Seat No. _____

HP-003-1132003

M. Sc. (Sem.-II) (Biotech)

(CBCS) Examination

April - 2023

BT-208 : Molecular Biotechnology-1

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 02 marks) **14**

(1) Define "linkage analysis".
(2) What is gene mapping?
(3) What is recognition site?
(4) What is RNAi?
(5) What is gene regulation?
(6) What is α-complementation?
(7) What is clone?
(8) What are the essential features of a vector?
(9) What is conecatamer?
(10) What is screening?

2 Answer the following (Any two out of Three, each of 07 marks) **14**

(a) What is restriction mapping? Discuss in detail.
(b) What is genetic engineering? Give its application.
(c) What are restriction enzymes? Explain.

3 Answer the following: (each of 07 marks) **14**

(a) Give characteristic features of shuttle vectors and other advance vectors.
(b) Explain plasmid biology in detail.

OR

3 Answer the following: (each of 07 marks) **14**

(a) What is genomic library? Discuss strategies of construction of cDNA libraries.

(b) What is cDNA synthesis? Describe.

4 Answer the following (each of 07 marks) **14**

(a) Explain: Microarray.

(b) Explain Southern hybridization and Northern hybridization in detail.

5 Answer the following (Any two out of four, each of 07 marks) **14**

(a) Write a short note on PCR.

(b) Write in detail applications of genetic engineering.

(c) What is DNA fingerprinting? Explain.

(d) What is linkage analysis? Describe.
