



NCE-003-1132003 Seat No. _____

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

April / May - 2017

BT-208 : Biotechnology
(Molecular Biotechnology - I)

Faculty Code : 003

Subject Code : 1132003

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

[Total Marks : 70

1 Answer any 7 : (2 marks each) **14**

- (i) What is the function of restriction endonucleases in the cell?
- (ii) What is the use of linkers and adapters in genetic engineering ?
- (iii) What is a phagemid ?
- (iv) What is Northern blotting?
- (v) What is positional cloning?
- (vi) What is insertional Inactivation?
- (vii) What are SNPs ?
- (viii) What is DNA finger printing?
- (ix) Enlist methods for nucleic acid sequencing.
- (x) What are DNA markers?

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

- (i) Comment on DNA Polymerase I and the Klenow fragment.
- (ii) Give an account of Deoxyribonuclease I.
- (iii) Describe enzymes catalyzing interconversion of topological isomers of DNA.

- 3** Answer the following : (7 marks each) **14**
- (i) Discuss bacteriophage vectors.
 - (ii) Give an account of expression vector.

OR

- 3** Answer the following : (7 marks each) **14**
- (i) Describe eukaryotic vectors.
 - (ii) List properties of an ideal cloning vector. Discuss design of plasmid vectors.

- 4** Answer any 2 of the following : (7 marks each) **14**
- (i) Discuss strategies of construction of cDNA libraries.
 - (ii) Explain techniques of preparation of radio-labeled and non-radio-labeled probes.
 - (iii) Explain immunological techniques used for screening expressed genomes.

- 5** Write note on any 2 of the following : (7 marks each) **14**
- (i) Microarray
 - (ii) AFLP
 - (iii) Applications of PCR
 - (iv) Karyo-typing.
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