

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

CHUKA & THARAKA

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHLOR OF SCIENCE IN BOTANY

BOTA 121: PLANT ANATOMY AND MORPHOLOGY

STREAMS: BSC (BOTA)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 15/04/2020

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS: Answer ALL questions in section A and any other TWO in section B

SECTION A (30 MARKS)

1. Draw and label the sporophyte of a moss [4 marks]
2. (a) Define the following shapes of leaf lamina:
 - (i) Narrower at the ends while broader in the middle [1 mark]
 - (ii) Long and broad lamina [1 mark]
 - (iii) Broad spoon lamina [1 mark]
- (b) Differentiate between:
 - (i) Intrapetiolar and free-lateral stipules [2 marks]
 - (ii) Racemose and cymose inflorescence [2 marks]
3. Classify parenchyma based on functions [5 marks]
4. Discuss sclereids [5 marks]
5. Outline the following:
 - (a) Simple dry fruits [2 marks]
 - (b) Underground stems modified for food storage [2 marks]
6. Explain the naming of stomata in dicots according to subsidiary cells [5 marks]

SECTION B (40 MARKS)

7. Discuss the modification of fibrous roots to perform different functions [20 marks]
 8. Draw and label the basic structure of a flower and mention the functions of each component [20 marks]
 9. Discuss the anatomical differences between a dicot stem and a monocot stem [20 marks]
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