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FACULTY OF SCIENCE

MCB 307: SOIL MICROBIOLOGY

2007/2008 SESSION

ANSWER ALL

Time: 2 hours

1. Discuss one direct and one indirect method quantitatively determining the microbiological composition of the soil.
- 2a. Describe the benefits that accrue to plants and fungi in mycorrhiza relationship.
- b. Outline the potential benefits of rhizosphere association.
3. (a) The atmosphere contains 78% nitrogen by volume, yet it is the element that most often limit plant growth. Discuss.
(b) List the major constituents of soil and discuss them in detail.
4. (a i) Define the term Bioremediation, emphasizing the need for it.

(a ii) Why are some substances regarded as recalcitrant?, and what is the implication of their recalcitrant nature on the environment?

(bi) Highlight the problems resulting from pesticide adsorption.

(bii) What are the consequences of pesticide transfer?