



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2023/2024

THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BIOLOGICAL SCIENCES, BACHELOR OF BIOCHEMISTRY, BACHELOR OF BIOTECHNOLOGY AND BACHELOR OF SCIENCE IN EDUCATION

SBA 3300: TAXONOMY OF HIGHER PLANTS

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Distinguish between the following terms
- i. Isotype and neotype (2 marks)
 - ii. Chemotaxonomy and numerical taxonomy (2 marks)
 - iii. Morphological species concept and phylogenetic species concept (2 marks)
- b) i. Discuss the contribution of Carolus Linnaeus in plant taxonomy (2 marks)
- ii. List three benefits of scientific names (3 marks)
- c) i. Explain four components of plant biosystematics (4 marks)
- ii. List five rules of constructing a dichotomous key (5 marks)
- iii. Give the endings of the following taxonomic units (5 marks)

<u>Taxonomic unit</u>	<u>Ending</u>
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Class

Family

Order

Tribe

Subtribe

- d) Discuss the application of plant phylogenetic (5 marks)

QUESTION TWO (20 MARKS)

Discuss the principles of plant nomenclature as stipulated by the international code of botanical nomenclature (20 marks)

QUESTION THREE (20 MARKS)

Describe the distinguish characteristics and economic importance of the following plant families

- a) Euphobaceae (10 marks)
b) Fabaceae (10 marks)

QUESTION FOUR (20 MARKS)

Describe plant collection and herbarium techniques (20 marks)

QUESTION FIVE (20 MARKS)

Discuss the mechanisms of speciation (20 marks)