

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2020
BOTANY
FBOT3C09 - BIOTECHNOLOGY AND BIOINFORMATICS

Time: Three Hours

Maximum Weightage: 30

Part A: Answer any *four* questions. Each carries *two* weightage.

1. Comment on synthetic seeds. Add a note on its advantages and disadvantages.
2. Write an account on the application of bioinformatics in pharmacogenomics and medicine.
3. Briefly mention the steps involved in Southern Blotting.
4. What is BLAST? Comment on its significance.
5. Comment on gene piracy with special emphasis on its remedial measures.
6. Write a short note on the working and organization of World Wide Web.
7. Give an account on Terminator technology. Mention its impact on agriculture.

(4 × 2 = 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. Comment on Human Genome Project.
9. Write an account on web resources and open access journals. Mention their role in imparting scientific knowledge.
10. Write an account on the application of tissue culture in secondary metabolite production.
11. Elucidate the principle and applications of DNA microarrays.
12. Explain organogenesis. Write a short note on factors effecting organogenesis.
13. Write a detailed note on the types of nucleic acid and protein databases.
14. Write a detailed note on the following. a) RAPD b) RFLP c) AFLP. Mention their applications.

(4 × 3 = 12 weightage)

Part C: Answer any *two* questions. Each carries *five* weightage.

15. Discuss the scope and applications of Bioinformatics in genomics.
16. Write a detailed account on steps involved in the development of transgenic plants.
17. Write an account on the principle of protein structure prediction. Explain the different methods involved in it.
18. Describe the different methods of DNA sequencing in detail.

(2 × 5 = 10 weightage)