CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY

BIOC 342: INTEGRATED LABORATORY TECHNIQUES II

STREAMS: BSC BIOCHEMISTRY Y3S2 **TIME: 2 HOURS**

DAY/DATE: TUESDAY 09/04/2019 **2.30 P.M. – 4.30 P.M.**

INSTRUCTIONS:

- **Answer question ONE and any other TWO questions.**

QUESTION ONE (30 MARKS)

(a) Highlight the steps involved in Edman degradation in N-terminal sequencing. (3 marks)

(b) State the requirements for an ion exchange resin. (3 marks)

(c) Briefly describe the features of a buffer in electrophoresis. (4 marks)

(d) Explain the principles in mass spectrometry. (4

marks)

(e) Distinguish between homogenous and heterogeneous competitive assays. (4 marks)

(f) Briefly describe the methods and importance of supporting a tissue before sectioning.

(4 marks)

(g) Briefly describe the principle and application of ion selective electrode. (3 marks)

(h) State the support Medias used in electrophoresis. (5 marks)

QUESTION TWO (20 MARKS)

(a) Discuss the applications for protein sequencing. (10 marks)

(b) Describe the procedure an principle of Poly-Acrylaminde Gel Electrophoresis.

(10 marks)

QUESTION THREE (20 MARKS)

(a) Distinguish between competitive and non-competitive Enzyme Linked Immunosorbent Assay.
(10 marks)

(b) Describe the technique and uses of differential centrifugation. (10 marks)

QUESTION FOUR (20 MARKS)

(a) Discuss the advantages of agarose gel in electrophoresis. (10 marks)

(b) Discuss different techniques that require ultracentrifugation. (10 marks)
