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

Total No. of Questions: 09

B.Sc.(Agriculture) (2014 & Onwards) (Sem. – 5)

INTRODUCTION TO PLANT BREEDING

M Code: 74171

Subject Code: BSAG-507

Paper ID: [74171]

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 short note on:

   a) Genetic male sterility

   b) Parthenogenesis

   c) Commericial heterosis

   d) Linkage drag

   e) Epistasis

   f) Specific Combining Ability

   g) Composites

   h) Induced mutagenesis

   i) DAALs

   j) Microgametogenesis

SECTION B

2. Briefly describe the constraints and opportunities of distant hybridization in crop improvement.

3. Give detailed account of Johannsen's pure line theory and its genetic basis.

4. Describe the significance of induced mutations in plant breeding giving suitable examples.

5. List various methods to be used for improving vegetatively propagated crops. Discuss their merits and demerits.

6. What is apomixis? How can it be used for crop improvement, cite few examples.

SECTION C

7. Describe the procedure, merits and demerits of modified mass selection and simple recurrent selection.

8. Describe the genetic basis of heterosis along with the objections and explanations. Discuss the achievements through hybrid cultivars development in India.

9. How autopolyploidy differs from allopolyploidy? Discuss in detail the role of allopolyploidy in the evolution of wheat and *Brassica* Spp.