D 120086 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
MARCH 2025

Botany

BOT 6B 14 (E3)—GENETICS AND CROP IMPROVEMENT

(Admissions Year—2019 Onwards)

Time : Two Hours Maximum : 60 Marks

Section A

All questions can be answered.
Each question carries 2 *marks.*
Ceiling : 20 *marks.*

1. Write the floral biology of Arecanut.
2. What are nif genes ?
3. Define heterobeltiosis.
4. Mention the importance of making saline tolerant crops.
5. Write a note on the achievements on rice breeding programmes.
6. Define plant introduction and explain its relevance.
7. Explain the role of somaclonal variations in crop improvement.
8. Write notes on breeding techniques and achievements in pepper.
9. What is plant hybridization ?
10. List any *two* importance of abiotic and biotic stresses.
11. Expand and write the notes on ICRISAT.
12. What do you mean by mutation ?

Turn over

Section B

All questions can be answered.
Each question carries 5 *marks.*
Ceiling : 30 *marks.*

13. Describe the breeding techniques and achievements in rubber.

14. Agencies involved in plant genetic resources activities - NBPGR and IPGRI.

15. Differentiate interspecific and intergeneric hybridization.

16. Overview the Principles of selection, segregating populations and achievements in crop improvement.

17. Brief account on breeding methods for insect resistance.

18. Give an account on the exploration and documentation of plant genetic resources.

19. Explain the genetics of salt tolerance.

Section C

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

20. Explain the steps involved the process of hybridization techniques.

21. Define plant genetic resources and mention their special activities of PGR.

(1 × 10 = 10 marks)

D 100516 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER U.G. DEGREE EXAMINATION, MARCH 2024

(CBCSS—UG)

Botany

BOT 6B 14 (E3)—GENETICS AND CROP IMPROVEMENT

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A

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

1. What is Selection ? Give any *two* methods of selection strategies.
2. Expand CIMMYT and add a note on its activities.
3. Write a note on importance of floral biology in crop improvement.
4. What is Quarantine ? Why is it important ?
5. What is back crossing ? How is it done ?
6. Give an account of biopesticides.
7. What is the significance of haploids in plant breeding ?
8. Differentiate between polygenic and oligogenic resistance.
9. What is Quarantine ? Why is it important ?
10. What is Conservation ? Mention its significance.
11. Write a note on origin of pepper.
12. What is Mutation ? Give its application in crop improvement

Turn over

Section B

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

13. Explain the activities of NBPGR.

14. Describe the breeding techniques and achievements in Rubber.

15. What is Hybridization ? Explain heterosis. Give its impact on crop improvement

16. What is nitrogen fixation ? Write a note on genetics of nitrogen fixation.

17. Write a note on any *two* International research institutes contributing their research activities for crop improvement

18. Explain Plant introduction.

19. What is heteroploidy in crop improvement ? Explain various methods you have studied.

Section C

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

20. Explain the various breeding strategies adopted in crop improvement. Mention their advantages and limitations.

21. List out the different types of abiotic stresses exhibited by plants. Explain the breeding approaches for any *two* abiotic stresses you have studied.

(1 × 10 = 10 marks)