



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

SBT 204: PTERIDOPHYTES AND BRYOPHYTES

DATE: 23/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS: answer question one and any other questions

SECTION A

1.
 - a) Explain why Pteridophytes are referred to as “Lower Plants” yet they possess vascular bundles like the higher plants (angiosperms and Gymnosperms)(3 marks)
 - b) Why are bryophytes referred to as “The amphibians of the plant kingdom”
(3 marks)
 - c) Name the structures used to release spores in the following group of plants:
 - i. Mosses (1 mark)
 - ii. Liverworts (1 mark)
 - iii. Hornworts (1 mark)
 - d) Outline the differences between Isomorphic and Heteromorphic alternation of generations (3 marks)
 - e) Differentiate between Perichaeta and sporophylls found in mosses and ferns respectively (3 marks)
 - f) Briefly describe any two types sporangia found in Pteridophytes (3 marks)
 - g) State three principal characteristics of seedless vascular plants (3 marks)

- h) Describe the process of sporangia development in *Equisetum* (3 marks)
- i) Describe the process of asexual reproduction in the Division Marchantiophyta (3 marks)
- j) Give a brief outline on the evolutionary and fossil existence of Bryophytes and Pteridophytes (3 marks)
- k) Outline features that distinguish Anthocerotophyta from other groups of bryophytes (3 marks)

SECTION B (40 MARKS)

- 2. With specific examples, discuss the justification for studying Pteridophytes and bryophytes in the university (20 marks)
- 3. (a) Discuss the challenges facing conservation of tropical bryophytes and pteridophytes (10 marks)
(b) How can these challenges be mitigated? (10 marks)
- 4. Discuss the gametophytic and sporophytic characteristics of the seedless vascular plants in the Division Psilotophyta (20 marks)
- 5. Discuss the various life and growth forms found in mosses (20 marks)