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 sporophyls 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 characterstics of the seedless vascular plants in the Division Psilotophyta   (20 marks)

5.   Discuss the various life and growth forms found in mosses   (20 marks)