



***"Investing in Africa's Future"***

**COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES**

**NACP 201: CROP PHYSIOLOGY**

**END OF SECOND SEMESTER FINAL EXAMINATIONS**

**APRIL 2023**

**LECTURER: MR. MTAITA T. A.**

**DURATION: 3 HOURS**

**INSTRUCTION**

Chose and answer FOUR Questions Only

### Question One

- a). Discuss the attributes governing yield when: [10]
- a) Water is limiting, and
  - b) Solar radiation is limiting
- b). Examine the main concerns of a crop physiologist in Agriculture. [15]

### Question Two

- a). Discuss why a crop physiologist cannot formulate one approach to resolve different challenges facing different producers. [15]
- b). With the aid of an appropriate crop physiology formula, analyse why growing a crop is considered to be an exercise of energy transformation. [10]

### Question Three

- a) Examine the decisions to be made when switching to narrow rows. [5]
- b) Examine five strategies to maximize solar radiation interception and utilization. [10]
- c) Analyse the factors to be considered when selecting a cultivar for dry land farming. [10]

### Question Four

- a) Examine any five mechanisms that different plant species use to absorb nutrients from soils deficient in one or more nutrients. [10]
- b) Discuss the idea of crop ideotypes in crop physiology. [15]

### Question Five

- a) Examine **five** physiological symptoms of water deficit stress. [10]
- b) Analyse the **three** means by which plants survive stress. [9]
- c) Explain the process of frost injury and analyse how frost killing occurs. [6]

**End of Examination Paper**