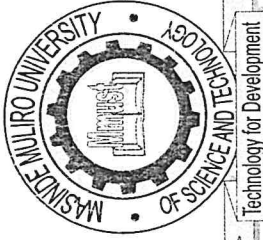


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**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**MAIN CAMPUS
UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

SECOND YEAR FIRST TRIMESTER EXAMINATION

**FOR THE DEGREE
OF**

**BACHELOR OF SCIENCE CLINICAL MEDICINE, COMMUNITY HEALTH &
SURGERY**

COURSE CODE: HCM 411

COURSE TITLE: FORENSIC MEDICINE

DATE: WEDNESDAY 20TH APRIL

TIME: 2:00-5:00 PM

INSTRUCTIONS TO CANDIDATES

- SEC A: Multiple Choice Questions (MCQ)
- SEC B: Short Answer Questions (SAQ)
- SEC C: Long Answer Question (LAQ)

- 20 MARKS.
- 40 MARKS.
- 40 MARKS

Time: 3 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

Section I: choose one best response (20 marks)

1. Which of the following events will NOT necessitate medical inquest;
 - A) Death in custody.
 - B) Sudden death.
 - C) Criminal abortion.
 - D) Natural death.
2. Who amongst the following is NOT a considered expert witness in road traffic crash/accident;
 - A) Bystander.
 - B) Policeman.
 - C) Forensic pathologist.
 - D) Cyber forensic who analyses CCTV camera.
3. When replying to questions in court, a forensic practitioner should NEVER...
 - A) Answer questions fully and then stop and wait for the next question.
 - B) Try to fill the silence with an explanation or expansion of the answer.
 - C) Use short answers, Yes or No.
 - D) Use gestures as appropriate.
4. The following changes will be observed in the body 6 hours after death;
 - A) Rigor mortis.
 - B) Algor mortis.
 - C) Decomposition.
 - D) Abdominal distension.
5. Which of the following cannot be appropriately carried out at the crime scene

- A) Tapelifting
- B) Visual inspection
- C) Analysis of samples
- D) Vacuum collection

6. Indications for exhumation include;

- A) Wrong or mistaken identity.
- B) Adverse geological changes.
- C) When relatives/next of kin change residence.
- D) After 100 years of burial.

7. In forensic criminology, highly sensitive test for identification of blood stain following a 'clean up' entails the use of...

- A) Orthotolidine,
- B) phenolphthalein or benzidine.
- C) Kastle Meyer reagent.
- D) Takayama test.

8. The following type of death do NOT require an autopsy;

- A) Death of prisoner
- B) Death within months of a traumatic accident.
- C) Accidental death where there is no witness.
- D) Death at terminal age.

9. Reliable method of identifying a badly burnt body that would likely stand up to a legal challenge include

- A) Forensic odontology.
- B) Finger print examination.
- C) Forensic anatomy/osteology.
- D) Physical characteristics.

10. Lacerations are determined by;

- A) Tissue bridging.
- B) Abraded margins.
- C) Undermined margins.
- D) Wound depth.

11. Which of the following correctly describes changes that happen to the human body at death..

- A) Rigor mortis is accelerated by cold conditions.
- B) Body temperature drops at a rate of 1.5 degrees celcius per hour.
- C) Rigor mortis is permanently fixed after 12 hours
- D) Body preserved in formaldehyde never decomposes.

12. Radiographs are useful tools in autopsy for the following reasons;

- A) To find and enumerate bullets.
- B) To diagnose pneumonia.
- C) To identify soft tissue injuries.
- D) To identify algor mortis.

13. Which of the following is NOT an objective of individual organ removal in autopsy.

- A) To observe and record pertinent findings.
- B) To document disease and injury where possible.
- C) To preserve tissues for histology.
- D) It is a convenient method of examination.

14. The following statement about gun shot wounds is TRUE...

- A) Contact wounds show soot in and around the wound.
- B) Intermediate gunshot wounds are determined by stripping.
- C) Contact wound with no rickcheting may yield minimal tissue damage.
- D) Entry wound is always larger than exit wounds.

15. What determines the size of fly larvae in a decomposing body?

- A) Abundance of food, decaying matter.
- B) Temperature.
- C) Humidity.
- D) Size of the individual.

