



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
Department of Pure and Applied Sciences

June 2021 EXAMINATION 1234

BIO 320 - MICROBIAL ECOLOGY

CREDIT UNITS: 3

INSTRUCTION: Answer question ONE (1) and any other FOUR (4) questions.

1. Write notes on the following as they relate to microorganisms (22marks):

- 1a) Ecosystem (6 marks)
- 1b) Habitat (5 marks)
- 1c) Niche (4 marks)
- 1d) Climax community (7 marks)

2. Explain the following techniques used in the isolation of soil microorganisms (12 marks):

- i. Soil Plate Dilution Method (6 marks)
- ii. Rossi – Cholodny Slide Method (6 marks)

3a). Enumerate any five roles of soil water (6 marks)

3b). Name and explain the three types soil microorganisms based on their pH tolerance (6 marks)

4. Distinguish *Psychrophiles* from *Mesophiles* (12 marks)

5. Explain the effect of the following factors on amount of microorganisms and their survival structures in air (12 marks).

- i. Humidity (6 marks)
- ii. Pigmentation and ultra-violet rays (6 marks)

6. Discuss the following techniques used for the isolation of various types of aerial microorganisms (12 marks):

- i. Filtration Techniques (6 marks)
- ii. The impaction method (6 marks)