

B.Sc. Semester - 6 (NEP-2020) Examination**March/April-2026****BOT: Plant Biotechnology and Reproductive Biology (Major-14)****Time: 2:00 Hours****Marks: 50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

- Que.1(A) Describe in detail:(any one) (08)
(1) Give the name of plant tissue culture types and explain only - Anther culture and Meristem culture.
(2) What is callus culture? Describe its methodology with application.
- Que.1(B) Write a short note on:(any one) (04)
(1) Describe the Composition of MS media with its role in cell growth.
(2) What is totipotency? How it is helpful in plant tissue culture.
- Que.2(A) Describe in detail:(any one) (09)
(1) Explain the role of Restriction Endonucleases in Plant Biotechnology.
(2) Define Cloning Vectors with its types and applications.
- Que.2(B) Write a short note on:(any one) (04)
(1) Describe the indirect gene transfer
(2) What is selectable marker? How it is helpful in gene transfer?
- Que.3(A) Describe in detail:(any one) (08)
(1) Explain the process of microsporogenesis
(2) Discuss the Pollen, wall structure, MGU.
- Que.3(B) Write a short note on:(any one) (04)
(1) Describe the Abnormal features of pollen.
(2) Discuss the Indian contributors in plant embryology.
- Que.4(A) Describe in detail:(any one) (09)
(1) Describe the process of mega-sporogenesis.
(2) Explain the types of embryo sac.
- Que.4(B) Write a short note on:(any one) (04)
(1) Types of endosperm
(2) Give an applications of Polyembryony.
