TB206175W

Reg. No :.....

Name :.....

B. Sc. DEGREE (C.B.C.S.) EXAMINATION, MARCH 2023

(2020 Admission Regular, 2019, 2018 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 a bioreactor? Give its importance.
2. What are the limitations of somatic hybridisation?
3. Define subculturing and hardening
4. What is the role of adding additives in plant tissue culture medium? What are its disadvantages?
5. List any two goals of rDNA technology.
6. Mention the properties of a good vector.
7. What are the steps in rDNA technology?
8. Give an example for any two primary databases.
9. Write a short note on GenBank.
10. Give full form of BLAST
11. What is called orthologous sequences?
12. What is called transcriptome?

Part B

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

13. Differentiate between pollen and anther culture. Discuss the advantages and disadvantages of both.
14. What is cybridization? Explain the various approaches to achieve cybrids.
15. How are artificial seeds prepared?
16. What is meant by gene library?
17. Give details on the DNA polymerase enzyme in PCR.
18. What are called super Bugs?
19. Provide details on PubMed.
20. Clarify the relevance of functional genomics.
21. Write a short note on structural genomics.

Part C

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

22. Explain the Murashige and Skoog medium composition and its preparation.
23. Explain DNA isolation and agarose gel electrophoresis.
24. Define the protein databases with examples.
25. Briefly explain FASTA and BLAST tools.