THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF NATURAL SCIENCES (BIOLOGY)

REGULAR PROGRAMME

BIO 202: PLANT STRUCTURE AND FUNCTION

Date: April 2015	**Duration: 2 Hours**
Instructions: Answer Question ONE and any other TWO Questions.	

Q1. a) Define the following; **(1 mark each)**
- i) Life cycle
- ii) Tissue
- iii) Cell cycle
- iv) Gland
- v) Gynophore
- vi) Placentation

b) Differentiate between: **(1 mark each)** use diagrams where appropriate.
- i) Gametophyte and sporopyte generation
- ii) Angular and lacunar collenchymas
- iii) Anyloplasts and leucoplasts
- iv) Growth phase 1 and growth phase 2 of cell cycle
- v) Apical and intercalary meristems
- vi) Storied and non-storied cambium
- vii) Epiphyll and heterophylly
- viii) Terminal and axillary bud.

c) What are the functions of the following plant structures;
- i) Root cap **(2 marks)**
- ii) Hypsophylls **(1 mark)**

d) Schematically outline and label the following
- i) Stages of plant embryogenesis **(4 marks)**
- ii) The structure of the hesperidium fruit **(3 marks)**
- iii) Internal anatomy of a dicot root **(3 marks)**

e) List three functions modified stems serve. **(3 marks)**

Q2. a) Explain in details the events and stages in plant seed germination.

(14 marks)

b) How can you measure plant growth?

(6 marks)

Q3. Attempt a classification of angiosperm flower and inflorescence types.

(20 marks)

Q4. a) Discuss the structure and function of menstematic, sclerenchyma and collechyma tissue.

(14 marks)

b) Describe the development of pollen in flowering plants.

(6 marks)

Q5. Distinguish between phloem and xylem structure with reference to functions.

(20 marks)

END