

**B.Sc. (Part-III)**

**Pla. Biotech.**

**8007-II**

**B.Sc. (Part-III) Examination, 2021**

(Faculty of Science)

(Common of Three and Five Year Integrated Course)

**BIOTECHNOLOGY**

Paper-BT-702

(Plant Biotechnology)

**Time Allowed : 3 Hours**

**Maximum Marks : 50**

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of questions.

Question No. 1 is compulsory. Answer **five** questions in all, selecting at least **one** question from each Section.

**PART-A**

1. Answer the following briefly :

- (a) What is ELISA?
- (b) Which plants exhibit gametoclonal variation?
- (c) Which media is used for plant cell/tissue culture?
- (d) Who discovered the technique of anther culture for haploid production?
- (e) Which microbe is used for isolation of nif genes?

- (f) Who was awarded nobel prize for the work involving transposable elements?
- (g) Name gram positive bacterium.
- (h) What does terminator gene inhibits?
- (i) Who discovered polymerase chain reaction?
- (j) What does Bt toxin contains?

1×10=10

### PART-B

#### SECTION-A

10

2. Give an account of plant tissue culture technique.

3. Write short notes on :

(a) Types of culture.

(b) Organogenesis.

5+5=10

#### SECTION-B

4. Give an account of suspension culture. Write its application.

7+3=10

5. Write short notes on :

(a) Somatic hybridization.

(b) Cybrids.

5+5=10

#### SECTION-C

6. Describe spontaneous fusion and induced fusion methods of Protoplast fusion. 5+5=10

7. Write short notes on :

(a) Bergmann's cell plating technique.

(b) Enzymatic isolation method of protoplasts fusion.

5+5=10

**SECTION-D**

8. What is genetic transformation? Describe in case of *Agrobacterium tumefaciens*. 10

9. Write short notes on :

(a) Biotic stress tolerance in Bacteria, Virus and Fungi.

(b) Germplasm conservation.

5+5=10

\*\*\*\*\*