



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
DEPARTMENT OF BIOLOGICAL SCIENCES
2024 1 EXAMINATION

COURSE CODE: BIO304
COURSE TITLE: GENERAL ECOLOGY

CREDIT: 3 Units

TIME ALLOWED: 2½ Hours

Instructions: Answer Question One (1) and any other THREE (3) Questions

- 1a List the major fundamental steps in the operations of an ecosystem (5 marks)
- 1b Outline any five different types of marine biomes of the world (5 marks)
- 1c Briefly describe the interactions between the cycles of Nature (5 marks)
- 1d Explain the concept of trophic levels and pyramidal relations (10 marks)
- 2a. Distinguish between the following:
- (i) A habitat and a niche (2 marks)
 - (ii) Gross primary productivity and net primary productivity (2 marks)
 - (iii) Density-dependent and density-independent factors of population regulation (2 marks)
 - (iv) Autotrophs and heterotrophs (2 marks)
- b. Describe the components of a human population pyramid. (7 marks)
3. Succinctly explain the following major classification of biomes (15 marks)
- (i) Tropical seasonal forest
 - (ii) Savannah or tropical grasslands
 - (iii) Deserts
- 4a. Itemize the fundamental steps in the operation of ecosystems (5 marks)
- b. With typified examples, distinguish between heterotrophs and autotrophs (6 marks)
- c. Explain population survivorship curve. (4 marks)
- 5a List any three characteristic features of populations (3 marks)
- b Describe each of the following population attributes
- i) Size (5 marks)
 - ii) Growth (7 marks)
6. Describe the following natural cycles:
- i Water cycle (7 marks)
 - ii Phosphorus cycle (8 marks)