

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE

BOTA 241: TAXONOMY OF HIGHER PLANTS

STREAMS: BSC (BIO, HORT, AGED, MATH) & BED (SCI

TIME:3 HOURS

DAY/DATE: WEDNESDAY 18/12/2023

2.30 P.M. –4.30 P.M

MAIN EXAMINATION

STREAM:)

TIME: 2 Hours

INSTRUCTIONS:

- **Answer ALL Questions in Section A and any other TWO in Section B**
- **Do not write anything on the question paper**

SECTION A (30MARKS) (Answer ALL questions in this section)

1. a. Define the following terms
 - i. Holotype (1Mark)
 - ii. Ecospecies (1Mark)
 - b. Describe three disadvantages of using bracketed dichotomous key (3Marks)
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2. a. With help of a diagram, describe parts of a cladogram in relation to plant phylogenetics (3Marks)

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b. Define the taxon that ends with;

i. _mae (1Mark)

ii. -aceae (1Mark)

3. Outline five principles that govern the International Code of Botanical Nomenclature (5Marks)

4 a. Polyploidy is a common speciation mechanism in plants. Describe how polyploidy can lead to formation of new plant species (4Marks).

b. Explain how molecular taxonomy influences the future of plant taxonomy

(1Mark)

5. a. Identify the endings of a genus name when commemorating a person (3Marks)

b. Explain the difference between the monophyletic and polyphyletic groups in phylogenetic classification system (2Marks)

6 a. Highlight key contributions of Carolus Linnaeus to the field of plant taxonomy

(3Marks)

b. Distinguish between classical and modern taxonomy

(2Marks)

SECTION B (40MARKS) (Answer TWO questions in this section)

7. You are tasked with collecting and preserving plant specimens for a botanical research project. Describe the steps you would take to ensure proper collection, preservation, and documentation of the specimens (20Marks)

8. Discuss various techniques used in identifying plants (20Marks)

9. a. Describe five major species concepts that are outlined in plant biosystematics (10Marks)

b. Discuss five economic importance of pod bearing family (Fabaceae) in East Africa (10Marks)

