



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
POP EXAMINATION 2022_2

COURSE CODE: ESM424

COURSE TITLE: Fresh Water Ecology

CREDIT: 2Units

TIME ALLOWED: 2 Hours

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

- 1a). What does the structure of fresh water ecology entail? **(1mark)**
- 1b). Enumerate on the major areas of concern of this fresh water ecology. **(15marks)**
- 1c). Expiate on the function of floating aquatic macrophytes in the ecosystem **(14marks)**

- 2). Benthic invertebrate communities are often used as indicators of aquatic ecosystem health. Describe how the following benthic invertebrates contribute to this. **(20marks)**
 - i. Worms**(3marks)**
 - ii. Molluscs **(3marks)**
 - iii. Insects **(9marks)**
 - iv. Zooplanktons **(5marks)**

- 3a). List the two categories under which the study of ecology in freshwater is usually divided into? **(1mark)**
- 3b). What does the study of Marine Ecology entail? **(3marks)**
- 3c). Explain how the complex interrelationships between organisms allow an ecosystem to support such a wide variety of organisms**(7marks)**
- 3d). Explain how the following factors affect the intensity and length of time that the ecosystem is exposed to sunlight. **(9marks)**

- 4). Succinctly discuss the contribution of the following vertebrates in the effective functioning of the aquatic ecosystem**(20marks)**
 - i. **Fish(6marks)**
 - ii. **Amphibians(7marks)**
 - iii. **Reptiles(7marks)**

- 5a). What are macrophytes? **(1mark)**
- 5b). Fungi and Phytoplankton are important in an aquatic ecosystem. Discuss their relevance **(19marks)**