



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE AND BACHELOR OF EDUCATION
SBT 102: PLANT MORPHOLOGY AND ANATOMY

DATE: Monday 2nd April 2012

TIME: 4.30. p.m – 6.30p.m

INSTRUCTIONS

Answer **ALL** questions in section A and **ANY ONE** question in section B. Answers to Section A should be concise and should be written in the spaces provided in the question paper. Answers to section B should be written in the booklet provided.

SECTION A. SHORT ANSWER QUESTIONS (5 MKS EACH)

1. Describe the tunica corpus theory.

2. Describe the process of secondary thickening in the roots of mahogany and *Yucca* plants.

3. Outline five ways in which plants found in Pacific Ocean are adapted morphologically to their environment.

4. a) State five differences between bisporic and monosporic type of embryo sac in angiosperms.

- b) Describe two syncarpous type of fruits.

5. Describe the role of meristems in plants.

6. With the aid of illustrations distinguish between the anatomy of the stem of gymnosperms and pteridophytes.

7. a) Explain what is meant by the following terms.

i. Endothecium

ii. Dichogamy

iii. Tyloses

iv. Endarch

b) Describe two types of ovules.

8. Distinguish between the following terms
a) Amphivasal and bicollateral vascular bundle

b) Sclereids and fibres

c) Sieve cells and sieve tubes

d) Unifoliate and bifoliate palmate leaf

e) Sapwood and heartwood

SECTION B. ESSAY QUESTIONS (30 MKS)

1. Describe the external morphology of the stems of angiosperms.
2. Morphogenesis in plants cell and tissue culture is of great importance in plant sciences. Discuss.
3. Describe the anatomy of roots of young tracheophytes.