



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**APRIL/MAY, 2019 EXAMINATIONS**

**COURSE CODE: ESM 424**

**COURSE TITLE: Fresh Water Ecology.**

**CREDIT: 2 Units**

**TIME ALLOWED: 2 Hours**

**Instruction:** Attempt question number ONE (1) and any other THREE (3) questions

- 1a) What are aquatic organisms? **(1mark)**
- 1b. What are aquatic macrophytes? **(1mark)**
- 1c. What are riparian vegetation? **(1mark)**
- 1d. Define the term Ecology **(4marks)**
- 1e. Describe the 5 major concerns of fresh water ecology as a discipline. **(10marks)**
- 1f. With specific examples, explain the key features of both the lentic and lotic habitats. **(4marks)**
- 1g. List the origins of the lentic freshwater environment. **(4marks)**
  
- 2a. What is an Ecological Pyramid? **(3marks)**
- b. Describe the 4 main components of the living environment that make up the freshwater ecosystem. **(12marks)**
  
- 3a. List the two main sub-disciplines of aquatic ecology **(2marks)**
- 3b. Itemize any 4 sub-divisions of aquatic organisms. **(4marks)**
- 3c. Describe the 3 major functions riparian vegetation. **(3marks)**
- 3d. Briefly highlight the 6 major characteristics of aquatic microorganisms **(6marks)**
  
- 4a. What are benthic invertebrates and why are they important? **(3marks)**
- 4b. Identify the 4 major sub-groups of benthic invertebrates. **(12marks)**
  
- 5a. Describe the 3 types of fish based on their feeding type? **(3marks)**
- 5b. Highlight the main factors influencing the distribution of fish **(6marks)**
- 5c. Describe the mode of energy and food production by aquatic autotrophs. **(6marks)**