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.

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

P.T.O.

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- 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.
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- 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.
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| 7. | Write detailed notes on the following: | | |
| | (a) | Restriction enzymes | 5 |
| | (b) | Gel electrophoresis | 5 |
| 8. | Wha | t is DNA seq uencing? Write a | any |
| | meti | hod of DNA sequencing and | its |
| | appl | ication in biology. | 10 |
| 9. | Write explanatory note on the following: | | |
| | (a) | In situ hybridization | 4 |
| | (p) | ELISA | 3 |
| | (c) | Site directed mutagenesis | 3 |
| 10. Write notes on | | te notes on the following: | |
| | (a) | Shuttle vectors | 5 |
| | (b) | Western blotting | 5 |