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TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES  
DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES  
**UNIVERSITY EXAMINATION FOR:  
BACHELOR OF SCIENCE IN FISHERIES AND OCEANOGRAPHY**

**BSFO 16S/YEAR 2/ SEMESTER 1**

**CODE: AFO 4203 INTRODUCTION TO LIMNOLOGY**

**SPECIAL/ SUPPLEMENTARY EXAMINATIONS**

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

*Instructions to Candidates*

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions.

*This paper consists of two printed pages.*

*Mobile phones are NOT allowed in the examination room*

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**QUESTION ONE**

- a) Define the following terms
- |      |                |       |
|------|----------------|-------|
| i)   | Eutrophication | (1mk) |
| ii)  | Reservoirs     | (1mk) |
| iii) | Trace elements | (1mk) |
| iv)  | BOD            | (1mk) |
| v)   | Zooplankton    | (1mk) |
- b) i) Both lentic and lotic aquatic systems are linked into three major drainage systems.  
State them (3mks)

- ii) Man-made reservoirs are made when dams are constructed across rivers. Outline the types (2mks)
- c) Lakes can be classified based on trophic levels. Compare and contrast characteristics of oligotrophic lakes and eutrophic lakes (4mks)
- d) i) Define water pollution (1 mk)
- ii) Pollution of aquatic resources can be broadly categorized into two. State each with relevant examples. (4 mks)
- e) Briefly outline the legislations and regulations used to control pollution in aquatic systems (4mks)
- f) Differentiate between Tectonic and Fjords estuaries. (4mks)
- g) Outline factors controlling the morphology of an alluvial river reach (3mks)

### **QUESTION TWO**

- i) Phytoplanktons play a key role in the ecosystem. Briefly Discuss (12 mks)
- ii) Hydrophytes are classified ecologically into three groups. State and explain (8 mks)

### **QUESTION THREE**

- Based on origin, lakes are further sub classified. Explain, citing examples. (6 mks)
- Explain the parameters used to determine the trophic state in a lake (8 mks)
- Explain two thermal stratification layers in a lake (6 mks)

### **QUESTION FOUR**

- i) Describe and illustrate the nitrogen cycle in water (10 mks)
- ii) Water possesses unique physical and chemical properties. Explain (10 mks)

### **QUESTION FIVE**

- Discuss wetlands, its types and functions in the ecosystem. (20 mks)