



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN BIOCHEMISTRY AND MOLECULAR BIOLOGY

BCH 409: FORENSIC BIOCHEMISTRY

DATE: 15TH DECEMBER, 2016

TIME: 1.30-3.30 P.M

INSTRUCTIONS TO CANDIDATES

(a) Answer ALL the Questions in Section A

(b) Answer ANY TWO Questions in Section B

(c) Illustrate your answers with well labeled diagrams where appropriate

SECTION A (30 marks)

1. Describe the Enzyme Immunoassay methodology for a drug test in urine. **(5 marks).**
2. Explain various methods of physical assessment of a crime scene. **(5 marks).**
3. Explain the advantages of utilizing mitochondrial DNA over nuclear DNA in resolving a paternity dispute. **(5 marks).**
4. Describe the acid phosphatase screening test method used for detection of seminal fluid. **(5 marks).**
5. Briefly, explain any FIVE forensic specimen collection techniques. **(5 marks).**
6. By giving examples, differentiate between presumptive and confirmatory tests. **(5 marks).**

SECTION B (40 marks)

7. Discuss the various applications of DNA profiling technologies in forensic studies. **(20 marks).**
8. Explain the following methods as used in meat species specifications and handling:
- a) Precipitation test. **(10 marks).**
 - b) Isoelectric focusing. **(10 marks).**
9. Discuss the various legal and ethical considerations in forensic analysis. **(20 marks).**
10. Discuss the application of Short Tandem Repeat Analysis in a crime laboratory. **(20 marks).**