

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE  
SEMESTER END EXAMINATION

B.Sc. (Hons.) Agriculture

Semester	: III (New)	Term	: I	Academic Year	: 2019-20
Course No.	: GPB 232	Title	: Fundamentals of Plant Breeding		
Credits	: 2 (1+1)	Time	: 09.00 to 11.00	Total Marks	: 40
Day & Date	: Wednesday, 13.11.2019				

- Note :
1. Solve **ANY EIGHT** questions from **SECTION "A"**.
  2. All questions from **SECTION "B"** are compulsory.
  3. All questions carry equal marks.
  4. Draw neat diagrams wherever necessary.

**SECTION "A"**

- Q.1 Define plant breeding. Explain objectives of plant breeding.
- Q.2 Define pollination. Explain various mechanisms that promotes cross pollination.
- Q.3 Differentiate between pureline and mass selection method.
- Q.4 Write short notes. (Any Two)
- a) Clonal selection
  - b) Recurrent selection
  - c) Polyploidy
- Q.5 What is male sterility? Write its advantages and disadvantages.
- Q.6 Define hybridization. Explain different steps involved in handling hybridization programme.
- Q.7 What is incompatibility? Write its advantages and disadvantages.
- Q.8 Define mutation. Explain the characteristics and significance of mutations in crop improvement.
- Q.9 Define heterosis. Describe briefly various methods of estimating heterosis.
- Q.10 Enlist different methods of plant breeding and discuss in brief the selection method.

**SECTION "B"**

- Q.11 Fill in the blanks.
- 1) The term self incompatibility was coined by \_\_\_\_\_.
  - 2) The purpose of emasculation is to prevent \_\_\_\_\_ pollination.
  - 3) Single seed descent method was first suggested by \_\_\_\_\_.
  - 4) The induction of polyploidy by using colchicines is termed as \_\_\_\_\_.
- Q.12 Define the following terms.
- 1) Recalcitrant seed
  - 2) Parthenogenesis
  - 3) Inbreeding
  - 4) Synthetic variety

