

B.Sc. (Ag.) Honours Semester-VI Examination, 2018

Course No: GPB-321 (Breeding of Field and Horticultural Crops)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : 2 Hours

Full marks : 40

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 20 minutes

Full marks : 10

- Note:** 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. Tick (✓) mark the appropriate answer (any ten):

1×10=10

- i) The center of origin of Mango is
(a) Ethiopia (b) China (c) India (d) South America
- ii) The chromosome number (2n) of maize is
(a) 26 (b) 10 (c) 20 (d) 24
- iii) Flavr savr is a variety of
(a) Soybean (b) Sunflower (c) Chilly (d) Tomato
- iv) Pusa Jai Kishan is a variety of
(a) Sunflower (b) *Brassica Juncea* (c) *Brassica Oleracea* (d) None
- v) The term yellow revolution is related to
(a) Oilseed production (b) Fibre Production (c) Pulses Production (d) None
- vi) Which of the following is a three line system for hybrid production
(a) Cytoplasmic Genetic Male Sterility (b) Photoperiod Sensitive Genetic Male Sterility
(c) Temperature Sensitive Genetic Male Sterility (d) Cytoplasmic Male Sterility
- vii) The chromosome number (2n) of sunflower is
(a) 46 (b) 22 (c) 34 (d) None
- viii) Which of following is often cross pollinated crop
(a) Cotton (b) Groundnut (c) Sunflower (d) Tomato
- ix) Trypsin inhibitor is anti-nutritional factor of
(a) Mung (b) Soybean (c) Groundnut (d) Chickpea
- x) The first single cross hybrid of maize is
(a) Ratan (b) Para (c) Trishulata (d) None
- xi) Soybean has how much oil content?
(a) 20% (b) 15% (c) 25% (d) 22%
- xii) Marigold belongs to which family
(a) Asteraceae (b) Brassicaceae (c) Caricaceae (d) None
- xiii) The Protection of Plant Variety and Farmers Right Act was enacted in
(a) 1998 (b) 2000 (c) 2001 (d) 2002
- xiv) Which of the following is Heterozygous-homogeneous
(a) Single Cross Hybrid (b) Pureline (c) Synthetic (d) Multiline
- xv) Estimation of General Combining Ability is required for the development of
(a) Hybrids (b) Purelines (c) Synthetics (d) Both A & C

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Part - II
(Descriptive Type)

Time : 100 minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer *any three* questions

2. Write down the Hardy-Weinberg law. Briefly discuss the factors that disturb Hardy-Weinberg equilibrium. Differentiate between Additive and Dominance component of variability. 3+4+3=10
 3. Write down the Gene for Gene hypothesis. Enlist the differences between Vertical and horizontal resistance. Briefly discuss the mechanism for resistance in plants to pathogens and insects. 2+4+4=10
 4. Mention the major breeding objectives in rice and maize. Describe the origin of hexaploid wheat. 4+4+2=10
 5. Mention the two cultivated species of jute in India. How the two species can be differentiated physically? Write down the origin and distribution of Sunflower. What are the major breeding objectives of Soybean? 1+2+3+4=10
 6. Write down short note (*any four*) on the followings: 2.5×4=10
 - (i) Triangle of U
 - (ii) Bt-Cotton
 - (iii) Quality Protein Maize
 - (iv) Different flowering types in brinjal
 - (v) Farmer's right
 - (vi) Golden rice
 - (vii) Gene pool
 - (viii) Difference between green gram and black gram
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