

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF SCIENCE IN BIOLOGICAL SCIENCE

BOTA 220: MICROBIAL ECOLOGY

STREAMS: BSC

TIME: 2 HOURS

DAY/DATE: MONDAY 09/12/2019

8.30 A.M. – 10.30 A.M.

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 answers

SECTION A (30 MARKS)

1. Define the following terms as applied in microbial ecology [5 marks]
 - (a) Niche
 - (b) Biopesticide
 - (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 symbiotic association, 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]

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SECTION B (40 MARKS)

7. Describe succession by a microbial community [20 marks]
 8. Give an account for 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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