MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester	**: III (Old)**	**Term**	**: I**	**Academic Year**	**: 2018-19**
Course No.	**: BOT 233**	**Title**	**: Principles of Plant Breeding**		
Credits	**: 3(2+1)**				
Day & Date	**: Wednesday, 14.11.2018**	**Time**	**: 9.00 to 12.00**	**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 diagrams wherever necessary.

SECTION "A"

Q.1 a) Enlist different breeding methods of self pollinated crops.

b) Explain in detail pure line theory.

Q.2 Define plant breeding. Describe chief objectives and scope of plant breeding.

Q.3 a) Define male sterility. What are different kinds of male sterility found in crops?

b) Narrate briefly the morphological features of male sterility.

Q.4 Define mutation breeding. Describe in detail its application in crop improvement.

Q.5 a) What is hybridization? Describe aims and objectives of hybridization.

b) Distinguish between pedigree method and bulk method.

Q.6 Define pollination and explain different modes of pollination.

Q.7 Define heterosis and explain different types of heterosis.

Q.8 Define wide hybridization. State types of wide hybridization and explain interspecific hybridization.

Q.9 Write short notes.

a) Apomixis
b) Significance of pollination
c) Fertilization
d) Sporogenesis

Q.10 Define recurrent selection. Enlist types of recurrent selection. Explain in detail simple recurrent selection.

SECTION "B"

Q.11 Define the following terms.

1) Self incompatibility
2) Dichogamy
3) Transgressive breeding
4) Inbreeding
5) Hybrid vigour
6) Hybrid
7) Gene mutation or point mutation
8) Sexual reproduction

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Q.12 Fill in the blanks.

1) Transfer of pollen grains from the anther to the stigma of same flower is known as_____.

2) Pollination and fertilization occur in unopened flower bud is known as _____.

3) Botanical name of rice is _____.

4) A pure line is the progeny of a single self fertilized_____ plant.

5) _____ is the removal of immature anthers from a bisexual flower.

6) Viable pollen grains fail to fertilize the same flower is known as_____.

7) The phenomenon of reducing vigour by selfing or inbreeding is known as_____.

8) Double cross hybrid is a cross between_____ F_1s.

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