



MACHAKOS UNIVERSITY

University Examinations 2022/2023 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

THIRD YEAR SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (BIOLOGY)

SZL 312: LIMNOLOGY

DATE:

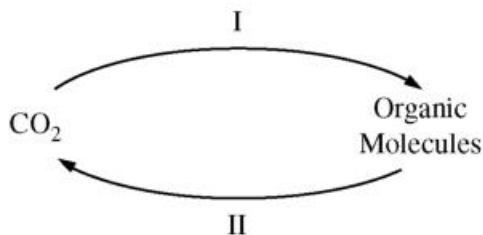
TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

1.

a) The following diagram describes key processes that occur in limnological systems



Explain how the process in step I affects chemical properties of a pond ecosystem (4 marks)

b) Explain the significance of riparian vegetation in the functioning of a lotic system (3 marks)

- c) State two ecological importance of the following communities in the aquatic ecosystem
 - i. copepods (2 marks)
 - ii. Oligochaetes (2 marks)
- d) outline the significance of aquatic weeds in aquatic ecosystems (3 marks)
- e) Describe 3 factors that cause currents in water bodies (3 marks)
- f) Outline three items that constitute food for the Nekton of the profundal zone in a lake ecosystem (3 marks)
- g) Describe three (3) adaptations of organisms in the lower reaches of rivers (3 marks)
- h) Identify three major anthropogenic threats to aquatic ecosystems (3 marks)
- i) After the primary decomposers, name the communities that form the 2nd and 3rd step in a decomposer food chain (2 marks)
- j) Explain the flow of energy within a stream in mount kenya (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

- 2. Discuss the significance of water's unique properties to life in aquatic ecosystems (20 marks)
- 3. The mode of origin of a lake influences its ecological characteristics. Discuss (20 marks)
- 4. Discuss the importance of the various ecological zones of a lentic system (20 marks)
- 5. The physico-chemical conditions of Tana River have a great influence on its biological conditions. Discuss (20 marks)