



KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

SPECIAL/SUPPLEMENTARY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN EDUCATION SCIENCE

SECOND SEMESTER, 2022/2023

(NOVEMBER/DECEMBER, 2022)

BOTA 241: TAXONOMY OF HIGHER PLANTS

STREAM: Y2 S2

TIME: 2 HOURS

DAY:

DATE: 00/12/2022

INSTRUCTIONS

- 1. Do not write anything on this question paper.***
- 2. Answer ALL the questions in section A [Compulsory] and any other TWO Questions from section B.***

SECTION A

- a) Outline the major contributions made by carolus Linnaeus to plant taxonomy (3 marks)

b) Differentiate between artificial, natural and phylogenetic systems of classification (3 marks)
2. Cinnamon spice is one of the spices used in cooking. Describe the characteristics of the angiosperm family to which it belongs (4 marks)
3. Explain the significance of plant taxonomy in relation to other disciplines (4 marks)
4. Discuss differences between scientific names and common names (4marks)
5. a) Describe the characteristics of a dendrogram used in plant taxonomy

(4marks)

b) Compare cladistics and phonetics used in plant taxonomy (3marks)

c) Compare cultivars and varieties as used in plant taxonomy (4marks)

6. Differentiate between the following:

a) Isotype and neotype (2 marks)

b) Holotype and lectotype (2 marks)

7. Describe the use of morphological features as an evidence of evolution

(4 marks)

8. Explain differences between photosynthesis and respiration (4marks)

SECTION B (30 MARKS)

ANSWER ANY TWO QUESTIONS

9. Describe in details the use, preparation, nad preservation of plant specimens for use in taxonomic classification (15 marks)

10. Describe the sources of taxonomic characters used in taxonomic classification (15 marks)

11. Discuss the traditional and modern taxonomic techniques, drawing out advantages and limitations of both (15 marks)