



# THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2<sup>nd</sup> Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

## Backlog Arrear Examination, March 2021

**PGB 5501**

**Macromolecules**

**Time: 3hrs**

**Marks: 75**

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

1. Classify and characterize the macromolecules found in plants and explain their significance.
2. Furnish the sequence of reactions in glycolysis & TCA cycle and account for release of ATP upon complete oxidation of a glucose molecule.
3. Group 20 aminoacids depending on the R- group affinities and point out the respective precursors for their synthesis.
4. With illustrations describe the structure of higher order proteins show how derived from simple polypeptide chain.
5. Analyse cholesterol and sterol metabolism pointing out their implications in human health.
6. Track pyrimidine synthesis and explain the molecular framework of DNA.
7. Enumerate important secondary metabolites and show how in the scheme integrated metabolism their synthesis is drawn from primary metabolism.