



QP CODE: 21101175



21101175

Reg No : .....

Name : .....

**B.Sc DEGREE (CBCS) EXAMINATION, APRIL 2021**

**Sixth Semester**

**CORE - BO6CRT12 - BIOTECHNOLOGY AND BIOINFORMATICS**

Common for B.Sc Botany Model I, B.Sc Botany Model II Food Microbiology, B.Sc Botany Model II Environmental Monitoring And Management, B.Sc Botany Model II Horticulture and Nursery Management & B.Sc Botany Model II Plant Biotechnology

2017 Admission Onwards

D1E6CE28

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Name a common tissue culture medium.
2. What is transplantation in plant tissue culture?
3. What are somatic embryos?
4. Name any two surface sterilizing agents used in anther culture.
5. Name any two natural encapsulating gels for cell immobilization.
6. Which enzyme served as molecular glue?
7. What is autoradiography?
8. Expand PCR.
9. What is the role of dideoxy nucleotides in Sangers DNA sequencing?
10. What is transcriptome?
11. Name two sequence analysis tools.
12. Name a molecular visualization tool.

(10×1=10)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Give an account on in vitro differentiation.
14. Write briefly on somaclonal variations.
15. Distinguish between cybrids and hybrids.
16. Write down the basic strategies for secondary metabolite production.
17. Explain the achievements of recombinant DNA technology in environmental cleaning.
18. Explain the uses of gel documentation system.
19. Briefly describe nucleotide databases with examples.
20. Comment on sequence alignment techniques. What is the difference between pairwise and multiple sequence alignment?
21. Differentiate homologs, orthologs and paralogs.

(6×5=30)

### **Part C**

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Give an account of tissue culture medium and its components.
23. Give an account of different types of cloning vectors.
24. Explain the procedure of DNA isolation.
25. What are biological databases? List out its characteristic features and different types.

(2×10=20)

