



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: BIO304
COURSE TITLE: GENERAL ECOLOGY

CREDIT UNIT: 2

TIME: 2 HOURS

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

- 1ai. Account for the importance of sustaining the earth's biodiversity. (6 marks)
ii. Describe the components of a human population pyramid. (7 marks)
b. Write **shorts notes** on the following:
 (i) Territories (4 marks)
 (ii) Population life tables (4 marks)
 (iii) Denitrification (4 marks)
- 2ai. Define biogeochemical cycle. (2 marks)
ii. Enumerate the importance of photosynthetic plants in the ecosystem. (4 marks)
bi. What do you understand by global warming? (2 marks)
ii. Give a detailed description of how industrialization affects global warming. (7marks)
- 3a. How is carbon cycle different from other nutrient cycles? (2 marks)
b. With the help of a well labeled illustration, describe the carbon cycle. (13 marks)
- 4ai. Define an ecosystem. (2 marks)
ii. List the components of an ecosystem giving two examples of each. (4 marks)
b. Write **short notes** on the following:
 (i) Nitrogen fixation (3 marks)
 (ii) Pyramid of numbers (3 marks)
 (iii) Community (3 marks)
- 5a. 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. Humans are considered to be initiators of secondary succession. Discuss. (7 marks)

6a. Describe the structure of communities (6 marks)

b. Write **short notes** on the following:

- (i) Energy flow (3 marks)
- (ii) Efficiency of energy transfer (3 marks)
- (iii) Denitrification (3 marks)