

S.No. 8087

16 SCCBT 3

(For candidates admitted from 2016–2017 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Part III – Biotechnology — Major

rDNA TECHNOLOGY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. Define genome and its function.
2. Define Restriction endonuclease with examples.
3. Write about the cloning vectors with examples.
4. Mention multiple cloning site and its uses.
5. What is RAPD?
6. Explain the uses of Western and Northern blotting.
7. Enumerate the application of DNA sequencing.
8. Mention some rDNA products.

9. What gene therapy?
10. What are secondary metabolites? Give examples.

PART B — ($5 \times 5 = 25$).

Answer ALL questions, choosing either (a) or (b).

11. (a) Give a short note on various steps involved in rDNA technology.

Or

- (b) Write a detailed account on DNA modifying enzymes.

12. (a) Comment on BAC vectors with suitable diagram.

Or

- (b) What are phage vectors? Give one example.

13. (a) Discuss the methods of transformation in cloning vectors.

Or

- (b) Write a short note on DNA finger printing.

14. (a) Describe GUS expression system with suitable diagram.

Or

- (b) Define chain termination and automated sequence.

15. (a) Give a detailed account on biopharmaceuticals products.

Or

- (b) Comment on genetically modified lymphocytes.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Give a detailed account on enzymes of rDNA technology.

17. Discuss in detail about the cosmids and phagemids.

18. Provide a detailed note on construction of cDNA libraries.

19. Write a detailed note on site directed mutagenesis.

20. Explain in detail about the recombinant insulin production.