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Library
Faculty of Technology
Rajarata University of Sri Lanka
Mihintale

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

**B.Sc. (special) Degree in Applied Biology
Fourth Year - Semester I Examination – October/November 2017**

MIB - 4207 MICROBIAL GENETICS

Time: Two (02) hours

Answer ALL questions

1. Write short notes on the following;
 - a) importance of CEN, ARS and TEL regions in yeast plasmids (30 marks)
 - b) mechanism of retro transposition (30 marks)
 - c) formation of Holiday junction in recombination (40 marks)

2.
 - a) Compare AM fungi with *Rhizobium* in terms of specificity in their interaction with plants. (30 marks)
 - b) Explain why the impact of mycorrhizal strains is more dynamic than static. (30 marks)
 - c) Justify the need for Oxygen and Nitrogen sensory circuits in biological nitrogen fixation. (40 marks)

3.
 - a) List five (05) important genes in mycorrhizal interactions. (20 marks)
 - b) Describe briefly the process of *hfr* cell related conjugation. (30 marks)
 - c) Illustrate RecFOR mediated recombination. (50 marks)

4.
 - a) Illustrate proposed models for DNA uptake or secretion in transformation. (50 marks)
 - b) Rationalize why conjugation cannot be considered as a sexual reproduction method in bacteria (50 marks)

————— **END** —————