

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) A.B.M.

Semester	: III (New)	Term	: First	Academic Year	: 2023-24
Course No.	: BOT 231	Title	: Introduction to Genetics and Plant Breeding		
Credits	: 2 (1+1)				
Day & Date	: Tuesday, 5.12.2023	Time	: 9:00 to 11:00 hrs.	Total Marks	: 40

- 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 diagram wherever necessary.

SECTION 'A'

- Q.1 Define Male sterility. Explain different types of male sterility system.
- Q.2 Write the Law of independent assortment. Give the reasons for Mendel's success.
- Q.3 Define Chromosome. Explain the functions of chromosome.
- Q.4 Define Self-incompatibility. Give mechanism of self-incompatibility.
- Q.5 Define Pollination. Write in detail mechanisms promoting cross pollination.
- Q.6 Write in detail about cytoplasmic inheritance with its features.
- Q.7 Write merits and demerits of mass selection.
- Q.8 Define Pedigree. Write its procedure.
- Q.9 Define Synthetic variety. Write the procedure of production of synthetic variety.
- Q.10 Write the various steps involved in clonal selection with its merits and demerits.

SECTION 'B'

Q.11 State True or False:

- 1) Thomas Fairchild produced the first artificial hybrid by crossing Sweet William with Carnation.
- 2) Gregor Joliann Mendel is known as the 'Father of Genetics'.
- 3) Inbreeding promotes high heterozygosity.
- 4) A staminate flower is a complete flower.

Q.12 Define the following terms:

- 1) Mitosis
- 2) Genetics
- 3) Pure line selection
- 4) Heredity

