

D6BBT2301

Reg. No.....

Name:

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2026
(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. What are homologous chromosomes?
2. What is the significance of pureline selection?
3. Explain the significance of linkage.
4. Explain interference and coincidence.
5. What is a reciprocal cross?
6. What is interspecific hybridization? Give example.
7. Comment on gene mapping.
8. What are land races?
9. What are multiple alleles?
10. Differentiate between back cross and test cross.
11. What is law of Dominance?
12. Define heterosis. Write a suitable example.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 marks)

13. Explain about cytological evidence of genetic crossing over.
14. Describe extra-nuclear inheritance.
15. Explain the role of ICAR in plant breeding.
16. What is polygenic inheritance? Explain with example.
17. Explain the reasons for Mendel's success.
18. Differentiate between primary introduction and secondary introduction.
19. Explain the inheritance pattern of incomplete dominance of one pair of gene (3:6:3:1:2:1).

SECTION C: Answer any *one* question. The question carries *ten* marks.

20. Explain the genetics of Self sterility in *Nicotiana*.
21. Write an essay on the procedure of Mutation breeding.

(1 x 10 = 10 Marks)