

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

SECOND YEAR EXAMINATION FOR THE DEGREES
OF BACHELOR OF EDUCATION (SCIENCE),
BACHELOR OF SCIENCE (GENERAL)

BOTA 211: PHYCOLOGY

STREAM: R

TIME: 2 HRS

DAY: MONDAY [8.30AM – 10.30AM]

DATE: 05/12/2022

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS: Answer all questions in **Section A (40 Marks)** and two questions in **Section B (30 Marks)**

QUESTION ONE

Define the following terms: -

(5 marks)

- (a) Coenobium
- (b) Diazotrophy
- (c) Nanoplankton
- (d) Autospores
- (e) Diatoms

QUESTION TWO

(a) Using appropriate examples, explain how algal blooms arise and how they impact aquatic ecosystems. (4 Marks)

(b) Differentiate between Filamentous and Siphonous thallus organization in algae. (4 Marks)

(c) Discuss the diversity in mechanisms employed by algae to acquire their nutritional requirements from their environment. (5 Marks)

(d) Briefly describe asexual reproduction in algae. (5 Marks)

(e) With the help of a labeled diagram describe growth phases in algae cultured in a laboratory. (5 Marks)

QUESTION THREE

(a) Phagotrophy is an important feature in Dinophyta, explain how this is achieved. (5 Marks)

(b) State atleast 3 distinguishing characteristics of the Cyanobacteria. (3 Marks)

(c) Rhodophyta are some of the widely distributed algae. Describe the specific habitats where one is likely to find representatives of the Rhodophyta. (4 Marks)

SECTION B (30 Marks) : ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION FOUR

Write an essay on the impact of rising water levels in the Kenyan Rift Valley on Algal composition, abundance and impact this has on the aquatic food webs which algae support. (15 Marks)

QUESTION FIVE

Using specific examples around the globe discuss the economic importance of algae. (15 Marks)

QUESTION SIX

Giving specific examples where possible discuss parasitism in algae. (15 Marks)