

B.Sc. (Honours) Agriculture Semester-IV Examination, 2019**Course No: GPB-221 (Commercial Plant Breeding)**

Signature of Centre Superintendent

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

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

Time : Two Hours**Full marks : 50**

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)**Time : 30 minutes****Full marks : 20****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): 1×10=10

- a) In case of cytoplasmic male sterility, a restorer line is required to restore the fertility. ☐
- b) Apomixis is a form of sexual reproduction. ☐
- c) Cotton is a cross pollinated crop. ☐
- d) In clistogamy, flower opens after pollination. ☐
- e) In monoecy, the male and female flowers occur in the same plant. ☐
- f) In three line method for developing hybrid? A line is male fertile. ☐
- g) Pureline is the progeny of self pollinated crop. ☐
- h) In two line method of developing hybrid, EGMS is generally used. ☐
- i) Hybrid variety is highly heterozygous and heterogeneous. ☐
- j) The Indian seed act was enacted in the year 1976. ☐
- k) Colour of the tag of certified seed is white ☐
- l) Minimum isolation distance of 3mt must be maintained for certified seeds production of hybrid maize ☐

2. Write short notes on the following (any five) :2×5=10

(a) Reverse breeding

(b) Haploid inducer

(2)

- c) Sex switching mechanism in castor
- d) Alternative methods of line development
- e) Farmers' Right
- f) Seed testing
- g) Plant Breeder's Right

B.Sc. (Honours) Agriculture Examination, 2019

Semester-IV

Course No: GPB-221

Commercial 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) Discuss briefly the different mode of reproduction in crops plants.
b) Point out the importance of mode of reproduction in plant breeding. 8+2=10
 4. a) What is male sterility?
b) How can you utilize male sterility for hybrid seed production by three line method and two line method of breeding. 2+8=10
 5. a) Briefly discuss the advances in hybrid seed production in rice.
b) How do you conduct genetic purist test of commercial hybrid? 7+3=10
 6. a) What is DUS testing? What are the different parameters of DUS testing?
b) Briefly discuss the registration of varieties under PPV and FR act. 4+6=10
 7. a) What is Quality seed? Discuss different types of EDVs.
b) Briefly point out the methods of variety release and notification in India. 4+6=10
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