



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS**

**2017/2018 ACADEMIC YEAR**

**FIRST YEAR END OF FIRST SEMESTER**

**EXAMINATIONS**

**SCHOOL OF SCIENCE AND INFORMATION SCIENCES**

**FOR**

**DEGREE OF BACHELOR OF SCIENCE (BOTANY)**

**BOT 419: MICROBIOLOGY II**

**DATE: 17<sup>TH</sup> APRIL 2018**

**TIME: 0830-1030HRS**

**INSTRUCTIONS TO CANDIDATES**

Answer ALL questions in section A and any TWO questions in section B

**SECTION A: Answer ALL questions (30 MARKS)**

1. Using examples, state the role of fungi and protozoa in the soil. **(3 marks)**
2. Distinguish Bioaugmentation from biostimulation in bioremediation. **(3 marks)**
3. Name three bacteria and three fungi important in biological control of insect pests. **(3 marks)**
4. Define the following terms:
  - a) Pathogenicity **(1 mark)**
  - b) Virulence **(1 mark)**
  - c) Normal flora **(1 mark)**
5. State **THREE** advantages of rhizosphere microflora to plants. **(3 marks)**
6. Distinguish endomycorrhizae from ectomycorrhizae **(3 marks)**
7. Write notes on the medical significance of biofilms. **(3 marks)**
8. Briefly describe the role of *Azolla* in nitrogen fixation. **(3 marks)**
9. Describe any one procedure of motility determination in bacteria. **(3 marks)**
10. Describe the role of bacteria in biological control **(3 marks)**

**SECTION B: Answer any TWO questions (40 MARKS)**

- 11 a) Discuss factors necessary in the colonization of the root by Rhizosphere microorganisms **(10 marks)**
- b) Outline the steps in the pathogenicity of bacteria **(10 marks)**
12. Discuss etiology, pathogenesis, symptoms, prevention and control of cholera **(20 marks)**
13. Discuss media preparation and culturing of microbes. **(20 marks)**
14. Give a detailed account on symbiotic nitrogen fixation. **(20 marks)**

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