

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DIPLOMA IN AGRICULTURE

AGRI 0211: CROP ENVIRONMENT AND PHYSIOLOGY

STREAMS: DIPLOMA AGRI

TIME: 2 HOURS

DAY/DATE: THURSDAY 19/12/2024

11.30 A.M – 1.30 P.M.

INSTRUCTIONS:

- Answer all questions in section A and any two questions in section B.

SECTION A (40 MARKS)

QUESTION ONE

- a) Explain the following terms as used to describe levels of nutrients in plants. (5 marks)

- (i) *Deficient:*
- (ii) *Critical range:*
- (iii) *Sufficient:*
- (iv) *Excessive or toxic:*
- (v) *Hidden hunger:*

- b) Explain three ecologically important roles photosynthesis. (6 marks)

QUESTION TWO

Explain Nine importance functions of water in plants. (9 marks)

QUESTION THREE

- a) Explain seven advantages of transpiration. (7 marks)
- b) Define diffusion and explain the factors that influences the diffusion rate. (7 marks)

QUESTION FOUR

Explain six external factors that influence plant growth. (6 marks)

SECTION B. (30 MARKS)

QUESTION FIVE

- a) Discuss the three specific reactions in the calvin cycle of photosynthesis. (6 marks)
- b) Outline the major contrasts between transpiration and guttation. (6 marks)
- c) Explain three important prerequisites for germination to occur. (3 marks)

QUESTION SIX

Discuss the external and internal factors affecting transpiration rate. (15marks)

QUESTION SEVEN

- a) Define drought resistance and outline six methods farmers can employ to overcome drought. (7 marks)
 - b) Discuss four factors that affect the rate of photosynthesis. (8 marks)
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