

B.Sc. (Honours) Agriculture Semester-IV Examination, 2019

Course No: GPB-221[Old] (Principles of Plant Breeding)

Signature of Centre Superintendent

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

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

Time : Two 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. **State True (T) or False (F) in respect the following statements (any ten) :** .5×10=5

(a) Process of bringing wild genotypes under cultivation is called plant introduction.

☐

(b) Pureline is the progeny of cross pollinated crop.

☐

(c) In self incompatibility the male parts are functional.

☐

(d) In chasmogamy the flower do not open.

☐

(e) In mass selection the selection is done on the basis of progeny testing.

☐

(f) Recurrent parent is the doner parent in backcross breeding method.

☐

(g) Gradual losses of genetic resources is called genetic wipe out.

☐

(h) Botanical garden is the example of ex situ conservation.

☐

(i) Colchicine is a mutagen.

☐

(j) Seed less watermelon is an autopolyploid.

☐

(k) Combining ability is tested in synthetic variety.

☐

(l) Heterosis and hybrid vigour are synonymous.

☐

3. Write short notes on the following (**any five**) :

1×5=5

(a) 'In situ' conservation

(b) Centre of origin

P.T.O.

(c) Pureline selection

(d) Apomixis

(e) Acclimatization

(f) Back cross method

(g) Wide hybridization

(h) Autopolyploidy

B.Sc. (Honours) Agriculture Examination, 2019

Semester-IV

**Course No: GPB-221 (Old)
(Principles of Plant Breeding)**

**Part - II
(Descriptive Type)**

Time : 90 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer *any three* questions

3. a) What are the different objectives in plant breeding?
b) How do you fulfil those objectives through plant breeding techniques? 5+5=10
 4. a) What is plant introduction.
b) Briefly discuss the process of plant introduction with its merits and demerits 2+8=10
 5. Briefly discuss the different mechanisms that promote
a) Self pollination
b) Cross pollination. 5+5=10
 6. a) What is pedigree method of breeding?
b) Briefly discuss the pedigree method of breeding with its merits and demerits. 2+8=10
 7. a) What is mutation breeding? What are the different mutagen used in mutation breeding?
b) What are heterosis and inbreeding depression? Discuss the various theories of heterosis. 4+6=10
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