

CHUKA



UNIVERSITY

SUPPLEMENTARY/ SPECIAL EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF EDUCATION SCIENCE, BACHELOR OF SCIENCE**

BOTA 220: MICROBIAL ECOLOGY

STREAMS: BED (SCI), BSC

TIME: 2 HOURS

DAY/DATE: TUESDAY 02/02/2021

8.30 AM – 10.30 AM

INSTRUCTIONS:

- Answer all questions in section A and any **two** in section B
- Do not write anything on the question paper
- Use illustrations where appropriate to enhance your answer.

Section A (30 marks)

1. Define the following terms as applied in microbial ecology. [5 marks]
 - a. Niche
 - b. Bio pesticide
 - c. Community
 - d. Biodegradation
 - e. Autotrophs
2. Explain the roles of mycorrhiza in soil fertility. [5 marks]
3. Outline various roles of microbial decomposers in the ecosystem. [5 marks]
4. Discuss four factors that promote microbial growth. [5 marks]
5. Describe briefly any five modes of symbiosis; indicate who benefit from each association. [5 marks]
6. Microorganisms have adaptive characteristics that enable them to inhabit extreme environment. Classify various microorganism based on temperature variations. [5 marks]

Section B (40 marks)

7. Describe succession by a microbial community. [20 marks]
 8. Give an account of microbial interactions in an ecosystem. [20 marks]
 9. A research laboratory has given you a role of the Laboratory manager in charge of microbiological quality testing. Explain how you would help to control microbial growth in the laboratory setting. [20 marks]
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