QP Code: P25C022

Reg. No : .....
Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

III SEMESTER (CBCSS-PG) DEGREE EXAMINATIONS, OCTOBER 2025
M. Sc.Biotechnology
GBT3C03 : PLANT BIOTECHNOLOGY
2024 Admission Onwards

Time: 3 Hours **Maximum Marks: 30**

Section A

Short answer type questions. Answer **any four**. Weightage **2** for each.
(4x2 = 8 Weightage)

1. Write a note on somatic embryogenesis.
2. Explain precocious germination.
3. Discuss the fundamental differences between primary and secondary metabolites and explain it's importance.
4. Report somatic hybridization.
5. How to eradicate diseases in plant tissue culture?
6. Distinguish between Ti and Ri plasmids.
7. Explain (a) RIP (b) thionins (c) PR proteins.

Section B

Short essay-type questions.Answer **any four**. Weightage **3** for each.
(4x3 = 12 Weightage)

8. Explian the role of hormones in growth and differentiation.
9. Explain culturing of ovary and ovule.
10. Evaluate the practical utility of gene transfer methods in crop breeding programs.
11. What is the significance of cybridization?
12. How to execute mutation breeding in tissue culture?
13. Which factors would you change to produce Flavr Savr Tomato?
14. State androgenesis.

Turn Over

Section C

Essay-type questions.Answer **any two**. Weightage **5** for each.

(2x5 = 10 Weightage)

15. How would you define clonal propagation? Explain the *in vitro* regeneration pathways and the factors controlling it.
16. Discuss the significance of germplasm conservation.
17. How would you transfer herbicide resistance?
18. Illustrate multiple gene transfer.

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