

D6BBT2101

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Reg.No.....

Name: .....

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2024**  
**(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. Comment on self-sterility.
2. What is the significance of clonal selection?
3. What is intervarietal hybridization? Give example.
4. Comment on the achievements of plant introduction.
5. What is meant by Monohybrid cross?
6. Differentiate between homozygous and hemizygous condition?
7. What is a three point test cross?
8. What are wild relatives?
9. Compare Linkage and independent assortment.
10. What are modified ratios due to epistasis?
11. Explain Gene for gene hypothesis.
12. What is vertical resistance?

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

**(Ceiling 30 Marks)**

13. Explain the genetics of inheritance in complementary gene interaction.
14. What is recessive epistasis? Explain it with example.
15. Write a note on mapping of chromosome.
16. Explain the procedure of mass selection.
17. Differentiate between land races and obsolete varieties.
18. Write the achievements of mutation breeding.
19. Explain incomplete dominance with an example.

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

20. Write an essay on various types of allelic interactions.
21. Explain the pattern of extranuclear inheritance with plastid inheritance in *Mirabilis* as example.

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