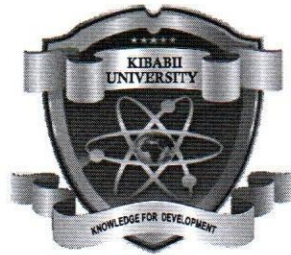


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*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**  
**2021/2022 ACADEMIC YEAR**

**FOURTH YEAR SECOND SEMESTER**  
**MAIN EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY AND BACHELOR'S  
DEGREE IN EDUCATION AND EXTENSION**

**COURSE CODE:** SBT 422

**COURSE TITLE:** AQUATIC BOTANY

**DATE:** FRIDAY 8<sup>TH</sup> OCTOBER, 2021 **TIME:** 2:00 -4:00 P.M.

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**INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

**TIME: 2 Hours**

This paper consists of 3 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

## QUESTION 1

- a) State the **major** aquatic biomes giving examples in each case (2 Marks)
- b) Explain **three** adaptations of hydrophytes (3 Marks)
- c) i. Illustrate the vertical profile of temperature and light in a thermally stratified lake and identify the following parts: epilimnion, hypolimnion, metalimnion and thermocline. (5 Marks)
- ii. Explain temperature variation in warm monomictic lakes (2 Marks)
- d) State the meaning of each of the following terms: (3 Marks)
- i. Estuaries
  - ii. Fucoxanthin
  - iii. Chemotrophs
- e) Compare the Cyanophyta and Chlorophyta based on the following attributes. (4 Marks)
- i. Cell motility
  - ii. Reproduction
  - iii. Distribution
  - iv. Dominant accessory pigments
- f) Distinguish between pelagic zone and benthic zone (2 Marks)
- g) State **two** aspects of economic importance of algae and sea grasses (2 Marks)
- h) Identify the main economic values of the saline lakes of East Africa. (2 Marks)
- i) Describe the extent and major characteristics of the littoral zone (3 Marks)

j) Explain how primary productivity is measured in an aquatic ecosystem

(2 Marks)

**QUESTION 2**

Describe the ways of conserving and managing aquatic ecosystem

(20 Marks)

**QUESTION 3**

Discuss human activities that have contributed to depletion of water sources

(20 Marks)

**QUESTION 4**

Explain the characteristics and types of running water.

(20 marks)

**QUESTION 5**

Describe the phytoplankton movement in standing waters

(20 Marks)