QP CODE: 21000772

21000772

Reg No : .....

Name : .....

M Sc DEGREE (CSS) EXAMINATION, JULY 2021

Fourth Semester

Faculty of Science

M Sc BOTANY

Elective - BY800401 - PLANT TISSUE CULTURE AND MICROBIAL BIOTECHNOLOGY

2019 Admission Onwards

0BB176DB

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight **1** each.

1. What are synseeds?
2. How will you produce virus free plantlets?
3. Give a brief account on the applications of somatic hybridization.
4. What are the limitations of endosperm culture?
5. Briefly describe the importance of in vitro germplasm conservation
6. What is an elicitor?
7. Name any two matrices or carriers used for immobilization.
8. What is a production strain?
9. How will you control foam in a bioreactor?
10. Write the principle behind biodegradation of radioactive wastes.

(8×1=8 weightage)

Part B (Short Essay/Problems)

Answer any **six** questions.

Weight **2** each.

11. How plant growth regulators influence organogenesis ?
12. What are the sources of protoplasts ? Explain.

13. Describe the mechanism of protoplast fusion.

14. Explain in vitro maturation of embryosac.

15. Describe various methods of enzyme immobilization.

16. Describe the features of a rotary drum bioreactor. Write its applications.

17. Discuss rhizobial inoculants as biofertilizers.

18. Give an account on bioremediation of heavy metals.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight **5** each.

19. Compare and contrast embryogenesis in somatic and zygotic embryos.

20. Describe the production of androgenic haploids.

21. What is penicillin? Mention different types and how it can be produced on a commercial scale using fermentation technology.

22. Give a detailed account on tissue engineering in regenerative medicine with examples.

(2×5=10 weightage)