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JAZ-003-019305 Seat No. _____

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

December - 2019

Microbiology

(Micro - 317 : Molecular Biotechnology)

(Elective) (Old Course)

Faculty Code : 003

Subject Code : 019305

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer briefly any seven of the following : (2 Marks each) **14**

(a) Give full form of BAC and PAC.

(b) What is Yeast-3-hybrid system ?

(c) What is marker gene ?

(d) What is reporter gene ?

(e) What is promoter probing ?

(f) What is EMSA ?

(g) What is the biological function of S1 nuclease ?

(h) What is the importance of southern hybridization ?

(i) What is cos sites ?

(j) What are the basic steps of PCR ?

2 Answer any **two** of the following : (7 Marks each) **14**

(a) Discuss principles and strategies of protein sequencing.

(b) Discuss techniques in gene detection and expression.

(c) Discuss RT- PCR and highlight its significance in molecular biology.

3 Answer the following : (7 Marks each) 14

(a) Discuss applications of various reporter gene systems.

(b) Principle and applications of Yeast-2-hybrid approach.

OR

3 Answer the following : (7 Marks each) 14

(a) Give a detailed account on DNase I foot printing assay.

(b) Discuss S1 nuclease mapping.

4 Answer the following questions : (7 Marks each) 14

(a) What is reporter gene? Discuss the principal of P-galactosidase reporter system.

(b) What is vector? Describe various cloning vectors.

5 Answer any **two** of the following questions : 14

(7 Marks each)

(a) Edible vaccines.

(b) Significance of expression of gene into Bacillus.

(c) Luciferase reporter system.

(d) Various foreign proteins expressed in plants.
