



# MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN  
BACHELOR OF EDUCATION(SCIENCE)  
BACHELOR OF SCIENCE (BIOLOGY)

SBT 101: SURVEY OF THE PLANT KINGDOM

DATE: 2/6/2017

TIME: 2:00 – 4:00 PM

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## INSTRUCTIONS

*Answer All Questions In Section A And Any Other Two Questions In Section B*

### SECTION A(COMPULSORY)

#### QUESTION ONE (30 MARKS)

- a) Outline three salient features of plants (3 marks)
- b) Explain the two main features used in the classification of plants (3 marks)
- c) Briefly, describe the contribution of the following botanists to the development of plant taxonomy (3 marks)
  - i. Augustus Quirinus Rivinus
  - ii. John Ray
  - iii. Carolus linnaeus
- d) Explain the meaning of the following terms (3 marks)
  - i. Cladistics
  - ii. Monophyletic group
  - iii. Paraphyletic group
- e) Briefly, describe the main differences between bacteria and plants (3 marks)

- f) Discuss the life cycle of the main algal divisions (3 marks)
- g) Explain the main distinguishing features of gymnosperms. (3 marks)
- h) Describe symbiosis in lichens. (3 marks)
- i) Explain the classification and phylogeny of bryophytes (3 marks)
- j) Discuss sexuality in pteridophytes (3 marks)

**SECTION B: ANSWER ANY TWO QUESTIONS IN THIS SECTION**

**QUESTION TWO (20 MARKS)**

- a) Describe the major groupings of lichen thallus according to growth forms (10 marks)
- b) Discuss the mechanisms of asexual and sexual reproduction in lichens (10 marks)

**QUESTION THREE (20 MARKS)**

- a) Characterize the main groups of living angiosperms (10 marks)
- b) Discuss the process of sexual reproduction in angiosperms (10 marks)

**QUESTION FOUR (20 MARKS)**

- a) Describe the general life cycle of bryophytes (10 marks)
- b) Discuss the major characteristics of pteridophytes (10 marks)

**QUESTION FIVE (20 MARKS)**

- a) Discuss the major classification groups of gymnosperms (10 marks)
- b) Briefly, discuss the life cycle of gymnosperms (10 marks)