



DBY-003-1132003

Seat No. _____

M. Sc. (Biotech) (Sem. II) (CBCS) Examination

July - 2022

BT-208 : Molecular Biotechnology - I

Faculty Code : 003

Subject Code : 1132003

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

[Total Marks : 70

1 Answer the following : (any seven out of ten, each of 14
2 marks)

- (1) Enlist difference between BAC and YAC.
- (2) Enlist the types of DNA modifying enzyme.
- (3) What specific properties of type-II endonuclease make them useful in gene cloning ?
- (4) Give role of alkaline phosphatase.
- (5) What are the essential features of vectors ?
- (6) What is clone ?
- (7) Give role of GFP in clone constructions.
- (8) What are the limitations of cloning ?
- (9) What is chromosome walking ?
- (10) What is gene mapping ?

2 Answer the following : (any two out of Three, each of 14
7 marks)

- (1) Discuss DNA modifying enzyme.
- (2) Write a note on Restriction mapping.
- (3) Explain restriction endonucleases in detail.

3 Answer the following : (Each of 7 marks) **14**

- (1) Give a concise report of Bacteriophage vectors.
- (2) Write a detailed note on of Expression vector; explain its characteristics features with its advantages and major limitations.

OR

3 Answer the following : (Each of 7 marks) **14**

- (1) What is genomic library ? Discuss strategies of construction of cDNA libraries.
- (2) Explain probe preparation by radiolabelled and non-radiolabelled techniques.

4 Answer the following : (Each of 7 marks) **14**

- (1) Explain role of Reporter genes in identification and screening of cloned genes.
- (2) Justify: Microarray is technique used for Global expression analysis.

5 Answer the following : (Any Two out of four, each of 7 marks) **14**

- (1) Describe DNA sequencing by di-deoxy method of DNA sequencing.
- (2) Discuss the role of Antisense RNA in detail.
- (3) What is DNA fingerprinting ? Explain.
- (4) What is DNA Marker ? How RFLP used for genetic mapping describe in detail.
