



JAZ-003-1193005

Seat No. _____

**M. Sc. (Microbiology) (Sem. III) (CBCS)
(W.E.F. 2016) Examination**

December - 2019

**Micro - 317 : Molecular Biotechnology
(Elective - III)
(New Course)**

Faculty Code : 003

Subject Code : 1193005

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instruction : All questions are compulsory. Support your answers with suitable illustrations wherever required.

1 Answer Any Seven : (2 Marks each) 14

- (a) What is the genome complexity?
- (b) Comment on the Northern blotting techniques.
- (c) Comment the Southern Hybridization.
- (d) Comment on the yeast hybrid system.
- (e) Comment on the significance of DNA-protein interaction.
- (f) What is the Real-Time PCR ?
- (g) What is the gene expression system?
- (h) Enlist various types of vectors in rDNA Technology.
- (i) What are basic features of the plasmids required for its applications as vector?
- (j) Comment on the promoter probing and its significance?
- (k) What are the different ways to detect recombinant transformants?

2 Write comments on Any Two : (7 marks each) 14

- (a) Detection and cloning of genes
- (b) Peptide synthesis
- (c) Primer designing and primer probing

- 3** Write comments on :
- (a) Techniques and applications of different types of PCR. **7**
 - (b) Yeast - Hybrid systems and their suitability. **7**
- OR**
- 3** Write comments on : (7 marks each)
- (a) Factors affecting gene expression. **7**
 - (b) Gel mobility shift assay. **7**
- 4**
- (a) Discuss reporter genes and their significance. **7**
 - (b) Discuss various artificial transformation techniques in rDNA Technology. **7**
- 5** Write comments on : (Any Two) (7 marks each) **14**
- (a) DNase-I Foot Printing
 - (b) TA Cloning
 - (c) Stability of vectors in Host
 - (d) Expression of foreign proteins in plants
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