



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

MIC 1436

Microbial Genetics

Time: 3 hrs.

Max: 75 Marks

Answer any FIVE questions (5 x 15 = 75)

1. Define transposons. Explain the process of replicative and non-replicative transposons with suitable illustrations.
2. How did Avery, McLeod and McCarty prove that the 'transforming principle' in Griffith's experiment is DNA?
3. Describe Lederberg's and Tatum's experiment to prove that bacteria undergo genetic exchange by conjugation.
4. Explain the mechanisms of generalized and specialized transduction with suitable illustrations.
5. Discuss the methods of isolation, characterization and analysis of mutants.
6. Highlight the method of complementation analysis.
7. a) Outline the structure of bacteriophage with a neat labeled diagram.
b) Elaborate the lytic and lysogenic cycles of phage with suitable illustrations.
