



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE, HORTICULTURE AND DRYLAND AGRICULTURE

SBL 202: GYMNOSPERM AND ANGIOSPERM TAXONOMY

DATE: 20TH APRIL, 2017

TIME: 4.00 -6.00PM

INSTRUCTIONS TO CANDIDATES

- a. Answer **ALL** questions in **SECTION A**
- b. Answer any **TWO [2]** questions in **SECTION B**

SECTION A [30 MARKS]

1. a. Using suitable examples and illustrations where possible, differentiate the following terminologies
 - i. Actinomorphic flower and zygomorphic flower (2 marks)
 - ii. Monoecious plant and dioecious plant (2 marks)
 - iii. Dehiscent fruit and indehiscent fruit (2 marks)
- b. Describe the salient features represented in the following floral formulas;
 - i. $K(5) C(5) A(5) \underline{G}(2)$ (1 mark)
 - ii. $\text{♂ } K0C0A1G0, \text{♀ } K0C0A0G(1-3)$ (1 mark)
 - iii. $K\infty C(5) A(5) G(2)$ (1 mark)
 - iv. $K4 C4 A4+2 \underline{G}(2)$ (1 mark)
2. a. Define 'spermatophytes' (2 marks)
- b. Highlight the differences between angiosperms and gymnosperms (8 marks)
3. a. Highlight and briefly discuss the scope of Plant Taxonomy (5 marks)
- b. Discuss the Binomial System of Nomenclature and its significance in plants (5 marks)

SECTION B [40 MARKS]

4. Plant morphology and anatomy form the basis of plant taxonomy. Discuss (20 marks)
5. Discuss the listed plant families under the following sub-headings; ecology, salient features, examples and economic uses
- i. Fabaceae (5 marks)
 - ii. Euphorbiaceae (5 marks)
 - iii. Asteraceae (5 marks)
 - iv. Lamiaceae (5 marks)
6. a. Define the term 'herbarium' (2 marks)
- b. Discuss the importance and uses of a herbarium (18 marks)