



HDY-003-1193005 Seat No. _____

M. Sc. (Sem. III) (CBCS) Examination

November / December – 2017

Microbiology : Micro - 317

(Molecular Biotechnology)

(Elective - III)

Faculty Code : 003

Subject Code : 1193005

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

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) Support your answers with suitable illustrations where required.

- 1 Answer Any Seven : (2 Marks each) 14**
- (a) Comment on the gene detection.
 - (b) Comment on the Northern Hybridization.
 - (c) What is the significance of Southern Hybridization?
 - (d) State the principle of yeast three hybrid system.
 - (e) What is the importance of protein-protein interaction?
 - (f) What is the Real-Time PCR?
 - (g) Why reporter genes are called?
 - (h) State the basic features of the vectors suitable for the gene cloning?
 - (i) What are the common properties of the plasmids?
 - (j) What is promoter probing?
 - (k) What are the advantages of *E.coli* in genetic engineering?
- 2 Write comments on Any Two : 7**
- (a) Techniques of the gene detection.
 - (b) Methods for peptide synthesis.
 - (c) DNase-I foot printing assay.

- 3 (a) Describe Real Time PCR and its significance. 7
(b) Discuss reporter gene systems with suitable examples. 7
- OR**
- 3 Write comments on : 7
(a) Yeast-Hybrid systems
(b) Neomycin phosphoryl transferase-II (nptII) system
- 4 (a) Discuss the expression of the genes into foreign host and highlight its significance. 7
(b) Discuss various methods of gene transformation techniques. 7
- 5 Write comments on Any **Two** : 7
(a) β - galactosidase expression system.
(b) Ti plasmid as expression system.
(c) S1 nuclease mapping.
(d) DNA-protein interaction.
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