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**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

THIRD YEAR SECOND SEMESTER

SUPPLEMENTARY EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY

COURSE CODE: SBT 322

COURSE TITLE: MICROBIAL ECOLOGY

DATE: 11TH AUGUST 2023

TIME: 11.00 – 1.00 PM

INSTRUCTIONS TO CANDIDATES

Answer Question one (1). and any other two (2). Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

QUESTION ONE

- a. What is meant by the following terminologies in ecology:-
- i. Biosphere (3 Marks)
 - ii. Biotic component (3 Marks)
 - iii. Microhabitats (4 Marks)
- b. Describe the features of an ecosystem (5 Marks)
- c. Outline the composition of the trophic levels in a food chain. (5 Mark)
- d. State any three types of consumers in a secondary stage. (5 Marks)
- e. Distinguish between a food chain and a food web. (5 Marks)

QUESTION TWO

Describe what takes place during nitrification of the nitrogen cycle. (20 Marks).

QUESTION THREE

Explain how the following factors influence distribution of organisms in the environment.

- a) State five roles of soil microorganisms (10 Marks)
- b) Describe various micro and macro organisms found in an ecosystem (10 marks)

QUESTION FOUR

Discuss the role of micro-organisms in soil health (20 Marks).

QUESTION FIVE

Micro-organisms can be both beneficial and harmful. Discuss giving various examples
(20 Marks).