D 140090 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2026

Botany

BOT 6B 10—GENETICS AND PLANT BREEDING

(2020 Admission Onwards)

Time : Two Hours Maximum : 60 Marks

Section A

All questions can be answered.
Each question carries 2 marks.
(Ceiling 20 Marks).

1. What is meant by dominant and recessive character in gene ?
2. Expand ICAR and it's role.
3. What are multiple alleles ?
4. What is meant by incomplete dominance ?
5. Enumerate the characteristics of quantitative inheritance.
6. What is meant by stress resistance for breeding ?
7. What is called chromosomal mapping ?
8. Explain the complementary gene action.
9. Write an account on clonal selection.
10. Define dihybrid cross.
11. What is intervarietal hybridization ?
12. What is the plastid inheritance in the 4 o'clock plant ?

(Ceiling 20 marks)

Section B

All questions can be answered.
Each question carries 5 marks.
(Ceiling 30 Marks).

13. Classify the types of ABO blood groups in humans.
14. Differentiate the complete and incomplete linkage.

Turn over

15. Define recessive epistasis with the coat colour in mice.

16. What is plant breeding? and mention their objectives.

17. Explain the genetics of inheritance of Fruit colour in summer squashes.

18. Determination of gene sequences.

19. Discuss about the complementary gene interaction in Lathyrus flower color.

(Ceiling 30 marks)

Section C

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

20. Explain the various steps involved in plant introduction.

21. Discuss about the modified dihybrid ratios by incomplete dominance of one pair of gene (3 : 6 : 3 : 1 : 2 : 1) and both pairs (1 : 2 :1 : 2 : 4 : 2 : 1 : 2 : 1).

(1 × 10 = 10 marks)

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 × 10 = 10 marks)