



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
DEPARTMENT OF BIOLOGICAL SCIENCES
2024_2 EXAMINATION

COURSE CODE: BIO 320

COURSE TITLE: MICROBIAL ECOLOGY

CREDIT UNIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Answer Question ONE (1) and any other THREE (3) Questions

1. (a) Discuss the applications and importance of aeromicrobiological studies. **(9 marks)**
 (b) Explain the process of colonization and how it can lead to succession. **(6 marks)**
 (c) Describe the adaptations of fungi to aquatic environment. **(10 marks)**

2. (a) Explain the impact of pressure in the aquatic environment. **(10 marks)**
 (b) In a tabular form, mention four (5) biological baits and the microorganisms they can be used to isolate. **(5 marks)**

3. (a) Describe the adaptations of *Thiomargarita namibiensis* to marine environment. **(7 marks)**
 (b) What are biodeteriogens? **(2 marks)**
 (c) Briefly describe biodeterioration with respect to construction and processes/activities. **(6 marks)**

4. (a) Write short notes on soil components **(5 marks)**
 (b) Explain how antagonism can be achieved between two microorganisms. **(6 marks)**
 (c) Discuss on soil bacteriology. **(4 marks)**

5. (a) Describe how soil moisture content can be determined. **(5 marks)**
 (b) Describe the use of impastors in aeromicrobiology. **(6 marks)**
 (c) Draw a well labeled diagram of aggregates of soil particles. **(4 marks)**

6. (a) Write short note on studies of aerial microbes. **(9 marks)**
 (b) Describe the immersion tube method of isolation of soil microorganisms. **(3 marks)**
 (c) Highlight the classes of soil microbes based on the pH tolerance. **(3 marks)**