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Reg. No. : .....

Name : .....

**Fifth Semester B.Sc. Degree Examination, December 2022**

**Career Related First Degree Programme Under CBCSS**

**Group 2 (a) – Botany and Biotechnology**

**BB 1572 — PLANT BIOTECHNOLOGY**

**(2015-2017 Admission)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

Answer **all** questions in a word or **one** or **two** sentences. **Each** question carries **1** mark.

1. Define cisgenic organism.
2. What is a promoter?
3. What is a cybird?
4. State the applications of Tobacco Mosaic Virus in plants.
5. What is the significance of beta endotoxin?
6. Mention the use of calcium hypochlorite in tissue culture.
7. Define protoplast.
8. Which hormone is helpful in ripening of fruits?
9. What is a fusion agent?
10. What is callus?

**(10 × 1 = 10 Marks)**

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## SECTION – B

Answer any **eight** questions. **Each** question carries **2** marks. (Answer not to exceed **one** paragraph)

11. What is maturation drying?
12. State a chemical method to introduce foreign DNA to plants.
13. What is Ri plasmid?
14. What is golden rice?
15. What is marker gene?
16. What is embryo rescue?
17. What is the role of magnesium in plant growth?
18. What are edible vaccines?
19. Explain the disadvantages of in vitro methods.
20. What is the principle of glyphosate resistance?
21. What is microfiltration?
22. What is Gamborg's medium?

**(8 × 2 = 16 Marks)**

## SECTION – C

Answer any **six** questions. **Each** question carries **4** marks (Answer not to exceed **120** words).

23. How artificial seeds are produced? Mention their advantages.
24. What is meristem culture?
25. Write notes on: Plant viral vectors.

26. Write notes on: (a) Electroporation (b) particle gun method.
27. What is a binary vector?
28. What is suspension culture?
29. What is haploid production? Briefly mention methods.
30. What is root culture?
31. Explain the sterilisation methods used in tissue culture experiments.

**(6 × 4 = 24 Marks)**

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks. (Answer not to exceed **3** pages)

32. Explain protoplast isolation and fusion. Add a note on the significance of protoplasts.
33. Explain the applications of transgenic plants.
34. Discuss the role of plant growth regulators and micronutrients in tissue culture media.
35. Describe the steps of micropropagation.

**(2 × 15 = 30 Marks)**

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