Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Sc. (Agriculture) (Sem.–3)

FUNDAMENTALS OF PLANT BREEDING

Subject Code : BSAG-302-19

M.Code : 78657

Date of Examination : 14-12-22

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) Megasoprogenesis

b) Dichogamy

c) Heterobeltiosis

d) Cybrid

e) Clonal selection

f) Inbred line

g) Composites

h) Physical mutagen

i) DAALs

j) Marker Assisted Selection (MAS)

SECTION-B

2. What are pure lines? Describe Johannsen's pure line theory and its genetic basis.

3. What is polyploidy breeding. Describe the methods of production of autopolyploids and their importance in crop improvement.

4. What is PPVFRA? What are PBRs, explain plant breeders' and farmers' rights.?

5. What is domestication and what changes occurred due to domestication. List various centres of origin proposed by N.I. Vavilov.

6. What is distant/wide hybridization? Explain in detail the various barriers being faced and their solutions in wide hybridization.

SECTION-C

7. What is an inbred line. Discuss in detail the methods of development of superior inbred lines to develop high yielding heterotic hybrids in maize.

8. Discuss in detail the pedigree method of handling the segregating generations alongwith its merits. Also, mention any one of its modifications in detail.

9. Describe the genetic basis of heterosis along with objections and explanations. Discuss the achievements in hybrid breeding in rice from Indian perspective.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.