UG PROGRAM (4 YEARS HONOURS) WITH SINGLE MAJOR 23BBO303

AT THE END OF THIRD SEMESTER

BOTANY-PLANT BREEDING (B.Sc HONOURS-MAJOR)

(w.e.f. Admitted Batch 2023-24)

Time: 3Hours Maximum: 70 marks

Answer any Five questions. Section - A **5 x 4 = 20**

1. Genetic variation.
2. Centers of Origin of plants.
3. Advantages and disadvantages of Clonal selection.
4. Objectives of Hybridization.
5. What are spontaneous and induced mutations?
6. What are the main goals of plant breeding?
7. Domestication of plants.
8. Applications of Marker Assisted Selection (MAS).

Answer All the questions. Section - B **5 x 10 = 50**

9. a) Define Apomixis.Discuss the types and significance of Apomixis

(Or)

b) What are the genetic consequences of self and cross-pollination? Discuss their importance in plant breeding.

10. a) Write an Essay on the Role of Self - incompability in hybrid production.

(Or)

b) Explain the concept of male sterility in plants and discuss its application in hybrid seed production.

11. a) Discuss the merits and demerits of plant introduction and the role of introduction agencies in India.

(Or)

b) Explain the procedure of pure line selection in self-pollinated crops and discuss its merits and demerits.

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) Discuss the role of DNA markers in plant breeding, explaining the use of SSR and SNP markers.