

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
AGRICULTURE EDUCATION AND EXTENSION

BOTA 121: PLANT ANATOMY AND MORPHOLOGY

STREAMS: BSC (AGED)

TIME: 2 HOURS

DAY/DATE: FRIDAY 08/08/2025

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS

- Answer all questions in **section A** and any other two question in **section B**. Illustrate your answers with diagrams where appropriate

SECTION A. 30 (MARKS)

1. Distinguish between **sporophytes** and **gametophytes** in lower plants (5 marks)
2. Describe the main anatomical differences between monocotyledon and dicotyledonous stems. (5 marks)
3. a) Draw a labeled diagram to illustrate transverse section of a leaf. (3 marks)
b) State functions of each tissue of a leaf (3 marks)
4. State the main differences between taproot system and fibrous system. (5 marks)
5. State functions of Xylem and Phloem of a vascular plants. (5 marks)
6. Explain why pteridophytes are considered as vascular plants. (4 marks)

SECTION B 40 MARKS

7. a) Discuss the Morphological characteristic features of bryophytes. (10 marks)
b) Discuss the Anatomical characteristic features of bryophytes. (10 marks)
8. Discuss with an aid of a diagram various types of placentation in angiosperm (20 marks)

9. Analyse the diverse morphological adaptations of root system in lower and higher plants in response to different environmental conditions (20 marks)

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