

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD  
SEMESTER END EXAMINATION

B.Sc. (Hons.) Horticulture

|                                   |                                      |                         |
|-----------------------------------|--------------------------------------|-------------------------|
| Semester : II (New)               | Term : II                            | Academic Year : 2018-19 |
| Course No. : H/BOT 123            | Title : Principles of Plant Breeding |                         |
| Credits : 3 (2+1)                 | Time : 09.00 to 12.00                | Total Marks : 80        |
| Day & Date : Thursday, 02.05.2019 |                                      |                         |

- 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 Enlist the different methods of breedings used in self pollinated crops and describe procedure of pure line selection.
- Q.2 Define heterosis. Describe main features of heterosis.
- Q.3 a) Define mutation and give its characteristics.  
b) Define polyploidy and describe autopolyploidy.
- Q.4 Define plant breeding. Describe achievements of plant breeding.
- Q.5 Define male sterility. Enlist its types and describe cytoplasmic genetic male sterility.
- Q.6 Explain in brief.  
a) Types of heritability b) Modes of pollination
- Q.7 Define self incompatibility. Give its classification and describe utilization of self incompatibility.
- Q.8 What is sporogenesis? Describe process of microsporogenesis and microgametogenesis.
- Q.9 Write short notes (Any Two).  
a) Combining ability  
b) Vertical and horizontal resistance  
c) Inbreeding depression
- Q.10 What is hybridization? Describe its types and objectives of hybridization.

SECTION "B"

- Q.11 Define the following terms.
- 1) Domestication
  - 2) Mutation
  - 3) Dichogamy
  - 4) Pure line
  - 5) Protogyny
  - 6) Back cross
  - 7) Pollination
  - 8) Cleistogamy

(P.T.O.)

Q.12 Fill in the blanks.

- 1) An individual with one pair of chromosome less than the normal somatic chromosome number is known as \_\_\_\_\_.
- 2) The parent one time used in back cross is called \_\_\_\_\_.
- 3) Removal of male reproductive organ from bisexual flower is called \_\_\_\_\_.
- 4) The union of male and female gametes is called \_\_\_\_\_.
- 5) Average heterosis is also called \_\_\_\_\_.
- 6) \_\_\_\_\_ type of male sterility is unstable.
- 7) The term mutation was first coined by \_\_\_\_\_.
- 8) Maturation of male and female reproductive organs at the same time is known as \_\_\_\_\_.

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