

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREES OF
BACHELOR OF SCIENCE (GENERAL), BED (SCIENCE)
AND AGED**

BOT/BOTA 212: TAXONOMY OF HIGHER PLANTS

STREAM: R

TIME: 2 HRS

DAY: THURSDAY [11.30 – 13.30 P.M]

DATE: 29/01/2026

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any **TWO** questions from section **B**.

SECTION A: 40 marks. Answer all questions

QUESTION ONE

List and explain five disciplines that are interrelated to plant taxonomy. **(5 Marks)**

QUESTION TWO

Outline ways in which the following people contributed to the development of plant classification systems:

- a) Theophrastus **(1 Mark)**
- b) John Ray **(1 Mark)**
- c) A.P. De Candolle **(1 Mark)**
- d) Bentham S. **(1 Mark)**
- e) Carolus Linnaeus **(1 Mark)**

QUESTION THREE

Enumerate five characteristics of taxonomic hierarchy **(5 Marks)**

QUESTION FOUR

Define binomial nomenclature and state four rules that govern application of that concept.

QUESTION FIVE

Outline five merits of Bentham and Hooker system of classification. **(5 Marks)**

QUESTION SIX

Highlight five distinctive features between angiosperms and gymnosperms. **(5 Marks)**

QUESTION SEVEN

Define the following terms:

- a) Dichogamy (1 Mark)
- b) Heterostyly (1 Mark)
- c) Apomixis (1 Mark)
- d) Sympatric speciation (1 Mark)
- e) Dioecy (1 Mark)

QUESTION EIGHT

A plant family has a formula with the following symbols, $\square \text{ } \text{♀} \text{ K (5) C (5) A (5) G (2)}$, ovary superior.

Give a brief description of each component of the formula. (5 Marks)

SECTION B: 30 marks. Answer any two questions**QUESTION NINE**

Discuss the following:

- a) Objectives of plant taxonomy (7 Marks)
- b) Importance of studying plant taxonomy (8 Marks)

QUESTION TEN

Discuss the role of herbarium in plant taxonomy. (15 Marks)

QUESTION ELEVEN

Write short notes on the subfamily Faboideae D.C. under the following sub-headings:

- a) Morphological description (6 Marks)
- b) Phylogeny and major genera (4 Marks)
- c) Economic importance (5 Marks)