

Bankura University
B.Sc. 6th Semester (Honours) Examination, 21
Subject: BOTANY

Course ID: 61312

Course Code: SHBOT/602/C-14

Course Title: **Plant Biotechnology**

Full Marks: 25

Time: 1 h15 min

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1. Answer any five of the following questions: (1x5=5)

- a) What is totipotency?
- b) Point out the significance of antibiotic marker gene in cloning.
- c) Mention the scientific name of a superbug.
- d) Mention one salient feature of expression vector.
- e) Why primers are needed for PCR?
- f) What do you understand by cDNA Library?
- g) Name one cryoprotectant.
- h) What is Germplasm conservation?

UNIT II

2. Answer any two of the following questions: (5x2=10)

- a) What is the full form of MS Medium? Write a short note on role of hormones in tissue culture. (1+4)
- b) What do you mean by molecular probe? Classify different types of restriction endonucleases. (1+4)
- c) Mention the steps of PCR mechanism. State its one important application. (4+1)
- d) Describe the gene manipulation behind production of Flavr Savr tomato.

UNIT III

3. Answer any one of the following questions: (10x1)

- a) Describe the mechanism of *Agrobacterium* mediated gene transfer with suitable diagrams. Add a note on Somatic embryogenesis. (6+4)
- b) What is organogenesis? Illustrate the method of plant protoplast culture and state its utility. (2+6+2)

