



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 4504

Physiological Biochemistry

Time: 3hrs

Marks: 75

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

1. Enumerate the unique properties of water and account for osmosis.
2. Briefly explain the classification and nomenclature of enzymes and study factors affecting enzyme action.
3. Illustrate fluid mosaic model and account for the special features of nuclear and mitochondrial membranes.
4. Using chemiosmotic theory, explain how electron flow in oxidation phosphorylation is coupled with ATP production.
5. Furnish a scheme for light reaction of photosynthesis and comment on photolysis of water and hill reaction.
6. Differentiate '*nif*' genes from '*nod*' genes and study the significance of nitrogen fixation in root nodules.
7. Why transpiration is called necessary evil and find how guard cells are regulating stomatal function?