D6BBT2001

Reg.No.............................

Name: ...........................

### SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2023
**(Regular/Improvement/Supplementary)**

**BOTANY**

**GBOT6B10T: GENETICS AND PLANT BREEDING**

**Time: 2 Hours**                                              **Maximum Marks: 60**

**SECTION A: Answer the following questions. Each carries *two* marks.**
**(Ceiling 20 Marks)**

1. Define lethal genes.

2. What is Law of Independent assortment?

3. Explain monohybrid test cross.

4. What is meant by quantitative inheritance?

5. State Hardey Weinberg law.

6. What is Chromosome theory of Linkage?

7. Define heterosis.

8. Explain coefficient of coincidence.

9. What are obsolete varieties?

10. Comment on screening for disease resistance.

11. Write an account on clonal selection.

12. What is crossing over frequency?

**SECTION B: Answer the following questions. Each carries *five* marks.**
**(Ceiling 30 Marks)**

13. Explain Co-dominance with an example.

14. What were the interpretations from Mendel's dihybrid cross?

15. Explain the inheritance of Ear size in maize.

16. Write a comparative account on complete linkage and incomplete linkage.

17. How is gene sequence/order determined?

18. Comment on the organizational setup of ICAR.

19. Differentiate between autopolyploidy and allopolyploidy.

**SECTION C: Answer any 1 question. Each carries *ten* marks.**

20. What is the difference between dominant epistasis and recessive epistasis? Explain with help of suitable examples.

21. What are the major steps involved in pureline selection? Mention major achievements.

**(1 x 10 = 10 Marks)**