

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

Course ID : 61312 Course Code : SH/BOT/602/C-14

Course Title : Plant Biotechnology

Time : 1 Hour 15 Minutes Full Marks : 25

*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** from the following questions: $1 \times 5 = 5$

- What is androgenesis ?
- What are integrating vectors?
- What do you understand by transgenesis?
- Write the function of GFP.
- What do you understand by somaclonal variation?
- State the significance of reporter genes.
- What is crown gall disease?
- What is meant by de-differentiation?

2. Answer any **two** of the following questions: $5 \times 2 = 10$

- What is somatic embryogenesis? Describe different stages of somatic embryogenesis. $1+4=5$
- What do you mean by callus? Add a note on tissue culture application. $1+4=5$
- What is the significance of shuttle vectors? Briefly discuss the characteristic features of an ideal vector. $1+4=5$
- Point out the importance of taq-polymerase. Write down different application of PCR. $2+3$

UNIT-III3. Answer any **one** of the following questions: $10 \times 1 = 10$

- Discuss in detail the nutrient and hormone requirement in plant tissue culture technology. Add a note on Germplasm conservation. $6+4=10$
- Write short notes on the following: $5 \times 2 = 10$
 - Herbicide resistant plants
 - Electroporation