



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
2023_1 POP EXAMINATION

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 is Fresh Water Ecology? **(17marks)**

1b). Explain the functions of the bacteria in a freshwater ecosystem**(13marks)**

2a). What is Ecology? **(8marks)**

2b). Outline the importance of the nonliving component of the fresh water environment**(2marks)**

2c). Explain the four main constituents of the living environment that form the fresh water ecosystem**(10marks)**

3a). Extensively discuss the roles of the food chains, ecological pyramids and trophic in fresh water ecology**(15marks)**

3b). How do microorganisms help regulate the aquatic ecosystem? **(5marks)**

3c). *Detail 5 aspects of relationships between living organisms and the relationship of living creatures with their environment. (5marks)*

4a). Attempt a classification on herbivores based on the following criteria **(10marks)**

i. ***What they eat(5marks)***

ii. ***Functional feeding group(5marks)***

4b). *Explain how the following factors that affect the development and operations of fresh water ecosystems(10marks)*

i. ***Location (2marks)***

ii. ***Altitude (2marks)***

iii. ***Temperature (6marks)***

5). Organisms living in aquatic ecosystems are dependent on the resources of their environment. And are also shaped through the interactions with other organisms. Explain how building blocks and energy and food make this possible **(20marks)**