



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
Department of Biological Sciences
2025_2 EXAMINATIONS

BIO 320: Microbial Ecology

Time: 2½ Hours

Credit Units: 3

INSTRUCTION: Attempt FOUR (4) questions in all. Question 1 is compulsory

- 1a. Define salt wedge and explain its influence on marine organisms. (5 marks)
 - b. State the difference between the two aspects of bioconversion with appropriate examples (10 marks)
 - c. Explain the following terms:
 - i. Ecosystem (2marks)
 - ii. Community (2marks)
 - iii. Population (2marks)
 - iv. Habitat (2marks)
 - v. Niche (2marks)
- 2a. Mention the role of soil water (5 marks)
- b. Discuss with examples, mutualism as microbial interaction (10marks)
- 3a. Discuss the succession of micro-organisms on cellophane film (15 marks)
- 4a. List the various factors that affect microbial growth in the soil (5 marks)
- b. Explain the functions of soil fungi (5 marks)
- c. Discuss the colonization of sterile human hair by micro-organisms (5marks)
- 5a. Explain the term “Soil hydrogen ion (H^+) concentration” (15 marks)
- 6a. Explain the following components of aquatic environment (5marks)
 - i. Lithogenous Components (2 ½ marks)
 - ii. Biogenous Components (2 ½ marks)
- b. List the functions of soil fungi (5 marks)
- c. Identify the physical and chemical factors in an aquatic environment (5 marks)