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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

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Section B

 $\mathbf{2}$

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.

 $(1 \times 10 = 10 \text{ marks})$