



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

AUGUST - DECEMBER 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 202: PLANT STRUCTURE AND FUNCTION

P.O. Box 62157
00200 Nairobi - KENYA
Telephone: 891601-6
Fax: 254-20-891084
E-mail: academics@cuea.edu

Date: DECEMBER 2015

Duration: 3 Hours

INSTRUCTIONS: Answer Question ONE and ANY other THREE Questions

- Q1. a) Define the following
- i Hesperidium. (1 mark)
 - ii Interfascicular cambium. (1 mark)
 - iii Hydathode. (1 mark)
 - iv Phyllotaxy. (1 mark)
- b) Differentiate between the following (use diagrams where necessary)
- i Peltate and capitate sieve-tube members (1 mark)
 - ii Sieve cells and sieve-tube members. (1 mark)
 - iii Tracheary elements and parenchymatous elements. (1 mark)
 - iv Adelphous and didynamous stamens. (1 mark)
 - v Fusiform and ray initials. (1 mark)
 - vi Guttation and transpiration. (1 mark)
- c) Using diagrams
- i Differentiate between the parenchyma, sclerenchyma and collenchyma tissue. (3 marks)
 - ii Describe the components of the xylem. (3 marks)
 - iii Describe the development of a glandular trichome. (3 marks)
- d) i List FOUR differences between the xylem and phloem. (4 marks)

- ii List the varied secretory structures found in plants. **(4 marks)**
- iii With examples describe the modification of plant leaves.
(3 marks)
- Q2. Attempt a classification of plant inflorescence and flowers. **(20 marks)**
- Q3. Discuss the internal anatomy and function of C4 and C3 plant leaves. (Use diagrams where applicable). **(20 marks)**
- Q4. a) Explain the structure and functions of plant stomata. **(6 marks)**
- b) Attempt a classification of dry plant fruits. **(14 marks)**
- Q5. a) Outline the processes of nutrient mobilization during germination.
(8 marks)
- b) Discuss the structure, functions and adaptations of meristematic tissue.
(12 marks)

END