CHUKA   UNIVERSITY

UNIVERSITY EXAMINATION
RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY AND BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE

BIOC 310: ENZYMOLOGY

STREAMS: BIOC/BIOMED   **TIME: 2 HOURS**

DAY/DATE: FRIDAY 05/11/2021   **2.30 P.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)

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