

**BOWEN UNIVERSITY, IWO**  
**COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE**  
**PURE AND APPLIED BIOLOGY PROGRAMME**  
**2022/2023 FIRST SEMESTER EXAMINATION**  
**PAB 303: GENERAL ECOLOGY**

Answer question **ONE** and any two others.

*Time: 2 h 20 min.*

1. (a) During a capture-recapture effort, a total of 204 catfishes was caught, marked, and released back into the reservoir; a few days later, 24 out of the 320 catfishes caught were marked.
  - (i) Estimate the total population size of catfish in the reservoir. (7 marks)
  - (ii) Enumerate **four** critical assumptions that will make the estimate in 1(a)(i) above valid. (8 marks)
- (b) Briefly discuss the various causes of desertification resulting from degradation of vegetation in the natural environment. (10 marks)
- (c) Provide a concise list of **five** life forms according to Christen Raunkiaer's (1934) classification of life forms in plants. (5 marks)
2. (a) List the common and scientific names of **four** bird species and **three** primate species endemic to Nigeria. (7 marks)
- (b) Discuss the term "**Survivorship curves**". (13 marks)
3. Describe the process of succession in a water body from initial stage to the climax community. (20 marks)
4. Write short notes on the following:
  - (a) Types of climaxes in a plant community. (10 marks)
  - (b) Light conditions as a limiting factor affecting vegetation development. (6 marks)
  - (c) Types of quadrats used in vegetation analyses of a plant community. (4 marks)
5. (a) Define the terms **Population** and **Density**. (3 marks)
- (b) Enumerate **four** primary parameters affecting population size. (2 marks)
- (b) Write an essay on determination of relative density of wildlife. (15 marks)