

M. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025**SEMESTER 3 : BOTANY****COURSE : 24P3BOTT12 : PLANT REPRODUCTIVE BIOLOGY AND PLANT BREEDING***(For Regular - 2024 Admission)*

Time : Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

1. Differentiate between progamy and chalazogamy (An)
2. Differentiate between gametophytic and sporophytic sexual incompatibility. (U)
3. What is secondary seed dormancy? (U)
4. What are the various factors determining the production and dispersal of pollen grains? (U)
5. What are the main sources of germplasm used in crop improvement? (U)
6. What do you understand by Vavilov's centres of origin. (U)
7. Explain the importance of heritability and genetic advance in the improvement of self- and cross-pollinated crops. (U)
8. List out the characteristics of Myophilous flowers. (U)
9. Write a short note on hypersensitivity. (E)
10. Bring out any one application of reproductive Biology in Research. (E)

(1 x 8 = 8)**PART B****Answer any 6 questions****Weights: 2**

11. Explain the pollen tube entry into the ovule and events in the ovule after the pollen tube entry. (U)
12. Explain how we can handle seed dormancy of different types of seeds with different dormancies (U)
13. Describe the different types of mutations. (A)
14. Distinguish between dominance and over dominance hypothesis (U)
15. What are the floral adaptations of two major abiotic pollination syndromes (An)
16. Write briefly on various factors affecting pollen viability. (U)
17. Explain different mechanisms to overcome self-incompatibility in plants. (U)
18. How are self-incompatibility and male sterility mechanisms commercially exploited in hybridseed production? (An)

(2 x 6 = 12)**PART C****Answer any 2 questions****Weights: 5**

19. Write an essay on apomixis and polyembryony with an emphasis on modern agri-horticultural techniques. (A)
20. Pollination is an essential biological process for flowering plants, discuss. (E)
21. Evaluate the role of national and international plant breeding research centres in India in germplasm conservation and utilization. (An)

22. Explain the role of polyploidy breeding in crop improvement. Discuss its applications and achievements with examples.
- (An)
- (5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
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Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;