

NS-3469

B.Sc. (Biotechnology)

Examination, June-2022

RECOMBINANT DNA TECHNOLOGY

(B-206)

B.Sc. (Bio-Tech.)

(New)

Time : Three Hours]

[Maximum Marks : 50

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. What is recombinant DNA technology? Discuss its role in various fields of biology. 10
2. Illustrate the procedure for Southern blotting technique and its application in biotechnology. 10

P.T.O.

3. Write notes on the following :
 - (a) Biotech laboratory requirements 3
 - (b) Safety measures in Biotech lab. 3
 - (c) Procedure of DNA purification from bacterial cell 4
4. Write in detail about tools and techniques for expression of foreign genes in prokaryotes and eukaryotes. 10
5. Write short notes on: 2½ each
 - (a) MAC
 - (b) Immunoscreening
 - (c) Molecular probos
 - (d) DNA micro arrays
6. Write in detail about PCR its basic principle, types and applications in biotechnology. 10

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7. Write detailed notes on the following:
- (a) Restriction enzymes 5
 - (b) Gel electrophoresis 5
8. What is DNA sequencing? Write any method of DNA sequencing and its application in biology. 10
9. Write explanatory note on the following:
- (a) In situ hybridization 4
 - (b) ELISA 3
 - (c) Site directed mutagenesis 3
10. Write notes on the following :
- (a) Shuttle vectors 5
 - (b) Western blotting 5