



# 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 4403**

**Principles of Microbiology**

**Time: 3hrs**

**Marks: 75**

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

1. Differentiate the virus and a bacterium and other eukaryotic cells in terms of ultra structure and organization.
2. Explain RNA fingerprinting and study the significance of 5s and 16s RNA.
3. Differentiate exponential growth curve from sigmoidal growth curve and account for the different phases in both.
4. Enumerate the different types bacterial reproduction and discuss how and why plasmid should serve as extrachromosomal material.
5. How culture media, stains and confirmative test are significant in identifying and classifying microorganisms.
6. Find a role for microbes in biogeo chemical cycles and rhizosphere interactions.
7. Explain the production and significance of biofertilizers. Study the utility of plant growth regulating bacteria.