

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF A DEPLOMA
IN AGRICULTURE AND RURAL DEVELOPMENT**

BOTA 0101: BOTANY

STREAMS: DIP (AGRIC & RURAL DEVT) Y1S1

TIME: 2 HOURS

DAY/DATE: MONDAY 09/12/2019

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- Answer ALL questions in section A and any TWO in section B
- Do not write anything on the question paper
- Use illustrations where appropriate to enhance your answers

SECTION A (30 MARKS)

1. (a) Name two branches of botany (1 mark)
(b) Explain what each of the branches in (a) above is involved in. (2 marks)
(c) Distinguish between pure and applied botany. (2 marks)
2. (a) What is a lichen? (2 marks)
(b) Name two phyla of algae. (1 mark)
(c) State the most important difference between fungi and plants. (2 marks)
3. (a) Define the term species. (2 marks)
(b) State the functions of the following cell organelles: (3 marks)
 - (i) Amyoplast
 - (ii) Golgi body
 - (iii) Ribosome

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- 4 (a) State two functions of the seed coat. (1 mark)
(b) Explain the usage of two descriptors in assigning exact names to organisms according to the Binomial Nomenclature System. (4 marks)
- 5 (a) Give the four taxa (in their right order) that come before GENUS in the sequence of classification of organisms. (1 mark)
(b) Explain the importance of the study of plants. (4 marks)
6. (a) Name the polysaccharide found in the bacterial cell wall. (1 mark)
(b) Distinguish between the following terms: (4 marks)
(i) Vital and mechanical functions performed by plants
(ii) Artificial and natural classification of organisms.

SECTION B (40 MARKS)

7. (a) Describe **three** types of modified roots. (6 marks)
(b) With the aid of a well-labeled diagram, discuss the zones of the root tip. (14 marks)
8. Using illustrations, describe the common types of inflorescences. (20 marks)
9. With the aid of a well-labeled diagram, discuss the structure of the plant cell, highlighting the functions of its various organelles. (20 marks)
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