



THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)
Re-accredited (2nd Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

Backlog Arrear Examination, March 2021

PGB 5502

Plant Tissue Culture

Time: 3hrs

Marks: 75

I. Answer any FIVE of the following each not exceeding four pages. (5X15=75)

1. Prepare a lab layout for tissue culture laboratory and comprehensively review the methods of asepsis.
2. With an illustration explain the different patterns of organization that could lead to plant recovery in cultures.
3. Assess the Pros and Cons of micropropagation and account for virus indexing procedures.
4. What are the causes and consequences of somoclonal variations? Check it is used in improving crop plants.
5. Draw a protocol for the isolation, culture and fusion of plant protoplast and comments on its applications.
6. Study the feasibility of *in vitro* production of useful secondary metabolites by using a appropriate case study.
7. Evaluate ethical, legal and social implications of GM crops and workout the break even for tissue culture as a cottage industry.