

**UNIVERSITY OF SWAZILAND****SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMMES: BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION,
BACHELOR OF SCIENCE IN AGRONOMY AND BACHELOR
OF SCIENCE IN HORTICULTURE YEAR III**

COURSE CODE: CP 305

TITLE OF PAPER: CROP PHYSIOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ALL QUESTIONS

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY
THE CHIEF INVIGILATOR**

QUESTION 1

“For its survival, the plant must always maintain a photosynthetic:respiratory ratio exceeding 1”. Describe the interrelationship between photosynthesis and respiration including how the photosynthetic:respiratory ratio suggested can be achieved in favour of plant growth and development. **[20 marks]**

QUESTION 2

Define and describe the role of five (5) “tropisms” or “tropic responses” in plants. **[20 marks]**

QUESTION 3

(a) Distinguish between insufficiency and deficiency of a nutrient element in plants?

[10 marks]

(b) Why is it important to examine or understand both nutrient ratios and nutrient concentrations in plants?

[10 marks]

[20 marks]

QUESTION 4

Plant performance under stress can be evaluated in terms of three discrete groups of characteristics.

(a) Mention the three (3) groups

[9 marks]

(b) Briefly describe two (2) examples of typical and measurable characteristics for each of the three groups.

[11 marks]

[20 marks]

QUESTION 5

Carefully study the diagrams (A) and (B) below. Describe physiologically the performance of C3 plants in comparison with C4 plants. [20 MARKS]

