(*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 8TH OCTOBER, 2021 **TIME:** 2:00 -4:00 P.M.

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

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)