

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE, BACHELOR OF EDUCATION SCIENCE, BACHELOR OF
SCIENCE HORTICULTURE, BACHELOR OF SCIENCE BIOLOGY, BACHELOR OF
SCIENCE CHEMISTRY AND BACHELOR OF SCIENCE AGRICULTURAL
EDUCATION**

BOTA 241: TAXONOMY OF HIGHER PLANTS

STREAMS: BED (SCI), BSC (HORT, BIO, CHEM, AGED)

TIME: 2 HOURS

DAY/DATE: MONDAY 10/12/2018

2.30 PM – 4.30 PM

INSTRUCTIONS:

**ANSWER ALL QUESTIONS IN SECTION A AND ONLY ONE QUESTION IN
SECTION B**

SECTION A

1. Distinguish between the following terms:
 - (a) Taxonomy and systematics [2 marks]
 - (b) Taxonomic species and phylogenetic species [2 marks]
 - (c) Isotype and neotype [2 marks]
 2. (a) Define a nomenclatural type and state its significance in plant nomenclature. [2 marks]
 - (b) (i) Name the organization that governs plant nomenclature. [5 marks]
 - (ii) Describe the three basic activities of organization named in 2(b) (i) above. [3 marks]
3. Explain the application of plant taxonomy to other botanical disciplines. [4 marks]

4. Write the endings to botanical names of the following units of classification. [5 marks]
- (a) Order
 - (b) Suborder
 - (c) Family
 - (d) Subfamily
 - (e) Tribe
5. Outline the contribution of Carolus Linnaeus to botanical classification. [5 marks]
6. Explain the processes of managing a specimen collection. [5 marks]
7. State five main criteria for publication in Taxonomy. [5 marks]
8. (a) Explain the aims of biosystematics [2 marks]
- (b) Describe three important methods in the study of biosystematics [6 marks]
9. Describe major types of classification systems. [6 marks]

SECTION B (20 MARKS)

10. (a) Discuss the principles of plant nomenclature as stipulated by the International Code of Nomenclature for algae, fungi and plants. [12 marks]
- (b) Describe the types of herbarium specimens. [8 marks]
11. (a) Explain the problems associated with Biological Species Concept (BSC) as applied to plants. [10 marks]
- (b) Discuss the relationship between experimental and classical taxonomy. [10 marks]
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