

U.G. 5th Semester Examination - 2021**BOTANY****Course Code : BBOTDSHT3 [DSE3]****Course Title : Plant Breeding**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: $1 \times 10 = 10$
- Define apospory.
 - What is allogamy? Cite an example.
 - Name the center of origin of maize.
 - What is acclimatization?
 - Define top cross.
 - Cite an example of a plant showing protandry.
 - Define restorer line on male sterility.
 - Name one center of plant genetic resource in India.
 - How many centers of origin were proposed by Vavilov initially?

- Define inbred lines.
- What do you mean by germplasm?
- Define diplospory.
- Define chasmogamy with example.
- Mention one genetic consequence of self-pollination.
- What do you mean by landraces?

2. Answer any **five** from the following: $2 \times 5 = 10$
- What do you mean by male sterility?
 - What is genetic erosion? Mention any two causes of genetic erosion.
 - What is baseline heterosis?
 - What do you mean by horizontal resistance?
 - Define mutation breeding.
 - Define recurrent apomixis with example.
 - Distinguish between Mass line and Pure line selection.
 - Mention any two natural barriers to prevent self-pollination in plants.
3. Answer any **two** from the following: $5 \times 2 = 10$
- Describe the different methods of emasculation process in plants.

- b) What is domestication? Mention various stages of crop domestication. 1+4
- c) What is hybrid vigour? Describe the methods of hybrid seed production. 1+4
4. Answer any **one** from the following: 10×1=10
- a) What do you mean by Plant Genetic Resources (PGR)? Describe the ex-situ and in-situ conservation of PGR. 2+4+4
- b) Define heterosis? Discuss on genetic basis of heterosis. Mention any two demerits of this hypothesis. 2+6+2
- c) What type of selection practice is done in vegetatively reproducing plant? Describe the procedure and mention merits of the process. 2+5+3
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