14BTU23A

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Fifth Semester)

Branch - **BIOTECHNOLOGY**

CORE ELECTIVE
PLANT TISSUE CULTURE AND TRANSGENICS TECHNOLOGY

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks!
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 Cytokinin.
2 Totipotency.
3 Define synthetic seeds.
4 PEG.
5 Advantages of somoclonal variation.
6 Define secondary metabolites.
7 Define BT toxin.
8 Sodium alginate.
9 Biolistics.
10 *Agrobacterium tumefaciens.*

SECTION -B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Write about various media used in plant tissue culture.
OR
b Outline the phases involved in establishment of callus from explant.

12 a Write about the various methods to fuse the protoplast.
OR
b Mention the parameters for successful anther culture.

13 a Give the application of shoot tip culture.
OR
b Write down the steps involved in vitro micropropagation.

14 a Discuss the current status of transgenic crops.
OR
b Explain the basic features of vectors for plant transformation.

15 a Elaborate on the process of TDNA transfer and integration with suitable diagram.
OR
b How do you develop the pest resistant plants?

SECTION - C (30 Marks!
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 Give an elaborate account on organization of plant tissue culture laboratory.
17 Explain in detail about the method and application of haploid production.
18 Describe in detail about the method and application of micropropagation.
19 Write a detailed note on direct gene transfer techniques.