



UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
EDUCATION SCIENCE, BACHELOR OF SCIENCE IN MICROBIOLOGY AND
BIOTECHNOLOGY**

BOTA 121: PLANT MORPHOLOGY AND ANATOMY**STREAMS:****INSTRUCTIONS:**

- Answer ALL questions in section A and TWO questions in section B
- Do not write on the question paper
- Answer each question on a fresh page

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Identify five practical applications of studies in plant morphology and anatomy (2 marks)
2. a. Identify the plant in Figure 1 (1 marks)
 - b. Name the parts labelled E & F (2 marks)
 - c. Explain the role of the parts labelled A & D (2 marks)

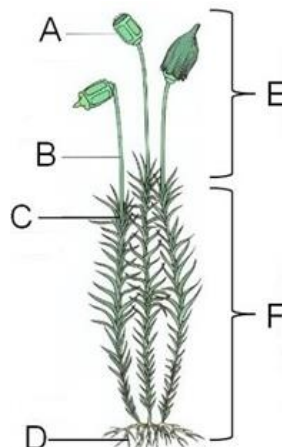


Figure 1.

3. Describe five ways in which adventitious roots are adopted functions other than the absorption of water and minerals (5 marks)
4. Describe the anatomy of a fresh (5 marks)
5. a. Describe three types of meristematic tissues based on their position in the plant (3 marks).
 - b. Describe two functions of parenchyma tissues (2 marks)

6. Explain five roles of stipules in plants (5 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

7. Describe various type of racemose inflorescences using illustration where possible (20 marks).
8. a. Differentiate between tracheids and vessel elements in plants (10 marks)

b. Discuss various types of stomata based on the arrangement of the subsidiary cells around the guard cells (10 marks).
9. Discuss the primary structure of the dicotyledonous stem (20 marks)