

B.Sc. Semester-V Examination, 2022-23**BOTANY [Honours]**

Course ID : 51317 Course Code : SH/BOT/504/DSE-2

Course Title : Plant Breeding

Time : 2 Hours

Full Marks : 40

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

1. Answer any **five** of the following questions: $2 \times 5 = 10$
 - a) What are centre of origin and centre of dispersal, of crops?
 - b) What do you mean by pure line? Mention its importance.
 - c) Distinguish between Acclimatization and Domestication.
 - d) What do you mean by segregating population?
 - e) Mention the significance of back cross.
 - f) What do you mean by clones and clonal selection?
 - g) What are apomictic crops?
 - h) What do you mean by plant genetic resources?

[Turn Over]

2. Answer any **four** of the following questions: $5 \times 4 = 20$
 - a) Mention three suitable applications each of polyploidy and biotechnology in plant breeding.
 - b) Mention different advantages and disadvantages of mass selection and pure line selection.
 - c) Briefly mention important achievements and undesirable consequences of plant breeding.
 - d) What are the reasons behind inbreeding depression? Mention three application of heterosis in plant breeding. 2+3
 - e) Write a short note on role of mutation in plant breeding.
 - f) What is self incompatibility? Mention uses of incompatibility in plant breeding. 1+4

UNIT-III

3. Answer any **one** of the following questions: $10 \times 1 = 10$
 - a) Schematically represent the procedure to transfer dominant gene and recessive gene through back cross method. Mention its merits and demerits. 6+4
 - b) What do you mean by quantitative inheritance? Write down the mechanism of inheritance of Kernel colour in wheat. 2+8