3/3/25

TM254235W

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, MARCH 2025

2020, 2021, 2022 ADMISSIONS SUPPLEMENTARY

BOTANY SEMESTER IV - ELECTIVE COURSE

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. Explain the significance of protoplast culture.
2. Explain the conventional method of production of haploid plants.
3. What are the types of embryo culture?
4. Discuss about DNA banking for germplasm conservation.
5. Explain microencapsulation. What are its advantages and limitations?
6. Describe enzyme immobilzation by adsorption and its limitations.
7. Explain the method of primary screening of organic acid producing bacteria.
8. What is meant by tissue engineering?
9. Give a short description of phytovolatilization.
10. Explain bioleaching.

Part B

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

11. Illustrate the plant propagation pathway.
12. Explain the applications of protoplast culture.
13. Write the protocol for microspore culture.
14. What are the advantages of hairy root culture?
15. Write notes of thermal detection biosensors.
16. Give an account on SCP.
17. Wrie a note on non embryonic stem cell.
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. Explain the methods of adventitious shoot regeneration.
20. Write an essay on protoplast culture.
21. Write a detailed account on cryopreservation techniques.
22. Write an essay on the industrial production of Amylase and Cellulase.