PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 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 What are the methods you follow for the pretreatment of explant?
2 Define callus.
3 Somatic fusion.
4 What is phytohormone?
5 Meristem culture.
6 Suspension culture.
7 Crown gall disease.
8 CMS.
9 Herbicide resistance plants.
10 Antisense RNA technology.

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

11 a Give a brief account on various equipment and tools needed for establishing a tissue culture laboratory.
OR
b Explain the composition of any two tissue culture medium.

12 a Give a brief note on MS Medium.
OR
b Briefly discuss about somatic hybridization.

13 a Describe the procedure of micropropagation.
OR
b How will you produce secondary metabolites through tissue culture technique?

14 a Briefly explain the molecular biology of plant pathogen interaction.
OR
b Write short on Agrobacterium.

15 a Describe how resistance fungi and bacteria is imported in plants.
OR
b Write a note on genetic engineering of plants for disease resistance.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Elaborate on account on the isolation and culturing of single cells for tissue culture.

17 Give a detail note on the various types of suspension culture.

18 Write down the steps, mechanism and application of meristem culture.

19 Describe the pathogenesis of crown gall disease.

20 Write a detailed note on resistance of plants to herbicide.