

**SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION  
MARCH 2021**

Biotechnology

BTY 6B 15—RECOMBINANT DNA TECHNOLOGY AND BIOINFORMATICS

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer any two questions.  
Each question carries 10 marks.*

1. Write down the principle, procedure and applications of Western blotting.
2. What are the different types of vectors for *E coli* ? Write in detail about plasmids, cosmids, and phagemids ?
3. What are the applications of transgenic plants ?
4. What is the principle and procedure of Maxam and Gilberts' sequencing ?

(2 × 10 = 20 marks)

**Section B**

*Answer at least seven questions.  
Each question carries 5 marks.  
All questions can be attended.  
Overall Ceiling 35.*

5. What are primary and secondary data bases ?
6. Write down briefly about PDB ?
7. What are the procedures for DATABASE searching ?
8. What are the applications of transgenic animals ?
9. Narrate procedure and applications of plaque hybridisation ?
10. What is M13mp series of vectors? Narrate its usefulness and steps in converting M13 phage into a cloning vector ?
11. Compare and contrast T4 DNA ligase and E coli DNA ligase.
12. What are the procedure and applications of RAPD ?

Turn over

13. Narrate the principle and procedure of CTAB method of plant DNA isolation.
14. What are the applications of PCR ?
15. What are the methods of introducing DNA into plant cells ?
16. What are the applications of molecular marker technology ?
17. What is the Southern blotting ?
18. What are STR? What are the different types of STR ? How does they aid in DNA fingerprinting ?

(7 × 5 = 35 marks)

### Section C

*Answer at least three questions.*

*Each question carries 5 marks.*

*All questions can be attended.*

*Overall Ceiling 15.*

19. Replica plating.
20. pSV40.
21. AFLP.
22. Linkers *v/s* adapters.
23. Electroporation.

(3 × 5 = 15 marks)

### Section D

*Answer all question.*

*Each question carries 2 marks.*

24. Klenow fragment.
25. BLAST.
26. GENBANK.
27. SEQUIN.
28. Phasmids.

(5 × 2 = 10 marks)