



MACHAKOS UNIVERSITY
University Examinations for 2021/2022 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
SECOND YEAR SUPPLEMENTARY/SPECIAL EXAMINATION FOR
BACHELOR OF SCIENCE IN BIOLOGY

SBT 204: PTERIDOPHYTES AND BRYOPHYTES

DATE: 8/3/2023

TIME: 8.30 – 10.30 AM

INSTRUCTIONS

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

QUESTION ONE (30 MARKS)

- a) Distinguish the morphological features between *Anthoceros* and *Marchantia* gametophyte plants. (5 marks)
- b) Describe the morphology and structure of *Equisetum* strobilus. (5 marks)
- c) Outline the adaptations of bryophytes to their environment (2 marks)
- d) Outline the distribution of bryophytes (3 marks)
- e) Distinguish between *Pleurocarpous* and *Acrocarpous* mosses (4 marks)
- f) State the morphological differences between liverwort and moss leaves (2 marks)
- g) Describe the process of asexual reproduction in the order Marchantiales (3 marks)
- h) Explain the meaning of “Cryptogams” as applied in lower plants (3 marks)
- i) Briefly describe any two types of sporangia found in Pteridophytes (3 marks)

QUESTIONS TWO (20 MARKS)

Discuss the evolutionary and fossil records of Bryophytes and Pteridophytes. (20marks)

QUESTIONS THREE (20 MARKS)

Discuss the gametophytes and sporophytes of Byales. (20 marks)

QUESTIONS FOUR (20 MARKS)

Describe alternation of generations in ferns. (20 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the challenges facing conservation of tropical bryophytes and pteridophytes. (10 marks)
- b) How can these challenges be mitigated? (10 marks)