
CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS.

**THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE AND TECHNOLOGY**

BMET 350: BIOMEDICAL TECHNIQUES

STREAMS: BS.c (BMET) Y3S2

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 10/04/2019

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions
- Do not write anything on the question paper

QUESTION ONE: [30 MARKS]

- (a) Describe the principle of electrophoresis. [5 Marks]
- (b) Briefly describe how polyacrylamide gels are prepared. [5 Marks]
- (c) Explain the two type of density gradient centrifugation. [5 Marks]
- (d) Describe the application of silver staining in protein detection following electrophoresis. [7 Marks]
- (e) Describe the application of spectrophotometry and flourimetry in continuous enzyme assays. [8 Marks]

QUESTION TWO: [20 MARKS]

- (a) Describe the variants of Polymerase Chain Reaction. [10 Marks]
- (b) Describe how DNA cloning is achieved using the cell-based approach. [10 Marks]

QUESTION THREE: [20 MARKS]

- (a) Describe the different type of ELISAs. [12 Marks]
- (b) Outline the principle behind the western blot technique. [8 Marks]

QUESTION FOUR: [20 MARKS]

(a) Describe the principle behind isoelectric focusing. [10 Marks]

(b) Describe how lactate hydrogenase activity can be detected by gel electrophoresis. [10 Marks]

.....