

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN AGRICULTURE

**BIO 0113: PLANT PHYSIOLOGY**

**DATE: NOVEMBER, 2015 TIME:** $1½ $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. Outline the importance of plant physiology. (10 Marks)
2. Outline the role of auxins in growth and development. (5 Marks)
3. Outline the effects of water stress on plant performance and crop product quality.(10 Marks)
4. Explain the phases in sigmoid curve of growth. (5 Marks)

**QUESTION TWO (15 MARKS)**

1. Outline the importance of transpiration in plants. (6 Marks)
2. With the aid of a diagram describe the chloroplast. (4 Marks)
3. State the role of water in plants. (5 Marks)

**QUESTION THREE (15 MARKS)**

1. Outline the role of Gibberellins in plants. (4Marks)
2. Outline the main features of photosynthetic electron transport. (8 Marks)
3. Outline three photosynthetic pigments. (3 Marks)

**QUESTION FOUR (15 MARKS)**

1. Explain the environmental factors that affect the rate of photosynthesis. (10 Marks)
2. Outline five properties of water that makes it a suitable aqueous solution. (5 Marks)

**QUESTION FIVE (15 MARKS)**

1. Outline the adaptation features of xerophytes to their environment to reduce water loss.

(6 Marks)

1. Compare C3 C4 and CAM plants as far as their production is concerned. (4 Marks)
2. Outline the general functions of mineral nutrients in plants. (5 Marks)