



# 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

**BOT 3430**  
**Molecular Biology and Genetic Engineering**

**Max: 75marks**  
**Time: 3hrs**

**I. Answer any FIVE of the following each not exceeding four pages. (5x15=75)**

1. Provide the experimental evidences that prove DNA as a genetic material.
2. Schematically present the stages involved in prokaryotic replication.
3. Why post translational modification process is significant and explain the stages involved.
4. Give an account on restriction and modifying enzymes used in gene cloning.
5. Review the principle and working mechanism of thermocycler.
6. Show how genomic library is different from cDNA library.
7. Concisely present the goals of Human Genome Project.