



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)

BACHELOR OF EDUCATION

SBT 101: SURVEY OF THE PLANT KINGDOM

DATE: 10/12/2020

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A: COMPULSORY (30 MARKS)

QUESTION ONE (30 MARKS)

- a) Describe three key characteristics of Fungi (3 marks)
- b) Describe diplontic life cycle pattern in Algae (3 marks)
- c) Differentiate the following:
 - i) Perigonial and parichaetial leaves
 - ii) Peristome teeth and elaters
 - iii) Soredia and Isidia (3 marks)
- d) Describe three types of sexual reproduction in Algae (3 marks)
- e) Explain the significance of lichen acids (3 marks)
- f) Describe three growth forms in bryophytes (3 marks)
- g) Justify why pteridophytes are the most advanced cryptogams (3 marks)
- h) Highlight the economic importance of Pteridophytes (3 marks)
- i) Outline three differences between gymnosperms and angiosperms (3 marks)
- j) Highlight three structural differences between sporophyte and gametophytes of gymnosperms (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

Discuss reproduction in Lichens

QUESTION THREE (20 MARKS)

Discuss life cycle of *Marchantia polymorpha*.

QUESTION FOUR (20 MARKS)

Discuss economic importance of algae

QUESTION FIVE (20 MARKS)

Discuss life cycle of *Psilotum nudum*