**D4ABT2001** **(1 Page)** **Name.....**
**Reg.No.....**

**FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2022**
**(Regular/Improvement/Supplementary)**
**BOTANY**
**FBOT4E01 - BIOTECHNOLOGY IN CROP IMPROVEMENT**

**Time: 3 Hours** **Maximum Weightage: 30**

**Part A: Answer any *four* questions. Each carries *two* weightage.**

1. What are Cybrids?
2. Write a note on PPVFR.
3. Write down the concepts of organic plant breeding.
4. Describe hairy root culture and its importance.
5. What is seed certification?
6. Describe the role of any two agencies involved in crop genetic resource activities.
7. What are Somaclonal variants?

**(4 × 2 = 8 weightage)**

**Part B: Answer any *four* questions. Each carries *three* weightage.**

8. Discuss the methods used for extending the shelf life of fruits and flowers.
9. Give an account on the role of biotechnology in conservation of crop genetic resources.
10. What is UPOV? Explain its features and functions?
11. Describe the methods for obtaining haploid plants of homozygous lines.
12. Write short notes on ICAR and CSIR.
13. Briefly describe the types of markers used in molecular plant breeding.
14. What is micro-propagation? Explain its advantages and disadvantages.

**(4 × 3 = 12 weightage)**

**Part C: Answer any *two* questions. Each carries *five* weightage.**

15. Explain the applications of biotechnology in crop improvement.
16. Give a detailed account on IPR. Explain its role in crop improvement programmes.
17. Write an essay on bioreactor technology. Explain the types of bioreactors and their applications.
18. What is immobilization technique? Explain different types and its applications.

**(2 × 5 = 10 weightage)**