



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2022

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 105: AQUATIC BIOLOGY

Date: APRIL 2022

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any TWO Questions

Q 1. a) i) Differentiate between the following

- Neritic and epi-pelagic zones (2marks)

- Eutrophy and oligotrophy (2marks)

- Primary and secondary production in aquatic ecosystem (2marks)

ii) What is the significance of the following to the ecology of aquatic ecosystem?

Neritic zone (1mark)

Phylum arthropoda (1mark)

b) i) Outline three adaptations of marine organisms (3marks)

ii) Outline three causes of vertical migration of organisms in aquatic environment (3marks)

iii) Outline two characteristics of lotic system (2marks)

c) i) Describe two modes of feeding in benthic organisms (2marks)

ii) Outline three negative effects of weeds in aquatic ecosystem (3marks)

d) Explain the cause and significance of the following;

i) Thermal stratification (3marks)

ii) Currents (3marks)

e) Give reasons to explain the following:

i) The high benthic community in estuarine ecosystems (1mark)

ii) The insignificant role of algae in primary production of stream head waters (1marks)

iii) The high number of organisms in mid-water streams compared to head and down water streams (1mark)

Q2. Describe the role of man in the deteriorating aquatic conditions in lake Victoria (20marks)

Q3. An organization is about to embark on a project with an objective to find ways on improving aquatic resources in Kenya. In preparation to this task, educate the personnel involved about the factors that may have led to the decline of these resources (20marks)

Q4. Citing examples where applicable, discuss the various forms of wetlands in Kenya (20marks)

Q5. Describe the adaptations of organisms in lotic environment

END