



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. (Special) Degree in Applied Biology
Third Year – Semester II Examination –February/ March 2019**

MIB 3205 – PLANT MICROBE INTERACTIONS

Time: Two (02) hours

Answer ALL questions.

1. a) Strigolactones are the host-root produced chemical signals that induce plant and arbuscular mycorrhizal symbiosis.
Discuss briefly the mechanism of strigolactone synthesis and its' activity. **(50 marks)**
- b) Discuss briefly the role of arbuscular mycorrhizal fungi (AMF) in heavy metal absorption by plants in cadmium (Cd) contaminated soil. **(50 marks)**
2. "The major source of inoculum of the rhizosphere is soil microflora and therefore microbial community in the rhizosphere is very similar to that of bulk soil."
Validate or refute the above statement. **(100 marks)**
3. a) Describe Dark Septate Endophytic (DSE) fungi in roots of forest plants and their influence on host plant. **(50 marks)**
- b) Discuss the significance of endophytes in the control of phytopathogens with special emphasis on molecular interactions. **(50 marks)**
4. a) Compare, giving examples, symbiotic and rhizosphere associative nitrogen fixation in plants. **(50 marks)**
- b) Explain the process of initiation of root nodules and the establishment of functional symbiosis between rhizobia and legume root. **(50 marks)**

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