



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)
UNIVERSITY EXAMINATIONS (MAIN PAPER)
2023/2024 ACADEMIC YEAR**

FOURTH YEAR FIRST SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN MEDICAL LABORATORY
SCIENCES**

COURSE CODE: BML 413

COURSE TITLE: FORENSIC LABORATORY MEDICINE

DATE: 5TH DECEMBER 2023

TIME: 8.00-10.00AM

INSTRUCTIONS TO CANDIDATES

This paper is divided into three sections, A B and C, respectively: Multiple Choice Questions (MCQs), Short Answer Questions (SAQs) and Long Answer Questions (LAQs). Answer all questions. **DO NOT WRITE ON THE QUESTION PAPER**

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over

SECTION A: Multiple Choice Questions (20 Marks).

1. Which of the following occurs at the right side of the heart after death due to asphyxial?
 - A. Empty
 - B. Congested
 - C. Cyanosed
 - D. Infarcted
2. In which of the following asphyxial deaths, is there no pressure of the next structures?
 - A. Hanging
 - B. Ligature strangulation
 - C. Gagging
 - D. Throttling
3. Sparrow marks are seen in which of the following cases?
 - A. Gunshot injuries
 - B. Windshield glass injury
 - C. Vitriolage
 - D. Stab injury of face
4. Rigor mortis appear first in which of the following organ?
 - A. Heart
 - B. Eye
 - C. Ear
 - D. None
5. Tardieu's spots are most commonly associated with-----
 - A. Still births
 - B. Firearm deaths
 - C. Putrefaction
 - D. Asphyxia
6. Priapism is seen in which poisoning?
 - A. Cantharide poisoning
 - B. Snake bite
 - C. Lead poisoning
 - D. Arsenic poisoning
7. Fracture of a terminal phalanx of a little finger is a-----
 - A. Simple injury
 - B. Dangerous injury
 - C. Grievous injury
 - D. Serious injury
8. Blackening and Tattooing of the skin and clothing can be demonstrated by-----
 - A. Luminal spray
 - B. Infrared photography
 - C. Ultraviolet light
 - D. Magnifying lens
9. Which of the following factors does not influence in the formation of a bruise?
 - A. Force used
 - B. Sex of a person
 - C. Age of a person
 - D. Color of a person
10. After post mortem exam, the body has to be handed over to-----
 - A. Investigating police officer
 - B. Relatives of victim
 - C. Magistrate

- D. The civil authorities
11. Which of the following is not the objective of forensic anthropology?
 - A. Field recovery
 - B. Establish a biological profile
 - C. To perform autopsy
 - D. Identify trauma relevant to the manner of death
 12. The weight of a dry skeleton in adult human males is-----
 - A. 1.5kg
 - B. 4.5kg
 - C. 8kg
 - D. 12.5kg
 13. Which of the following is the best basis of achieving mass disaster victim identification?
 - A. Fingerprints
 - B. Photographs
 - C. Antemortem dental records
 - D. Stains
 14. How does Human hair differs from animal hair?
 - A. cuticle has scales
 - B. medulla is thick
 - C. medulla is broader than cortex
 - D. pigment is central
 15. For embalming chemicals are injected into-----
 - A. Femoral artery
 - B. Abdominal cavity
 - C. Chest cavity
 - D. None of the above
 16. In Forensic medicine the comparison of teeth between a missing person and a dead body is done by gross examination and-----
 - A. Superimposition
 - B. Anthropometry
 - C. Radiography
 - D. Spectrophotometry
 17. Bite marks help in personal identification using which of the following types of evidence-----
 - A. Saliva
 - B. Lip print
 - C. Teeth marks
 - D. DNA
 18. Odour of mummified body is-----
 - A. Pungent
 - B. Putrid
 - C. Offensive
 - D. Odorless
 19. Maggots appear in natural orifices of dead in summer in about-----
 - A. 2-4hrs
 - B. 6-8 hrs
 - C. 8-12hrs
 - D. 12-14hrs
 20. Which of the following best describes DNA finger printing?
 - a. Identification of a person finger printing by use of genetic engineering method
 - b. A record of a person's genetic make up
 - c. Identification of persons by genetic analysis

- d. Genome

SECTION B: Short Answer Questions (40 marks). Answer all Questions.

1. Define the following terminologies as used in forensic medicine(5Mks)
 - a. Modus operandi
 - b. Questioned document examination
 - c. Ballistics
 - d. Tool marks
 - e. Dactylography
2. Explain the differences in the appearance of ligature mark due to hanging and strangulation (5Mks).
3. Outline FIVE blood proteins and enzymes with polymorphic and isoenzyme properties for use in forensic investigations (5Mks)
4. Outline FIVE trace evidences with individual characterization in a crime scene investigations (5Mks)
5. Describe wound analysis characteristics of Abrasions and stab injuries and their medico-legal importance in forensic science. (5 marks).
6. Describe DNA profiling in paternity testing (5 marks).
7. Explain crime scene investigation procedures (5 marks)
8. Explain three ways in which asphyxia cause death, and their medico-legal aspects (5mks)

SECTION C: Long Answer Questions (60 marks). Answer ALL Questions

1. Discuss sexual offenses and describe 4specimens and laboratory techniques used in acquitting sexual perpetrators. (20 marks).
2. Describe autopsy report for person who was found dead following a Chest perforating gun shot wound, Highlighting on;
 - i) Contributing cause of death (3 marks).
 - ii) Mechanism of death (2 marks).
 - iii) Immediate cause of death (2 marks).
 - iv) Manner of death (3 marks).
 - v) Report and Interpretation of the report (10 marks).
3. Describe ways in which latent prints can be developed from the surface during forensic investigations. (20 marks).