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Total No. of Printed Pages: [01]

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B.Sc. (Hons.) Agriculture (Semester – 3rd)
FUNDAMENTALS OF PLANT BREEDING
Subject Code: BAGRS1-355
Paper ID: [19130124]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Define the plant breeding and its distinct phases.
- b. Define the molecular breeding and transgenic breeding.
- c. What is genetic erosion?
- d. Define the domestication and acclimatization.
- e. Define the heritability and genetic advance.
- f. What are the polyploidy and write the types.
- g. Write down the plant breeder rights?
- h. What is MAS and its use in plant breeding.
- i. Define heterosis and its inbreeding depression?
- j. Define mutagen and its types.

Section – B

(5 marks each)

- Q2. Discuss the relevance of mode of reproduction to crop improvement.
- Q3. What is the apomixes? Discuss on the application of apomixis.
- Q4. Give a suitable classification for self-incompatibility.
- Q5. Define pure line selection. Describe the procedure of pure line selection and discuss its merits and demerits.
- Q6. Explain Hardy-Weinberg law in details with the help of suitable example.

Section – C

(10 marks each)

- Q7. Define plant breeding. Briefly outline the history of plant breeding and discuss its landmark achievements.
- Q8. What is male sterility? Explain the inheritance of CGMS and discuss its usefulness with the help of suitable examples and diagrams.
- Q9. Describe the procedure of backcross method for the transfer of a dominant gene. Discuss the merits and demerits of the backcross method of breeding.