



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

SBT 204: PTERIDOPHYTES AND BRYOPHYTES

DATE: 24/5/2022

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

QUESTION ONE (30 MARKS)

- a) Outline three features of Bryophytes that resemble those of Algae. (3 marks)
- b) Differentiate the Progressive and regressive theories of evolution in Bryophytes. (3 marks)
- c) Explain why Pteridophytes are referred to as Lower Plants. (3 marks)
- d) Bryophytes are the “amphibians” of the plant kingdom. Explain. (3 marks)
- e) Explain why Psilophyta are regarded as the most primitive Pteridophytes. (3 marks)
- f) Illustrate the difference between *Selaginella* and *Lycopodium* strobili. (5 marks)
- g) Describe two types sporangia found in Pteridophytes. (3 marks)
- h) Outline three features that distinguish Anthocerotopsida from other groups of bryophytes. (3 marks)
- i) Outline two functions of the peristome teeth in the Moss capsule. (2 marks)
- j) Differentiate between Haplostele and Actinostele (2 marks)

SECTION B

QUESTION TWO (20 MARKS)

Discuss evolution of Pteridophytes

QUESTION THREE (20 MARKS)

Describe the structural and reproductive features in the gametophyte of *Marchantia*.

QUESTION FOUR (20 MARKS)

Discuss reproduction in the Genus *Equisetum*

QUESTION FIVE (20 MARKS)

Discuss the distinguishing features between Homosporous and Heterosporous life cycles.