



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY

UNIVERSITY EXAMINATION 2012/2013

1ST YEAR 1ST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF EDUCATION SCIENCE AND BIOLOGICAL
SCIENCE
(REGULAR)

COURSE CODE: SBT 101

TITLE: PLANT STRUCTURE AND FUNCTION

DATE: 25/4/2013

TIME: 14.00-16.00PM

DURATION: 2 HOURS

INSTRUCTIONS

1. Answer ALL questions in Section A
2. Answer ANY two Questions from Section B
3. Use illustrations where possible

SECTION A (30 Marks)

1.Explain the functions of the following organelles in a plant cell.

(a) Glyoxisomes (b) Endoplasmic reticulum

(c) Nucleolus

(3 marks)

2.Draw labeled diagrams of (a) Transverse section of a leaf (b)longitudinal section of a root(3mks).

3.Explain the functions of collenchyma and parenchyma tissues (3marks).

4. List the beneficial associations of the root and their importance(3marks).

5.Explain the structural adaptations of the leaf for dry and wet habitats?(3marks).

6.Differentiate between chemical and water potential in plants (3marks).

7.Explain the functions of the casparian strip (3marks).

8.Explain the differences between primary and secondary growth in plants (3marks).

9.Briefly explain the differences in structure of a fruit and a seed (3marks).

10 .List the types of meristems and their functions (3marks).

SECTION B(40 Marks)

11.Give an account of the process of photosynthesis under the following subheadings

(a) Light reactions (b)Dark reactions (c) Factors affecting photosynthesis(20marks)

12. Write NOTES on the following.

(a) Krebs cycle

(b) Diffusion and Osmosis(20marks)

(c) Active uptake of Minerals by plants .(6mks)

(13) Describe the occurrence of seed and bud dormancy and dormancy breaking techniques .(20mks)

(14) With the help of illustrations compare and contrast the structures of:

(a) Monocotyledonous stem (b) Dicotyledonous stem(20marks)