PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) _____ __ _____

MSc DEGREE EXAMINATION MAY 2019
(Third Semester)

Branch BIOTECHNOLOGY

PLANT BIOTECHNOLOGY

Time: Three Hours Maximum: 75 Marks

Answer ALL questions
ALL questions carry EQUAL marks (2 + 5+S)

1 a Promiscuous DNA
b Explain Cytoplasmic male sterility in Brief,
e Illustrate structure and expression of chloroplast DNA.

' . OR

d What are molecular chaperons?
e How do Histone proteins bind to DNA?
f Write a detailed note on protein transport in Chloroplast.

2 a Write down the list of ways by which sterilization might be achieved in PTC.
b Define and explain different stages of micrOpropagation.
c Explain protoplast isolation and fusion in detail

OR

d Differentiate Homokaryones and heterokaryon.
e What do you understand by cytoprotectant? Name any two most frequently used cytoprotectant.
f Define sornoclonal variation. Discuss their achievements, advantages and limitations.

3 a Give examples of following :
(i) Alkaloid (ii) Coumarin (iii) Flavonoid (iv) Sterol (v) Triterpens
b What are the steps involved in the production of secondary metabolites from plant cell?
c Write a note on Terpenoid pathway and their importance in plant defence mechanism.

■ OR ’

d Synthetic seed.
e Write a note on types of Phy tochemicals,
f Describe the metabolic engineering of flavonoids.

4 a What is the basic principle of particle bombardment?
b . How Bt genes are used in transgenics to kill the insect affecting crops?
c Describe Abiotic stress in plants - mechanism and adaptation in detail.

OR

d Give some example of herbicides uses as sel ectable marker?
e What are the roles of vir genes in Agrobacterium mediated transformation?
f Illustrate Transgenic plants and their importance in disease resistance in detail.

5 a Write a note on use of remote sensing in agriculture,
b Write a note on^NAi.
e Describe the role of molecular markers in QTL mapping in detail.

OR

d Write down the use of GIS in agriculture,
e Discuss - DNA Barcoding in brief.
f Elaborate the role plant vims vectors in transgenic genic protein expression.

Z-Z-Z END '