



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**Department of Pure and Applied Sciences**  
**SEPTEMBER, 2020\_1 EXAMINATIONS**

**COURSE CODE: BIO 405**

**COURSE TITLE: HYDROBIOLOGY**

**CREDIT UNIT: 2**

**TIME ALLOWED: 2HOURS**

**INTRSUCATION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS**

1. (a) Write short notes on the following in relation freshwater ecosystem.
  - (i) pH **(3 marks)**
  - (ii) Temperature **(3 marks)**
  - (iii) Light **(3 marks)**
  - (iv) Phosphorus **(4 marks)**
- (b) Briefly describe the types of freshwater ecosystem. **(4 marks)**
- (c) Mention 5 each of point and nonpoint sources of eutrophication. **(5 marks)**
- (d) Outline three (3) Importance of benthic invertebrates as prime indicators of environmental conditions. **(3 marks)**
2. (a) In a tabular form, state six water pollutants with examples and their likely sources. **(9 marks)**
- (b) Highlight six (6) general features of benthic invertebrates. **(6 marks)**
3. (a) Discuss briefly fresh water ecosystem. **(8 marks)**
- (b) Define the term productivity. **(2 marks)**
- (c) Mention 4 abiotic environmental factors of aquatic ecosystems. **(2 marks)**
- (d) Outline the three fresh water habitats. **(3 marks)**
4. (a) Define the term eutrophication. **(2 marks)**
- (b) Outline the effects of eutrophication on receiving ecosystem. **(8 marks)**
- (c) Differentiate between point source pollution and non-point source pollution. **(2 marks)**
- (d) Enumerate the factors that determine the depth and photosynthetic rate measurements in a pond/lake. **(3 marks)**
5. (a) Outline the five major natural vegetation types of Lake Chilwa wetland and describe their species composition. **(9 marks)**
- (b) Outline the three (3) distinct types of benthic organism. **(6 marks)**