



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN BIOCHEMISTRY

AAB 4221: PLANT MORPHOLOGY AND ANATOMY PAPER II

SPECIAL/SUPPLEMENTARY EXAM

SERIES: JULY, 2025

TIME: 2 HOURS

DATE: JUL., 2025

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a) Differentiate between;
 - i) Decussate and distichous phyllotaxy (2 marks)
 - ii) Marginal and basal ovule placentation (2 marks)
- b) State the functions of collenchymatous tissue (4 marks)
- c) Explain the THREE surfaces of wood (6 marks)
- d) State the functions of medullary rays (3 marks)
- e) Highlight the THREE different anatomical arrangements in isobilateral leaves (3 marks)
- f) Explain the THREE types of mechanisms used by plants in defense against herbivores (6 marks)
- g) Discuss defensins in relation to plant defense mechanisms (4 marks)

Question TWO

- a) Using a diagram, describe the transverse section of a dicot root (16 marks)
- b) State the chemical components of wood (4 marks)

Question THREE

- a) Discuss modified leaves (12 marks)
- b) Explain the THREE types of leaves based on the location of the stomata (8 marks)

Question FOUR

- a) Using illustration, describe the types of aestivation in floral buds (12 marks)
- b) Explain the different types of stamen in flowers (8 marks)

Question FIVE

Discuss;

- a) Isolating mechanisms of evolution in plants (12 marks)
- b) Polyploidy in plants (8 marks)