



**RAJARATAUNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES, MIHINTALE.**

**B.Sc. (General) Degree in Applied Sciences  
Second Year – Semester II Examination – April/May 2015**

**BIO 2205 –GENERAL MICROBIOLOGY**

**Time allowed: 2 hours**

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Answer **four (4)** questions only.

Illustrate your answers with labeled diagrams where appropriate.

1.
  - a) Define rhizosphere, rhizoplane and associative nitrogen fixation.
  - b) What is the importance of plant growth promoting rhizobacteria (PGPR)?
  - c) Describe the two- way relationship between mycorrhizal fungi and the host plant.
  - d) List three major differences between arbuscular mycorrhizae and ectomycorrhizae.
  - e) Describe the uptake and transfer of phosphate by arbuscular mycorrhizae to the host plant.
2. What key features could be used to differentiate the following genera of bacteria: *Bacillus*, *Escherichia* and *Mycobacterium*?
3. "Microorganisms are considered as useful organisms to support many activities in the biotic and abiotic environments of the Earth rather than pathogens." Critically evaluate this statement.
4. Name the different types of microorganisms which are involved in the contamination and spoilage of canned food products? Suggest the methods that can be used to control such microorganisms in canned foods.
5. Write short notes on
  - a) Actinomycetes
  - b) Lichens
  - c) Lytic and lysogenic cycles of virus reproduction.