE marks.

1. What is hybridization? Describe briefly northern, southern and fluorescence in situ hybridization.

2. What are cloning and expression vectors? Describe briefly pBR 322 and puc λ based vectors used in rDNA technology.

3. What are real time PCR, anchored PCR and inverse PCR? Describe the applications of PCR in cloning, diagnostics and biomedical sequencing.

4. What are genomic and cDNA libraries? Describe the screening of libraries by nucleic acid hybridization and phage display method.

5. Describe briefly TAP tagging DNA sequencing methods used in gene analysis and their applications in medical science.

6. Describe briefly expression in *E. coli*, yeast and insect cells.

7. Discuss briefly molecular approaches to generate transgenic organisms and their applications.

8. What is *in vivo* and *ex vivo* gene therapy? Describe briefly gene knockout analysis with suitable examples.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.