

B.Sc. (Ag.) Honours Semester-VI Examination, 2019

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) Bhindi belongs to
(a) Solanaceae (b) Malvaceae (c) Anacardiaceae (d) Poaceae
- (ii) High yielding variety of tomato is
(a) Pusa Sawari (b) Pusa Ruby (c) Red I (d) Ganga 5
- (iii) The centre of origin of Soybean is
(i) Africa (b) Near East (c) Mexico (d) China
- (iv) The chromosome number (2n) of green gram is
(a) 2n=20 (b) 2n=24 (c) 2n=22 (d) 2n=14
- (v) Common name of *Triticum durum* is
(a) Emmer wheat (b) Club wheat (c) Bread wheat (d) Macareni
- (vi) The first Pigeon Pea hybrid is
(a) ICPH-9 (b) ICPH-8 (c) TV-1 (d) TV-2
- (vii) Female inflorescence of Maize is
(a) Silk (b) Tassel (c) Arrow (d) Spike
- (viii) Which of the following is the genome of *Brassica nigra*
(a) AA (b) BB (c) CC (d) EE
- (ix) Dwarfing gene in wheat is
(a) Du-geo-woo-gen (b) Rab gene (c) Norin 10 (d) Salt T
- (x) IPGRI is located in
(a) Columbia (b) Nigeria (c) Rome (d) Belgium
- (xi) First hybrid cotton is
(a) H6 (b) H4 (c) H8 (d) Vacalaxmi

- (xii) Mungbean originated in the
(a) Hindustan centre of origin (b) China centre of origin (c) Mediterranean centre of origin
(d) Abyssinian centre of origin
- (xiii) Yellow surson, *B. rapa* belongs of the sub-species
(a) oleifera (b) trilocularis (c) dichotoma (d) napiformis
- (xiv) In which crop the entire corolla may be removed during emasculation?
(a) Sesame (b) Arhar (c) Rapeseed (d) Wheat
- (xv) Genetic erosion refers to
(a) loss of valuable alleles (b) loss of deleterious alleles (c) loss of any allele from population
(d) gain of deleterious alleles.

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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. Outline the origin of hexaploid wheat. Discuss in details the different breeding methods employed for rice improvement. Give the full forms of CIMMYT and IRRI. 4+4+2=10
 3. Discuss the different breeding objectives for improving seed sesame. What are the sources of genetic resources in sesame? Mention the origin and distribution of wild and cultivated species of green gram. 4+3+3=10
 4. Explain the Hardy-Weinberg law in detail and discuss the factors which disturb the Hardy-Weinberg equilibrium in a Mendelian population. State the advantages and disadvantages of Ideotype breeding. 6+4=10
 5. Write down the major breeding objectives of Jute. Mention the origin and breeding objectives of Mango. Name two hybrids each of Sunflower and Papaya. 3+3+4=10
 6. Write down short note (*any four*) on the followings: 2.5×4=10
 - (i) Gene pool.
 - (ii) Flor hypothesis.
 - (iii) *In-situ* and *ex-situ* conservation.
 - (iv) Mechanisms of drought resistance.
 - (v) Floral biology of chilli.
 - (vi) Marker Assisted Selection (MAS).
 - (vii) Triangle of 'U'.
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