MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester	: **IV (New)**				
Course No.	: BOT 245	**Term**	: **II**	**Academic Year**	: **2014-15**
Credits	: 3 (2+1)	**Title**	: **Breeding of Field and Horticultural Crops**		
Day & Date	: Saturday, 16.05.2015	**Time**	: 14.00 to 17.00	**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 Enlist breeding methods used in self and cross pollinated crops. Explain in detail a pure line selection method.

Q.2 Complete the following table.

Sr.No.	Crop	Origin	Botanical Name	Family	Chromosome No.
1.	Wheat				
2.	Pigeon pea				
3.	Tomato				
4.	Groundnut				

Q.3 Define plant genetic resources. Enlist various types of germplasm and explain different activities related to germplasm conservation.

Q.4 Define distant hybridization. Enlist types and explain its role in crop improvement.

Q.5 Explain major steps involved in Ideotype breeding. Give the main features of Rice ideotype.

Q.6 Describe different sources used in developing disease resistance.

Q.7 Discuss in brief about breeding of Cotton on following aspects.
1) Breeding methods
2) Breeding objectives
3) Cultivated species
4) Released varieties

Q.8 State the Hardy-Weinberg law. Explain the factors disturbing/affecting the equilibrium in Mendelian population.

Q.9 Differentiate between (Any two).
1) Heterosis and Inbreeding depression
2) Horizontal resistance and Vertical resistance
3) Dominance and Over dominance

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Q.10 Write short notes on (Any two).

1) Concept of gene pool
2) Breeding population
3) Gene for gene hypothesis

SECTION "B"

Q.11 Define the following terms.

1) Stress
2) Genetic erosion
3) Bio-metrics
4) Inbred
5) Multiline
6) Migration
7) Primary introduction
8) Domestication

Q.12 Give the contributions of the following scientists.

1) Donald
2) Flor
3) Fisher
4) N.G.P. Rao
5) K.Ramaiah
6) Vavilov
7) Yuan Long Ping
8) Thomas Fairchild

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