



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT
Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
2025_2 EXAMINATIONS

COURSE CODE: ESM 424

COURSE TITLE: Fresh Water Ecology

CREDIT: 2 Units

TIME ALLOWED: 2½ Hours

Instruction: Attempt question number ONE (1) and any other TWO (2) questions. Question number one (1) carries 30 marks, while the other questions carry 20 marks each.

- QUESTION 1**
- a. Explain ecological pyramids in fresh water ecology.
 - b. Explain trophic levels in a freshwater ecosystem food chain
 - c. State any three (3) aquatic organisms found in fresh water ecosystems
 - d. Describe bacteria as aquatic organism.
 - e. Enumerate the characteristics of Phytoplankton in aquatic ecosystems.

- QUESTION 2**
- a. State the relevance of aquatic macrophytes in aquatic ecosystems
 - b. State the factors that influence the distribution of fish in fresh water ecosystem
 - c. Characterize amphibians' mode of feeding in fresh water ecosystem

- QUESTION 3**
- a. List the factors of temperature influencing the functioning of fresh water ecosystem
 - b. Describe lentic (still water) fresh water ecosystem
 - c. Enumerate the features of lotic (running water) fresh water ecosystem

- QUESTION 4**
- a. Explain any two (2) transpiration problems in freshwater plant
 - b. Mention the sources of nutrients to fresh water plants
 - c. Mention the macro-elements required by fresh water plants

- QUESTION 5**
- a. Describe the term invertebrates.
 - b. Enumerate any four (4) benthic invertebrates.
 - c. Explain the features of any one.