

B. Sc DEGREE END SEMESTER EXAMINATION - MARCH 2025**SEMESTER 6 : BOTANY****COURSE : 19U6CRBOT11 : BIOTECHNOLOGY AND BIOINFORMATICS***(For Regular 2022 Admission and Supplementary 2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

PART A**Answer All (1 mark each)**

1. Give an example for a vector used in rDNA technology.
2. What are CRY proteins?
3. What is proteome?
4. What is BAC?
5. Define embryo rescue.
6. What is callus?
7. What are GIs?
8. Polymerase chain reaction is carried out in which machine.

(1 x 8 = 8)**PART B****Answer any 6 (2 marks each)**

9. Differentiate between genome and proteome.
10. State two advantages of biopharming.
11. Give an account on any two factors affecting androgenesis.
12. write an account on species 2000.
13. How can the automation of protein sequencing be done?
14. Explain electroporation.
15. Why are cryoprotectants added? Name any one cryoprotectant.
16. Give the applications of RasMol.
17. Role of selectable markers in rDNA technology.
18. What is tissue engineering? State one of its application.

(2 x 6 = 12)**PART C****Answer any 4 (5 marks each)**

19. State the role of restriction enzymes in rDNA technology.
20. Explain steps involved in protein visualization using RasMol.
21. Write an account on protein structure prediction.
22. Give a brief account on the scope and relevance of bioinformatics.
23. Describe the process by which flavr savr tomato was developed.
24. How will you develop haploid plants using tissue culture techniques?

(5 x 4 = 20)**PART D****Answer any 2 (10 marks each)**

25. Explain the process of rDNA technology. Give an account on various steps involved.

26. Describe the method and discuss the importance and implication of pollen culture.
 27. Explain the applications of genome sequencing with special reference to various genome sequencing projects.
 28. What are databases? Give an account of different databases you have studied.
- (10 x 2 = 20)**