

TM243796L

Reg. No :

Name :

MASTER'S DEGREE (C.S.S) EXAMINATION, FEBRUARY 2024
2022 ADMISSIONS SUPPLEMENTARY (SAY)
SEMESTER III - CORE COURSE BOTANY
BO3C10TM20 - Biotechnology, Bioinformatics and Bio- Nanotechnology

Time : 3 Hours

Maximum Weight : 30

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Define bio polymers with an example.
2. write on automated DNA sequencing
3. Distinguish between organ culture and callus culture.
4. Give a short note on the potential impact of GMOs on the ecosystem.
5. How is M13 phage important in gene cloning experiments?
6. What are DNA finger printing and footprinting? What are the significance?
7. What is Dot blotting?
8. Discuss the applications of microarray technology.
9. Differentiate cladogram and phylogram.
10. What are the merits and demerits of carbon nanoparticles?



Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Explain PCR.
12. Describe the different culture systems in a bioreactor.
13. Write a note on protoplast culture.
14. How are transformed cells screened after cloning experiments?
15. Differentiate genomics and proteomics.
16. Discuss molecular phylogeny and its significance.
17. Explain the dot plot method of sequence alignment.
18. Discuss the sources of biosynthesis of nanoparticles.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Discuss, in detail, the types of media and the constituents required for an ideal tissue culture medium.
20. Write an essay on the steps involved in Agrobacterium mediated gene transfer in plants.
21. Describe the techniques involved in Southern and Western blotting techniques. Emphasize on the differences in their applications.
22. Write an essay on protein structure prediction.