



**AFRICA
UNIVERSITY**
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College of health, Agriculture and Natural Sciences

NACP211: Crop Physiology

END OF FIRST SEMESTER EXAMINATION

November/December 2024

LECTURER: Mr. Mtaita T A

INSTRUCTION

**Answer Question ONE (a, b, c, d and e) and Any
Other Three Questions.**

DURATION: 3 HRS

Question One

- a) Explain why growing a crop is considered to be an exercise in energy transformation. [5]
- b) Analyze the importance of crop physiology in Agriculture. [10]
- c) Examine the decisions to be made by a field crop producer when switching to narrow rows. [5]
- d) Unpack why crop physiologists are not able to frame a single recommendation that farmers can use to maximize yield in different crops. [10]
- e) Analyse the different types of senescence. [10]

Question Two

Discuss the five main concerns of crop physiology in agricultural science. [20]

Question Three

Discuss any five practices to improve interception and utilization of solar radiation by crop plants. [20]

Question Four

- a) With the aid of two different diagrams, discuss the main attributes governing yield when:
 - i. Solar radiation is limiting, and [7]
 - ii. Water is limiting. [7]
- b) Examine four different ways farmers can benefit from the information given in four 'a' above. [6]

Question Five

- a) Discuss the concept of crop ideotypes and indicate their importance in agricultural science. [10]
- b) With the aid of practical examples, examine the use of the five types of plant growth regulators in agricultural science. [10]

Question six

- a) Discuss the factors to be considered when selecting a cultivar for dry land farming. [10]
- b) Discuss the factors favouring nutrients absorption and transport in crop plants. [10]