



## **MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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### **University Examinations 2024/2025**

#### **FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICAL LABORATORY SCIENCES**

#### **HML 3412: LABORATORY MANAGEMENT ETHICS AND LAW**

**DATE: JANUARY 2024**

**TIME: 3 HOURS**

#### **INSTRUCTIONS:**

Answer *All* questions

*Ensure that all your answers are properly numbered*

*Part I multiple Choice Questions (MCQ): Write the correct answer on the space provided in the answer booklet. Each MCQ is one mark*

*Part II: Short Answer Questions – Answer questions following each other on the answer booklet*

*Part III: Long Answer Questions – Answer each question on the answer booklet*

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#### **SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)**

1. In the evolving technological trends, what is the importance of deploying mobile laboratories and point of care testing (POCT) in Kenya's health system?
  - A) Eliminating the need for advanced diagnostic equipment
  - B) Centralizing all Laboratory services in Urban centers
  - C) Increasing accessibility to laboratory services in remote and underserved areas
  - D) Reducing the need for Laboratory staff

2. What is the primary goal of Medical laboratory accreditation?

- A) To reduce the cost of laboratory tests
- B) To standardize laboratory practices and ensure quality of services
- C) To increase the number of laboratories in the country
- D) To provide training programs for laboratory personnel

3. Which of the following does not apply in a contract of a laboratory employee?

- A) Legal subject matter
- B) Agreement
- C) Patient
- D) Contractual capacity

4. Which organization is responsible for accrediting medical laboratories in Kenya to ensure compliance with international standards?

- A) Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB)
- B) Ministry of Health (Mold)
- C) Kenya Accreditation Service (KENAS)
- D) National Public Health Laboratories (NPHL)

5. Which of the following are skills of Laboratory management?

- A) Diagnostic skills, Technical skills. Human skills, Conceptual skills
- B) Conceptual skills, Teaching skills, Diagnostic skills, Technical skills
- C) Human skills, Conceptual skills. Treatment skills, Diagnostic skills
- D) Diagnostic skills. Radiology skills, Human skills. Technical skills

6. A medical laboratory Quality control programme involves the following EXCEPT?

- A) Standard Operating Procedures
- B) Safety measures
- C) Calibration
- D) Medical scheme

7. Which document management practice is essential for maintaining the integrity and traceability of laboratory test results in Kenya?

- A) Manual filing in physical storage cabinets
- B) Electronic data backup and retrieval systems
- C) Verbal communication of results
- D) Using temporary paper logs for documentation

8. Which practice is crucial for ensuring the longevity of medical laboratory equipment?

- A) Regularly updating software without hardware checks
- B) Performing scheduled preventive maintenance and calibration
- C) Ignoring manufacturer's maintenance guidelines
- D) Using equipment until it completely fails

9. The following should be checked upon receipt of Laboratory reagents and kits

- A) Expiry dates, Breakage, Potential, Lot number
- B) Lot number, Contaminations Expiry dates, Supplier
- C) Contamination. Expiry date, Laboratory fee, Breakage
- D) Quantity, Lot number, Breakage, Expiry dates

10. Which is a fundamental measure to ensure staff safety in Laboratories?

- A) Allowing unrestricted access to the laboratory
- B) Providing personal protective equipment (PPE) and ensuring its proper use
- C) Using outdated safety' protocols
- D) Not conducting regular safety training sessions

11 . What is the primary purpose of conducting laboratory audits in Kenya?

- A) To reduce the cost of tests
- B) To assess the quality and compliance of operations with established standards
- C) To increase the number of personnel
- D) To promote privatization of laboratory services

12. What is the ethical responsibility of Medical laboratory professionals?

- A) Maximizing profits from laboratory services
- B) Ensuring accurate, reliable, and confidential handling of patient test results
- C) Increasing the number of tests conducted daily
- D) Reducing the cost of laboratory equipment

13. Which of the following is NOT a Sample pre-collection activity?

- A) Type of sample to be collected
- B) Drug prescription
- C) Timing of sample collection
- D) Patient preparation

14. Which of the following should be included in labelling a specimen in the Lab?

- A) Date and time, Lab number, Specimen type, Patient name
- B) Initials of collector, Date and time, Height, Patient name
- C) Patient name, unique number, Place of collection, Quantity
- D) Lab number, Patient name, Colour of specimen, Date and time

15. Which of the following is NOT a type of store.

- A) Dispensing store
- B) Compressive store
- C) Decentralized store
- D) Centralized store

16. How can Laboratory Information Management Systems (LIMS) improve specimen reporting in Kenya?

- A) By automating specimen collection
- B) By providing real-time data and reducing manual reporting errors
- C) By eliminating the need for laboratory technicians
- D) By increasing the cost of laboratory operations

17. Which standard is specifically designed for the accreditation of medical laboratories in Kenya?

- A) ISO 9001
- B) ISO 17025
- C) ISO 45002
- D) ISO 15189

18. Which of the following is NOT a special Laboratory purchase?

- A) Radioactive materials
- B) Ethanol
- C) Sulphuric acid
- D) Gram stain

19. Which of the following systems is NOT an example of unintentional Tort?

- A) Nonfeasance
- B) Misfeasance
- C) Nilfeasance
- D) Malfeasance

20. Which of the following is not an ethical principle.

- A) Justice
- B) Beneficence
- C) Profession
- D) Respect

#### **SECTION B: SHORT ANSWER ALL QUESTIONS (40 MARKS)**

1. a) Briefly explain the Basic triple packaging (4mks)  
b) Mention four reasons for rejecting a Sample. (4mks)
2. Discuss four roles of Standard Operating Procedures (SOPs) in the handling and processing of medical laboratory specimens. (8mks)

3. a) Give 4 examples of ethical violations. (4mks)
- b) Differentiate between Quality control and Quality assurance. (4mks)
4. a) Briefly discuss four roles of a health lawyer (4mks)
- b) State four importance of laboratory internal audit (4mks)
5. a) Explain the four levels considered when replenishing stores to ensure steady and efficient functioning of the Laboratory. (8mks)

### **SECTION C: LONG ANSWER TWO QUESTIONS (40 MARKS)**

1. Mention different practices in a Medical Laboratory that contribute to preventing contamination and ensuring environmental and public safety (20mks)
2. a) State the importance of the ASCLS Code of Ethics (8mks)
- b) Briefly discuss six necessary features of a Medical laboratory physical design (12mks)
3. Discuss the key principles and parts of a Quality Assurance (QA) program in a medical laboratory? (20mks)