



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS**  
**SCHOOL OF SCIENCE AND TECHNOLOGY**  
**JUNE/JULY EXAMINATION**

**COURSE CODE: BIO304**

**COURSE TITLE: GENERAL ECOLOGY (2 units)**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTION: ANSWER ANY FOUR QUESTIONS**

1ai. Define the biogeochemical cycles.

ii. Humans are considered to be the initiators of secondary succession. Discuss.

bi. Explain the interaction between the nutrient cycles.

ii. Distinguish between the following:

(i) Gross primary productivity and net primary productivity (ii) Density-dependent and density independent factor of population regulation.

2ai. List the major nutrients in an ecosystem that are cycled and recycled by living organisms.

ii. Describe the roles of space and predator-prey interaction on population regulation.

bi. Outline the main periods of human population increase.

ii. What are the harmful effects of decreasing the earth's ozone layer.

3ai. Define pollution.

ii. Photosynthetic plants are of gross importance in the ecosystem, Discuss.

bi. Explain how phosphorous cycle differs from other nutrient cycles?

ii. Describe how energy transfer occurs in an ecosystem.

4ai. Name the biomes known for the following:

(i) wheat production (ii) lumbering (iii) trapping and (iv) tallest trees in the world.

ii. Explain the process of the following:

(i) ammonification (ii) nitrification (iii) nitrogen fixation

bi. Define the term biome.

ii. Describe the human population pyramid.

5ai. Define a community?

ii. Compare the tropical rain forest and the savanna in terms of rainfall, animal types, vegetation and burning by fire

b. Describe the structure of a community.

6ai. List the important climatic factors that determine the distribution of terrestrial biomes.

ii. Describe how the explosive growth of human population affects the environment.

bi. What did you understand by the term ecological succession?

ii. Write short notes on the following:

(i) pyramid of biomass (ii) pyramid of energy (iii) pyramid of numbers