



"Investing in Africa's Future"

COLLEGE OF SOCIAL SCIENCES, THEOLOGY HUMANITIES AND EDUCATION

DEPARTMENT OF EDUCATION

Course Title: Crop Physiology

Course Code: ACP 201

END OF FIRST SEMESTER EXAMINATIONS

April 2018

LECTURER: (Mr Mtaita T A)

DURATION:(3HRS)

INSTRUCTIONS

Answer Four Questions

Start Each Question on a New Page

Course Code: ACP 201

Course Title: Crop Physiology

Answer Four Questions

Question one

- a) Using appropriate crop physiology formulae, explain why growing a crop is considered to be an exercise of energy transformation. **[5]**
- b) Discuss strategies that a commercial farmers can use to maximize solar radiation interception and utilization in order to maximize farm crop yield **[10]**
- c) Expound the yield protecting factors. **[10]**

Question two

- a) Discuss the major concerns of a crop physiologist in agriculture science. **[10]**
- b) Explain why crop physiologist considers growing of a crop as an exercise of energy transformation and indicate how agronomists can benefit from this line of thinking. **[7]**
- c) Elucidate environmental factors that affect plant growth **[8]**

Question three

- a) Prepare a scientific communiqué to inform farmers about physiological symptoms of water deficit in crops and possible mechanisms of plant stress resistance **[9]**
- b) From a crop physiology point of view, explain the main attributes governing yield when:
 - a) Water is limiting **[8]**
 - b) Solar radiation is limiting **[8]**

Question four

- a) Explain why crop physiologists are in agreement that there is no one assemblage of characters and no one path to high yield and success as a crop plant. [15]
- b) Discuss the role of a crop physiology in crop improvement [10]

Question five

- a) Discuss the four major factors that interact to give farm yield under standard production conditions. [10]
- b) Identify at least 10 critical growth stages in either wheat or maize and suggest realist management techniques that will aid in maximizing yield. [15]