

October 2025
B.A./B.Sc.
Fifth Semester
DISCIPLINE SPECIFIC ELECTIVE – 1
BOTANY
Course Code: BOD 5.11
(Plant Breeding)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Write a note on each of the following: 7×2=14
 - (a) Objectives of plant breeding
 - (b) Merits and demerits of plant breeding
2. Describe in detail the various breeding methods that breeders use for crop improvement. 14

UNIT-II

3. Write a note on each of the following: 7×2=14
 - (a) Selection methods for self-pollinated plants
 - (b) Acclimatization
4. Give an elaborate account of the procedure, advantages, and limitations of cross-pollinated plants. 14

UNIT-III

5. Write a note on each of the following: 7×2=14
 - (a) Monogenic inheritance
 - (b) Polygenic inheritance
6. Citing an appropriate example, discuss the concept of quantitative inheritance. 14

UNIT-IV

7. Write a note on each of the following: 7×2=14
(a) Genetic basis of inbreeding depression
(b) Genetic basis of heterosis
8. Citing appropriate examples, discuss the various applications of heterosis. 14

UNIT-V

9. Write a note on each of the following: 7×2=14
(a) Role of gene editing in crop improvement
(b) Importance of distant hybridization
10. Elaborate on the various types of mutagens that are used for crop improvement. 14
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