D 100510   (Pages : 2)   Name...

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

SIXTH SEMESTER U.G. DEGREE EXAMINATION, MARCH 2024

(CBCSS—UG)

Botany

BOT 6B 10—GENETICS AND PLANT BREEDING

(2019 Admission onwards)

Time : Two Hours   Maximum : 60 Marks

Section A

Answer **all** *questions.*
Each question carries 2 *marks.*
Ceiling : 20 *Marks.*

1. Define back cross.

2. Define law of dominance.

3. Define linkage and crossing over.

4. What is quantitative inheritance ?

5. What are multiple alleles ?

6. Differentiate mass selection and pure line selection.

7. Briefly explain the role of ICAR in plant breeding.

8. What is inbreeding depression.

9. What polyploidy breeding ?

10. Explain Hardy-Weinberg Law and factors affecting it.

11. Define chromosome mapping.

12. What are lethal genes ?

Turn over

Section B

Answer **all** *questions.*
Each question carries 5 *marks.*
Ceiling : 30 *Marks.*

13. Discuss Mendel's laws of inheritance. Which one of these laws you consider the most important and why ?

14. What is dominant epistasis ? Give a suitable example.

15. Write a short note on heterosis breeding.

16. What are the components of plant genetic resources.

17. Briefly describe the procedures of mutation breeding.

18. What is polygenic inheritance ?

19. Explain multiple allelic inheritance and its significance

Section C

Answer any **one** *question.*
The question carries 10 *marks.*

20. With a suitable example write an essay on extra nuclear inheritance.

21. What are the objectives of plant breeding ? Briefly explain modern tools for plant breeding.

$(1 \times 10 = 10$ marks$)$