



# THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

**A. M. E. C. E. A**

**MAIN EXAMINATION**

**JANUARY – APRIL 2015 TRIMESTER**

**FACULTY OF SCIENCE**

**DEPARTMENT OF NATURAL SCIENCES (BIOLOGY)**

**REGULAR PROGRAMME**

**BIO 202: PLANT STRUCTURE AND FUNCTION**

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<b>Date: April 2015</b>	<b>Duration: 2 Hours</b>
<b>Instructions: Answer Question ONE and any other TWO Questions.</b>	

- 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 sporophyte generation
  - ii) Angular and lacunar collenchymas
  - iii) Anyoplasts 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 mesostemetic, sclerenchyma and collenchyma 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)**

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