"Investing in Africa's Future"

(College of health, Agriculture and Natural Sciences)

NACP 201: Crop Physiology [*Paper Two*]

END OF FIRST SEMESTER EXAMINATIONS

April/May 2023

LECTURER: (Mr. Mtaita T A)

DURATION: (3 HRS)

INSTRUCTION

Chose and answer FOUR Questions Only

Question One

a) Use the equation Y= Q x I x e x H to examine why growing a crop is an exercise in energy transformation **[5]**

b) Discuss the main attributes governing yield when:

i. the soil is moist and saturation deficit is less than 1.5kPa. **[10]**

ii. a stand is growing on a reserve of water and saturation deficit is typically greater than 2kPa. **[10]**

Question Two

a) Examine the significance of water in crop plants. **[15]**

b) Analyse any five strategies to maximize solar radiation interception and utilization**.** **[10]**

Question Three

a) Analyse the interception of solar radiation by crop canopy. [**10]**

b) Examine why there is no one set of characteristics and no one path to high yield and success as a crop plant. **[15]**

Question Four

a) Discuss the concept of ideotypes in crop physiology. **[10]**

b) Analyse the concerns of a crop physiologist in agriculture**.** **[15]**

Question Five

a) Examine why it is important to include crop physiology course to any agriculture syllabus. **[6]**

b) Analyse the indicators of water stress in crop plants and how to ameliorate the situation [**10]**

c) Discuss the crop resistance to moisture stress. **[9]**

End of the examination Paper