

B.Sc. Semester - 4 (NEP-2020) Examination**March/April-2026****Plant Breeding (Skill Enhancement Course)****Time: 1:00 Hours****Marks: 25****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que.1 (A) Answer in details. (Any One) (06)

- 1) Define plant breeding. Explain its objectives and discuss its significance in modern agriculture.
- 2) Explain the procedure for breeding vegetatively propagated plants. Discuss its advantages and limitations.

Que.1 (B) Answer in brief: (Any One) (04)

- 1) Undesirable consequences of plant breeding.
- 2) Important achievements of plant breeding.

Que.2 (A) Answer in details: (Any one) (06)

- 1) What is heterosis? explain its genetic basis and its practical application in crop improvement.
- 2) Describe the procedure of hybridization in plant breeding. Discuss the role of mutations and polyploidy in crop improvement.

Que.2 (B) Answer in brief: (Any one) (04)

- 1) Write short note: Pure line selection.
- 2) Role of biotechnology in crop improvement.

Que.3 Do as Directed: (Any Five from Seven) (05)

- 1) Define the term 'Emasculation'.
- 2) What is 'inbreeding depression'?
- 3) Give two examples of vegetatively propagated plants.
- 4) State one key objective of plant breeding.
- 5) Differentiate between mass selection and pure line selection in one point.
- 6) What is the significance of distant hybridization?
- 7) Name one mutagenic agent used in plant breeding.