16. Which is the first step in handling a badly decomposed cadaver?

- A) Decontamination.

- B) Donning personal protective equipment.
- C) Wrapping in a body bag.
- D) Autopsy at site.

17. In autopsy, when removing the viscera, which method involve serial viscerectomy?

- A) Virchow method;
- B) Gohn method.
- C) Letulle method.
- D) Modified Rokitansy method.

The following cadaver was found in a house after the individual was reported missing for several days. Use the illustration to answer question 18-20



18. What is the approximate time in days since death?

- A) 18 hours.
- B) 48 hours.
- C) 7 days.
- D) >14 days.

19. What determines the size of fly larvae in a decomposing body?

- A) Abundance of food, decaying matter.
- B) Temperature.
- C) Humidity.
- D) Size of the individual.

20. Which is the first step in handling such a cadaver?

- A) Decontamination.
- B) Donning personal protective equipment.

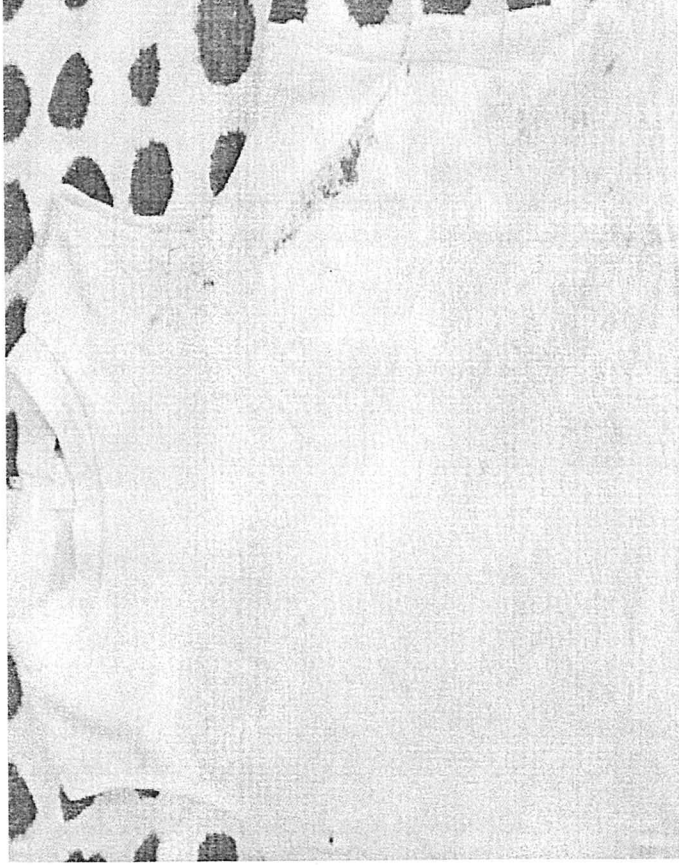
- C) Wrapping in a body bag.
- D) Call police

Section B: Attempt all questions (40 marks)

1. State the Locard's exchange principle and illustrate 3 ways how it can be applied in forensic medicine (10 marks)
2. List and explain five forensic services (10 marks)
3. Define the following terms
 - a. Rigor mortis (2 marks)
 - b. Livor mortis (2 marks)
 - c. Forensic medicine (2 marks)
 - d. Crime laboratory (2 marks)
 - e. Evidence (2 marks)
4. Write short notes on complex reasoning in forensic medicine (5 marks)
5. List five roles of the first officer at crime scene (5 marks)

Section C: Attempt all questions (40 marks)

1. The following is a polo shirt found in a game reserve suspected to be of a man who disappeared without a trace.



- i. Describe the significance of this finding in the unraveling of the matter. (5 marks)
 - ii. Describe the chain of custody necessary for valid results to be realized (10 marks)
 - iii. With reasons, describe the appropriate analytical method (5 marks)
2. A man collapsed in a wedding ceremony during bridal reception dance shortly after a meal of rice, Njahi and meat stew. He was rushed to the hospital in ambulance where he was pronounced dead.
 - a. Describe how the cause of death can be established (5 marks)
 - b. Outline with reasons the specimen you would collect (5 marks)
 - c. How would food served be used in the investigation? (5 marks)
 - d. What are the likely confounders in your final report? (5 marks)