

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN BIOLOGY AND BACHELOR OF EDUCATION
(SCIENCE)

BOTA 232: PHYCOLOGY

STREAMS: B.Sc & B.Ed Sc Y2S1

TIME: 2 HOURS

DAY/DATE: FRIDAY 8/12/2017

11.30 A.M - 1.30 A.M.

INSTRUCTIONS:

- Answer ALL the questions in Section A and ONLY ONE in Section B
- Use of calculators and statistical tables is allowed
- Do not write anything on the question paper
- Use illustrations where appropriate to enhance your answers.

SECTION A: [50 MARKS]

1. (a) With the aid of diagrams, describe the classification of Bacillariophyta cells based on symmetry. [6 Marks]
(b) Explain briefly the unique characteristics of reproduction of diatoms. [6 Marks]
2. With the aid of a diagram, describe the forms of thali found among the phaeophytes (brown algae) and cite one example for each. [8 Marks]
3. (a) Explain the basis of algal classification. [4 Marks]
(b) Describe different **kinds** of organs of locomotion found in algae. [4 Marks]
4. State the function(s) of the following structures found in algae:
(i) Trichocyst
(ii) Vacuole
(iii) Holdfast
(iv) Stigma
(v) Pyrenoid [5 Marks]
5. (a) Describe briefly the structure of the algal flagellum in cross section. [6 Marks]

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6. (a) Complete the following table to show various algal phyla and their common names. An example is given in the first row [4 Marks]

	<i>Algal phylum</i>	<i>Common name</i>
e.g	<i>Chlorophyta</i>	<i>Green algae</i>
1		
2		
3		
4		

- (b) List the types of food reserves accumulate by algae. [2 Marks]
(c) Summarize “alternation of generations.” [5 Marks]

SECTION B [20 MARKS]

7. Write an essay on the economic importance of algae. [20 Marks]
8. Discuss sexual reproduction in Rhodopyhta. [20 Marks]
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