

UG/5th Sem(H)/23/(CBCS)

2023

BOTANY (Honours)

Paper Code : BOTH DSE-1

[Plant Breeding]

Full Marks : 25

Time : Two Hours

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

1. Answer any *five* questions of the following : $1 \times 5 = 5$

- (i) What is heterosis?
- (ii) What is 'flavr savr' tomato?
- (iii) What is backcross method of hybridization?
- (iv) Name two molecular markers used in plant breeding.
- (v) Define backcross breeding.
- (vi) What is restorer line?
- (vii) Mention the undesirable consequences of plant breeding.
- (viii) What is recalcitrant seed?

P.T.O.

(2)

2. Answer any *four* questions of the following : $3 \times 4 = 12$

- (i) State the merits and demerits of Pedigree method of hybridization.
- (ii) Write down the importance of cytoplasmic male sterility in plant breeding.
- (iii) Write a short note on the role of distant hybridization in crop improvement.
- (iv) Briefly describe the genetic basis of inbreeding depression.
- (v) Write a short note on domestication of crop plants.
- (vi) Write a short note on seed bank.
- (vii) Mention the merits and demerits of pure line selection.

3. Answer any *one* question of the following : $8 \times 1 = 8$

- (i) Characterise quantitative inheritance with example of inheritance of Kernel colour in wheat. Mention the significance of polygenic inheritance. $5+3$
- (ii) What is allopolyploidy? Write about application of polyploidy in plant breeding with suitable example. $2+6$