

23BBO303

**UG PROGRAM (4 YEARS HONOURS) WITH SINGLE MAJOR
AT THE END OF THIRD SEMESTER
BOTANY-PLANT BREEDING (B.Sc HONOURS-MAJOR)**

(w.cif Admitted Batch 2023-24)

Time: 3 Hours

Maximum: 70 marks

Section-A

Answer any Five Questions.

5x4=20

1. Classification of crop plants based on mode of pollination.
2. Domestication of plants.
3. Genetic erosion.
4. Objectives of Hybridization.
5. SSR.
6. Heritability.
7. Gene sanctuaries.
8. What are spontaneous and induced mutations?

Section-B

Answer All Questions.

5x10=50

9. a) What are the genetic consequences of self and cross-pollination? Discuss their importance in plant breeding.
(Or)
b) Discuss the classification of crop plants based on the mode of pollination and mode of reproduction.
10. a) Write an Essay on the Role of Self-incompatibility in hybrid production.
(Or)
b) Explain the concept of male sterility in plants and discuss its application in hybrid seed production.
11. a) Explain the procedure of pure line selection in self-pollinated crops and discuss its merits and demerits.
(Or)
b) Describe clonal selection in vegetatively propagated crops and discuss its procedure, merits, and limitations.
12. a) Discuss the objectives, procedure, and advantages of hybridization in cross-pollinated crops.
(Or)
b) Explain the backcross method in cross-pollinated crops, highlighting its advantages and disadvantages.
13. a) Describe the applications of polyploidy breeding in crop improvement and its limitations.
(Or)
b) Explain Marker-Assisted Selection (MAS) and its applications in plant breeding.
