LAIKIPIA UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

SECOND YEAR EXAMINATION FOR THE DEGREES OF BACHELOR OF EDUCATION (SCIENCE) AND BACHELOR OF SCIENCE (GENERAL)

BOTA 222: PLANT PHYSIOLOGY I

STREAM: ***Bsc (General) &Bed (Science)*** ***TIME: 2 HRS***

DAY: MONDAY [11.30A.M – 1.30P.M] ***DATE: 15/04/2024***

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

Instructions
Answer ALL questions in section A and any TWO questions in section B

SECTION A (40 MARKS)

QUESTION ONE
Explain the basis of Benedict's test? (**5 Marks)**

QUESTION TWO
Draw the Haworth projection formula of glucose **(5 Marks)**

QUESTION THREE
List the amino acids with polar and charged side chains **(5 Marks)**

QUESTION FOUR
Distinguish primary from tertiary protein structure **(5 Marks)**

QUESTION FIVE
Describe induced-fit model of enzyme-substrate binding **(5 Marks)**

QUESTION SIX
List **five c**oenzymes derived from water-soluble vitamins **(5 Marks)**

Question seven
Enumerate f**ive** carbohydrates found in plant sieve elements **(5 Marks)**

QUESTION EIGHT
List **five** developmental effects of abscisic acid **(5 Marks)**

SECTION B (30 marks)

QUESTION NINE
Discuss the breakdown of glucose in cell cytoplasm **(15 Marks)**

QUESTION TEN
Describe the assimilation of CO_2 in C4 plants **(15 Marks)**

QUESTION ELEVEN
Write an essay on the classification of plant minerals according to biochemical function (**15 Marks)**