

TM244464S

Reg. No : .....

Name : .....

MASTER'S DEGREE (C.S.S) EXAMINATION, MARCH 2024

2022 ADMISSIONS REGULAR

SEMESTER IV - M. Sc. Botany

BO4E01TM20 - Plant Tissue Culture and Microbial Biotechnology

Time : 3 Hours

Maximum Weight : 30

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

1. Write a note on cybrids.
2. Discuss the limitations of haploid plants.
3. Discuss the application of androgenesis.
4. Discuss the culture conditions for producing secondary metabolites.
5. Explain microencapsulation. What are its advantages and limitations?
6. Describe the advantages and limitations of physical entrapment of enzymes.
7. Write a short note on antifoam agents.
8. What is meant by tissue engineering?
9. Explain bioventing.
10. What is meant by bioaugmentation?

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

11. Critically comment on organogenesis.
12. Write a brief account on the mechanism and molecular basis of somaclonal variation.
13. Explain the nutritional requirements for embryo culture.
14. Write a detailed account on biotransformation.
15. Give an account on biosensors and their applications.
16. Give an account on NPV.
17. Explain the features of embryonic stem cells.
18. Describe the procedure of bioremediation for the insitu cleaning of water bodies.

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

19. Describe the techniques of induction of meristemoids.
20. Write detailed account on regeneration of plants from protoplasts.
21. Write an essay on production of secondary metabolites in culture conditions.
22. Write down the process of secondary screening of microorganisms.

