

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Horticulture

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|------------|------------------------|-------|--|---------------|-----------|
| Semester | : V (New) | Term | : First | Academic Year | : 2023-24 |
| Course No. | : H/VS 356 | Title | : Breeding of Vegetable, Tuber and Spice Crops | | |
| Credits | : 3 (2+1) | | | | |
| Day & Date | : Wednesday, 6.12.2023 | Time | : 14:00 to 17:00 hrs. | Total Marks | : 80 |

- 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 Discuss in detail the various breeding objectives of vegetable, tuber and spice crops.
- Q.2 Define Pollination. Discuss in detail the mechanisms that facilitate cross pollination in vegetable, tuber and spice crops.
- Q.3 Write objectives of tomato breeding and discuss the achievements by using different breeding methods.
- Q.4 Discuss the breeding objectives of cucumber and write achievements through various breeding methods.
- Q.5 What is male sterility? What are different types of male sterility? Write about role of male sterility in developing of hybrids.
- Q.6 Write objectives of okra breeding and discuss the achievements by using different breeding methods.
- Q.7 Write objectives of potato breeding and discuss the achievements by using different breeding methods.
- Q.8 Write about vertical and horizontal resistance and discuss the various mechanisms of disease resistance.
- Q.9 Write short notes on (Any Two):
- a) Methods of overcoming self incompatibility
 - b) Sex expression in cucurbits
 - c) Germplasm conservation
- Q.10 Discuss the following crops on given points:
- a) Ginger: Exotic germplasm and Improved varieties through different breeding methods
 - b) Turmeric: Characteristics of different species and Improved varieties through different breeding methods

(P.T.O.)

SECTION 'B'

Q.11 Define the following terms:

- 1) Plant Breeding
- 2) Self incompatibility
- 3) Heterosis
- 4) Distant Hybridization
- 5) Dichogamy
- 6) Combining ability
- 7) Mutation
- 8) Dicliny

Q.12 a) State True or False:

- 1) The head quarters of IIVR is located at New Delhi.
- 2) Cucumber is a quick growing dioecious annual cucurbit.
- 3) Okra belongs to the genus *Hibiscus*.
- 4) 'Pusa Jyoti' is a variety of watermelon.

b) Fill in the blanks:

- 1) Turmeric belongs to the family _____.
- 2) *Memordica charantia* is the botanical name of _____.
- 3) 'Konkan Prabha' is a variety of _____.
- 4) Agents used for induction of mutations, are called as _____.

