



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2019 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 105: AQUATIC BIOLOGY

Date: April 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Name and describe any two types of macrophytes found in fresh waters
(4marks)
- b) Outline three factors that affect light penetration in lentic systems (3 marks)
- c) 100 Millilitres of pond water was filtered through a Millipore filter paper weighing 0.50 mg. The filter paper was then dried in an oven at 80°C to a constant weight of 1.20 mg. Calculate in mgL^{-1} the total suspended solids in the water. (4 marks)
- d) Describe the major factors limiting primary productivity in aquatic ecosystems (4 marks)
- e) Differentiate between waves and currents and name two factors that can bring about currents in water pools (4 marks)
- f) i) What are wetlands (1 mark)
ii) Briefly explain any four functions of wetlands (4 marks)
- g) Using a diagram, describe thermal stratification of lakes (6 marks)

- Q2. Describe the possible ecological zonation in Lake Victoria and explain the relative importance of each zone to the lake ecosystem. **(20 marks)**
- Q3. Discuss the significance of the unique properties of water to biological life in aquatic ecosystems **(20 marks)**
- Q4. Discuss the impact of agricultural operations on the aquatic environment. **(20 marks)**
- Q5. Discuss adaptation of organisms to lotic environments. **(20 marks)**

END