25019901

QP CODE: 25019901

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Fourth Semester

B.Sc Botany and Biotechnology Model III Double Main

Core Course - BO4CRT21 - PLANT BIOTECHNOLOGY

2017 Admission Onwards

C4D20010

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Give an example of a nitrogen source in tissue culture medium.
2. What is wound callus?
3. Name any 2 stains used to identify viable cells.
4. Define somaclones.
5. What is electroporation?
6. Give any 1 example of Agrobacterium based vector.
7. Explain flori-culture.
8. Write any 2 importance of floral trait modifications.
9. Explain the future prospects of using bio-colours.
10. Explain the Cartagena Protocol on biosafety.
11. Explain superviruses.
12. Explain Indian Patents Act.

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain the following: 1. Plant biotechnology 2. Traditional biotechnology 3. Modern biotechnology 4. Plant tissue culture
14. Briefly explain direct and indirect somatic embryogenesis.
15. Explain the working and principle of an autoclave.
16. List out the various achievements made in horti-culture.
17. Comment on the biosynthesis of ethylene in plants.
18. What is salt stress? What are the approches to overcome salt stress?
19. Write notes on herbicide resistant and virus resistance crops.
20. Write in detail the biosafety guidelines and regulations for release of genetically engineered micro organisms.
21. Write short notes on: 1. Patents 2. Copyrights 3. GATT 4. TRIPs 5. WIPO

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Write in detail the various sterilization techniques used in plant tissue culture.
23. Highlight the major advantages and disadvantages of micropropagation.
24. Comment on the different vectors used for plant transformation.
25. Highlight the benefits of transgenics to human health, society and the environment.

(2×10=20)