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B.Sc./6th Sem (H)/BOT/23(CBCS)

2023

6th Semester Examination

**BOTANY (Honours)**

Paper : C 14-T

[Plant Biotechnology]

[CBCS]

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers  
in their own words as far as practicable.*

**Group - A**

Answer any **five** questions.  $2 \times 5 = 10$

1. What are staggered and blunt cuts?
2. What is YAC?
3. What is the role of EDTA in plant tissue culture media?
4. Write two differences between half MS medium and full MS medium.
5. Define totipotency.
6. What is Cryopreservation? Name one Cryoprotectant.
7. What are reporter genes?
8. What is Edible Vaccine? Give Example.

P.T.O.





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**Group - B**

Answer any **four** questions.  $5 \times 4 = 20$

9. Discuss the application of plant tissue culture in virus elimination and secondary metabolite production. 5
10. Enumerate the features of an ideal vector. Write a short note on PBR322. 2+3
11. Write the different steps involved in the construction of cDNA library. 5
12. What is shuttle vector? Discuss the role of Transgenics in Bioremediation. 2+3
13. Briefly discuss the amplification of DNA by PCR. 5
14. What are Biosafety Concerns? Write a short note on Golden Rice. 2+3

**Group - C**

Answer any **one** question.  $10 \times 1 = 10$

15. What is the difference between somatic and zygotic embryogenesis? Discuss the different steps involved in the production of artificial seed. State the significance of artificial seed. 3+5+2
  16. Explain the process of Electroporation. Write down the steps involved in the isolation and culture of protoplast. 3+7
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