MACHAKOS UNIVERSITY

University Examinations 2018/2019

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: 2/5/2019 **TIME: 8.30-10.30 AM**

INSTRUCTIONS

Answer question one (compulsory) and any other two questions

QUESTION ONE (30 MARKS) (COMPULSORY)

a) Explain the meaning of "Cryptogams" as applied in lower plants (3 marks)

b) Explain why Pteridophytes are referred to as "Lower Plants" yet they possess vascular bundles. (3 marks)

c) State the function of the following structures found in mosses:

i. Peristome (1 mark)

ii. Archegoniophore (1 mark)

iii. Sporogonium (1 mark)

d) Outline the differences between Isomorphic and Heteromorphic alternation of generations (3 marks)

e) Differentiate between Perichaeta and sporophyls (3 marks)

f) Briefly describe any two types of sporangia found in Pteridophytes (3 marks)

g) Outline three principal characteristics of seedless vascular plants (3 marks)

h) Describe the process of sporangia development in *Equisetum spp* (3 marks)

i) Describe the process of asexual reproduction in Marchantiophyta (3 marks)

j) Briefly, describe any one kind of growth forms found in mosses (3 marks)

k) Outline features that distinguish Anthocerotophyta from other groups of bryophytes (3 marks)

QUESTION TWO (20 MARKS)

Discuss the evolutionary and fossil records of Bryophytes and Pteridophytes

QUESTION THREE (20 MARKS)

Discuss:

a) challenges facing conservation of tropical Bryophytes and Pteridophytes (10 marks)

b) How these challenges can be mitigated (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the gametophytic and sporophytic characteristics of the seedless vascular plants in Psilotophyta

QUESTION FIVE (20 MARKS)

Using specific examples, describe the socio-economic and ecological importance of different groups of Bryophytes