



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**Department of Biological Sciences**

**2025\_2 EXAMINATIONS**

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**BIO405: Hydrobiology**

**Time: 2 Hours**

**Credit Unit: 2**

**Instruction: Attempt THREE (3) questions only. QUESTION 1 is compulsory.**

**QUESTIONS**

1. (a.) Explain the following:
  - (i) Dependence of life on earth upon water **(2 marks)**
  - (ii) How water serves as a habitat for various organisms **(2 marks)**
  - (iii) Significance of water in photosynthesis **(2 marks)**(b.) Write short notes on lentic and lotic freshwater ecosystems **(8 marks)**  
(c.) Mention five major threats to freshwater biodiversity **(5 marks)**  
(d.) Define wetlands, and their significance in freshwater ecosystems **(5 marks)**  
(e.) List the major habitat types within freshwater ecosystems **(6 marks)**
  
2. (a.) List and explain the different types of macrophytes found in freshwater systems **(5 marks)**  
(b.) Mention the differences between euryhaline and stenohaline species in terms of their habitat tolerance **(4 marks)**  
(c.) Explain the biological pump process in the carbon cycle **(11 marks)**
  
3. (a.) Write notes on the general concepts of production **(10 marks)**  
(b.) List factors that affect productivity in freshwater ecosystems **(5 marks)**  
(c.) Briefly explain dissolved solids as one of the chemical characteristics of freshwater **(5 marks)**
  
4. (a.) List the major vegetation types found in and around Lake Chilwa **(5 marks)**  
(b.) Write notes on Wikki Warm Springs **(10 marks)**  
(c.) Briefly explain ecological tourism promoting sustainable development in Yankari National Park **(5 marks)**
  
5. (a.) List any 6 plant species that dominates the Borgu sector of Kainji Lake **(6 marks)**  
(b.) Briefly describe Lake Tanganyika **(6 marks)**  
(c.) Discuss the impact of poor personal and food hygiene on the spread of diarrhea **(8marks)**