TB256931C

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, MARCH 2025

2018, 2019, 2020, 2021 ADMISSIONS SUPPLEMENTARY

SEMESTER VI - CORE COURSE (BOTANY)

BO6B12B18 - Biotechnology and Bioinformatics

Time : 3 Hours **Maximum Marks : 60**

Part A

I. Answer any Ten questions. Each question carries 1 mark **(10x1=10)**

1. What is surface sterilization? Give two examples.
2. What do you meant by the term "Organogenesis"?
3. Why is it necessary to have an aseptic environment in plant tissue culture lab?
4. What are the limitations of somatic hybridisation?
5. What is the purpose of the gel documentation system?
6. List any two application of PCR.
7. Which are the key enzymes involved in PCR?
8. Give full form of DDBJ.
9. What is bioinformatics?
10. Which are the methods for aligning two sequences.
11. What is called local alignment?
12. What is called orthologous sequences?

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. What is LAF and what is its use in a tissue culture laboratory?
14. Explain the principle and working of an autoclave.
15. Explain plant tissue culture media as an in vitro environmental matrix for vegetative plant materials.
16. Give details on electroporation.
17. Give a brief account of the Sanger method of DNA sequencing.
18. Comment on the recombinant DNA technology in medicine.
19. What is meant by organism-specific databases? Give examples.
20. Write a short note on structural genomics.
21. Give a brief note on pairwise sequence alignment.

Part C

III. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Explain in vitro production of haploids.
23. Give details on different cloning vectors in rDNA technology.
24. Define the protein databases with examples.
25. Give details on the use of RasMol in bioinformatics.