

Roll No.

Total Pages : 02

GSM/J-21

1643

BIOTECHNOLOGY

Recombinant DNA Technology

Paper : VIII

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. **1** is compulsory.

1. Define the following terms : **2×4=8**
- (a) Competent Cells
 - (b) Electroporation
 - (c) Recombinant Vaccines
 - (d) Expression Cassette.

Unit I

2. (a) Write a detailed note about Restriction Endonucleases (R.E.). Explain which R.E. is important in recombinant DNA technology and why ?
- (b) Scope of recombinant DNA technology. **6,2**
3. (a) What are properties of a suitable vector ? Enlist various gene cloning vectors ? Explain, how are they different from each other ?

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- (b) Differentiate between cohesive and blunt ends. **6,2**
- 4. (a) Write a detailed note on the microinjection technique use for introducing *r*-DNA into the host.
- (b) Differentiate between genomic and *c*DNA library. **6,2**

Unit II

- 5. (a) Write a detailed note on the Site-directed mutagenesis.
- (b) Elaborate about basic principle behind PCR. **6,2**
- 6. (a) Write a detailed note on the western blotting.
- (b) Write in brief about RFLP. **6,2**
- 7. (a) Explain in detail about the production of recombinant proteins of *E. Coli*.
- (b) Differentiate between strong and weak promoter. **6,2**