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University Examinations 2012/2013

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR CERTIFICATE/DIPLOMA IN
AGRICULTURE

BIO 0110: AGRICULTURAL BOTANY

DATE: AUGUST 2013

TIME: 1 ½ HOURS

INSTRUCTIONS: Answer question *ONE* and any other *TWO* questions

QUESTION ONE (30 MARKS)

- a) Define the term double fertilization as used in floral biology. (2 Marks)
- b) Outline the general functions of essential elements. (5 Marks)
- c) State four forces involved in the uptake of water from the soil to the leaves. (4 Marks)
- d) Draw a well labelled diagram of an apocaropous pistil. (5 Marks)
- e) Briefly describe the significance of seed dormancy. (2 Marks)
- f) Explain the main characteristics of meristematic cells. (5 Marks)
- g) Outline the functions of the following cell organelles.
 - i. Vacuoles. (2 Marks)
 - ii. Golgi apparatus. (2 Marks)
- h) State three methods that can be used to measure the rate of transpiration. (3 Marks)

QUESTION TWO (15 MARKS)

Discuss the factors affecting the rate of photosynthesis. (15 Marks)

QUESTION THREE (15 MARKS)

- a) Explain the main features that encourage cross pollination. (9 Marks)
- b) Describe the changes that occur after fertilization has taken place in flowering plants. (6 Marks)

QUESTION FOUR (15 MARKS)

- a) Discuss the features of subdivision of gymnospermae. (5 Marks)
- b) Briefly describe the two major forms of fermentation (anaerobic respiration). (10 Marks)

QUESTION FIVE (15 MARKS)

- a) Outline the deficiency symptoms of sulphur in plants. (5 Marks)
- b) Explain the factors that can result to seed dormancy and state ways in which seed dormancy can be broken. (10 Marks)