

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

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

Semester : III (New)	Term : First	Academic Year : 2022-23
Course No. : BOT 231	Title : Introduction to Genetics and Plant Breeding	
Credits : 2(1+1)	Time : 09:00 to 11:00 hrs.	Total Marks : 40
Day & Date : Thursday, 02.02.2023		

- 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 Chromosome. Explain the structure of chromosome in detail with diagram.
- Q.2 Define Mitosis. Explain different stages of mitosis with diagram.
- Q.3 Define Male sterility. Enlist different types of male sterility system. Explain the importance of male sterility in plant breeding.
- Q.4 Define Reproduction. Enlist types of reproduction. Explain vegetative reproduction in detail.
- Q.5 Write short notes on (Any Two):
- a) Synthetic varieties
 - b) Clonal selection
 - c) Difference between mitosis and meiosis
- Q.6 Define Pollination. Explain types of pollination with example. Enlist mechanisms that promote self-pollination.
- Q.7 Write the Law of segregation. Give reasons for Mendel's success.
- Q.8 Define Back cross. Write merits and demerits of back cross breeding method.
- Q.9 Define Pure line selection breeding method. Write its procedure.
- Q.10 Explain bulk method of crop breeding.

SECTION 'B'

- Q.11 Define the following terms:
- 1) Cell
 - 2) Genetics
 - 3) Plant breeding
 - 4) Self incompatibility
- Q.12 Give major contribution of the following Scientists:
- 1) C.T. Patel
 - 2) T.H. Morgan
 - 3) K.B. Mullis
 - 4) B. McClintock

