

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : IV (New)	Term : II	Academic Year : 2016-17
Course No. : BOT 245	Title : Breeding of Field and Horticultural Crops	
Credits : 3 (2+1)		
Day & Date : Saturday, 06.05.2017	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 Define wide hybridization. Explain various techniques to make wide crosses successful.
- Q.2 Enlist the different types of recurrent selection and describe in detail the procedure of recurrent selection for GCA.
- Q.3 What is ideotype? Describe in detail various types of ideotype.
- Q.4 Write botanical name, chromosome number, mode of pollination and specific breeding objectives of following crops:
- a) Rice
 - b) Pigeon pea
 - c) Brinjal
 - d) Mango
- Q.5 Define biotic stress, enlist the various sources of insect resistance and explain different mechanisms of insect resistance.
- Q.6 What is backcross? Explain in detail the procedure of pedigree method
- Q.7 A) Explain in short different kinds of germplasm.
 B) Define stability and enlist different models of stability analysis.
- Q.8 Write short notes (Any Four).
- 1) Progeny selection
 - 2) Heritability
 - 3) Estimation of heterosis
 - 4) Gene-for gene hypothesis
 - 5) Genetic basis of adaptability to drought
- Q.9 Differentiate between (Any Four).
- 1) Heterosis and inbreeding depression
 - 2) Additive and dominance variance
 - 3) Polygenic and Oligogenic traits
 - 4) Monoploid and haploid
 - 5) General and Specific Combining Ability
- Q.10 Answer the following questions.
- 1) Explain factors affecting gene frequency in Mendelian population in short.
 - 2) Write botanical name and chromosome number of cultivated species of cotton.
 - 3) Give the full forms and headquarters of the UPOV and FAO.
 - 4) Elucidate in short about ideotype in rice.

(P.T.O.)

SECTION "B"

Q.11 A) Give the contribution of following scientists.

- | | |
|----------|----------------------|
| 1) Shull | 2) Donald |
| 3) Flor | 4) Sprague and Tatum |

B) Define the following terms.

- | | |
|--------------|----------------------|
| 1) Pureline | 2) Combining ability |
| 3) Stability | 4) Biometrics |

Q.12 Give full forms of the following.

- | | |
|----------|---------|
| 1) WTO | 2) BARC |
| 3) DUS | 4) SSD |
| 5) AICRP | 6) GCA |
| 7) GCV | 8) IRRI |

◆◆◆◆◆◆◆◆◆◆