



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020

CITY CAMPUS

SECOND SEMESTER EXAMINATION FOR DEGREE OF MASTER OF ARTS

KPS 814: ADVANCED FORENSIC SCIENCE AND CRIMINAL INVESTIGATION

DATE: Saturday 31st October 2020

TIME: 12.00p.m -3.00p.m

INSTRUCTIONS

Answer any 4 questions (Each question is 15 marks)

Question 1

- a) Distinguish between physical and biological evidence giving two examples in each case. [5 marks]
- b) Evidence is generated during the commission of a crime and recovered at the scene, at a place where the suspect or victim had been before or after the crime. Describe TEN categories of evidence. [10marks]

Question 2

- a) Define the following terms as used in forensic science. [5 marks]
 - i) Brady material
 - ii) Exemplar
 - iii) A test mark
 - iv) Elimination sample
 - v) Collateral material
- b) Describe five searches that may be carried out to obtain evidence. [5 marks]
- c) Outline the chain of custody that must be followed by investigators to ensure validity of evidence to the admitted in court. [5 marks]

Question 3

- a) Criminal insanity is a legal status based on intent and free will of a person. Outline four questions that are seen as a proof of one's insanity. [5 marks]

- b) In the following table, fill the years when landmarks in forensic science were achieved.

[5 marks]

	Year
Adolphe Quetelet, who based his work on the criminology of Cesare Lombroso, postulates that no human bodies are exactly alike.	
The Germany scientist Christine Schonbein discover the oxidation of hydrogen peroxide when exposed to hemoglobin. The foaming reaction is the first presumptive test for blood.	
Calvin Goddard, with Charles Waite, Philip O Gravelle, and John H. Fisher, perfects the comparison microscope for use in bullet comparison.	
Sir Alec Jeffreys develops the first DNA profiling test.	
In Tennessee v. Ware. Mitochondria DNA typing is first admitted in a U.S. court.	

- c) With the use of examples, discuss questioned documents as used as tools of crime.

[5 marks]

Question 4

- a) You are an intern in a forensic laboratory, explain how and when forensic anthropology is used in personal identification. [5 marks]
- b) Highlight ten valuable information that can be obtained from a blood spatter analysis when blood stains are studied with respect to their geometry and distribution on various sources. [10 marks]

Question 5

- a) Forensic dentistry has today become an invaluable facet in forensic science. Describe five conditions under which forensic dentistry would be employed in a forensic investigation. [5 marks]
- b) Toxicological investigation of a poison death requires knowledge of specific toxicants to seek for in the collected samples. In the following table, fill in the toxicant sought in the given specimens. *An example has been provided.* [5 marks]

Specimen	Toxicant sought
Urine	Most toxicants
i. Bile	
ii. Blood	
iii. Vitreous humor	
iv. Brain	
v. Kidney	

- c) Disorders in behaviour is a common phenomenon in accused persons. Describe five disorder that may be found in accused persons that could be contributing to factors in their behaviour. [5 marks]

Question 6

- a) Imagine you are an investigator. From the following list, pick a pair of two types of crimes. From the chosen pair, briefly describe how you would investigate each and state two differences between the two. (NB: Pick only one pair of crime). [5 marks]
- Homicide Vs Sexual assault
 - Cyber-crime Vs Robbery
 - Burglary Vs Narcotics investigation
- b) In order to qualify as an independent criminalistics laboratory, several sections are required. Describe ten sections found in a comprehensive criminalistics laboratory. [10 marks]