

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**RESIT/SPECIAL EXAMINATION**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN  
BIOCHEMISTRY AND BIOMEDICAL**

**BIOC 310: ENZYMOLOGY**

**STREAMS: BIOC/ BIOMED**

**TIME: 2 HOURS**

**DAY/DATE: MONDAY 01/02/2021**

**11.30 A.M – 1.30 P.M.**

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**INSTRUCTIONS**

- **Answer ALL questions**

**QUESTION ONE (30 MARKS)**

- (a) Derive the Michaelis –Menten equation (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) Holoenzyme and apoenzyme (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) Give any two properties of enzymes (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 inhibitors. (10 marks)

**QUESTION THREE (20 MARKS)**

(a) Explain the different classes of enzymes. (8 marks)

(b) Using structural illustrations, describe the mechanism of action of chymotrypsin (12 marks)

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