

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE

BIOC 310: ENZYMOLOGY

STREAMS: BSC

TIME: 2 HOURS

DAY/DATE: THURSDAY 31/08/2023

11.30 A.M – 1.30 P.M.

INSTRUCTIONS

ANSWER ALL QUESTIONS

QUESTION ONE (30 MARKS)

- (a) Using Michaelis-Menten equation, derive the Lineweaver Burk equation and provide its graphical representation (10 marks)
- (b) Explain the mode of action of penicillin (3 marks)
- (c) Distinguish between the following
 - (i) Monomeric and oligomeric enzymes (4 marks)
 - (ii) Metalloenzymes and metal-activated enzymes. (4 marks)
- (d) Define activation energy and explain its significance. (2 marks)
- (e) Give any Five (5) properties of the active site of the enzyme. (5 marks)
- (f) All enzymes are protein in nature. True or false. Justify your answer (2 marks)

QUESTION TWO (20 MARKS)

- (a) Using structural illustrations, describe the mechanism of action of lysozyme. (10 marks)
- (b) Explain the different types of reversible inhibitors. (10 marks)

QUESTION THREE (20 MARKS)

- (a) Explain the different classes of enzymes. (12 marks)
- (b) Explain factors affecting enzyme activity. (8 marks)
-