



(University of Choice)

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

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN EXAM

2023/2024 ACADEMIC YEAR

FOURTH YEAR & UPGRADING FIRST SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELORS OF SCIENCE IN CLINICAL MEDICINE

COURSE CODE: HCM 411

COURSE TITLE: FORENSIC MEDICINE AND TOXICOLOGY

DATE:-Monday 4th December 2023

TIME: 8:00am – 10:00am

INSTRUCTIONS TO CANDIDATES:

Answer -----

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

Paper Consists of 2 Printed Pages. Please Turn Over



SECTION A: ANSWER ALL MCQS (20 MARKS)

1. Forensic Medicine :
 - a) Provide forum for public discussion, and pertinent issue attributed to law
 - b) Apply legal matter to address raised concerns
 - c) Determined by quality roles and efforts of forensic services providers put in provision of justice and human rights responsibilities to patients and other and other obligations as provided by legal law.
 - d) Provide methods for admission and punishment for those who do not follow the established rule of conduct in the society
 - e) None of the above
2. Which of the Following is **NOT** A Branch of Forensic Medicine
 - a) Clinical forensic medicine
 - b) Forensic sciences
 - c) Forensic pathology
 - d) Forensic toxicology
 - e) Forensic criminology
3. Which of the Following Forms the Basic **Core Discipline** of Forensics Sciences
 - a) Forensic molecular biology
 - b) Forensic identification and Appraisal
 - c) Forensic anthropology
 - d) Forensic photography
 - e) All above
4. Coroner office Keeps **Documentation** and **Records** Attributed to
 - a) Effect of COVID 19 disease attributed cases
 - b) Death attributed to MOH and family requested postmortem / autopsy
 - c) Keep candid medico legal evidence
 - d) Death attributed to criminal and extrajudicial kills in the society only
 - e) Natural and unnatural dead
5. Forensic Science Department
 - a) Deals with medico legal autopsy / postmortem not involving the law enforcement agents
 - b) Investigate unnatural death victims who appeared to be in good health at their time of demise
 - c) Provide methods for admission and punishment for those who do not follow the established rule of conduct in the society
 - d) Apply legal matter to address raised concerns
 - e) None of the above roles
6. **Diagnostic** Triangle Entails Key Variable that Mediate Admissible trace Evidence For Justice Ruling. The **Key Variables** Include:
 - a) Coroner, dead, secured scene for forensic photography
 - b) Dead , primary witness, on candid records of occurrence at the scene
 - c) Primary witness, coroner. Next of kin and the deceased
 - d) Demised, criminal national police service, unsecured scene

- e) All above
7. Which of The Following is Not a **Health Law Governing** Medico Legal Procedures in Kenya
- Autopsy/ postmortem procedure
 - Public health Act CAP, 242
 - Local government Act CAP 265, section 201
 - Human anatomy Act CAP252
 - Human tissue Act CAP 249
 - All above
8. Kenya Penal Code **Cap 63** On Criminal Establishment
- Provides procedures for inquest investigation to enable justice accountability
 - Booklet that describes principles of criminal laws in Kenya
 - Describe procedures for inquest investigation to mediate justice accountability
 - Booklet that provide fines to offenders
 - None of the above
9. The Act that Provide International **Rights And Privileges** of the Remanded, Custody and Prisoners while in Prisons Stated in CAP of The Prisoners Act
- CAP 149
 - CAP 242
 - CAP 90
 - CAP 252
 - CAP 249
10. The Family or Next Of Kin may Request for **Postmortem Procedure** to Be Carried Out to their Demised
- When medical case attributed to his/ her demise, NOT previously candidly diagnosed.
 - If the family is suspecting foul play to the deceased nature of death
 - If the family of family doctor is questioning on genetic disease cause of dead
 - If the death as effect on life insurance
 - All above
11. In our Society **Post Mortems** are Carried Out Mainly To
- Determine cause of death and inform the next of kin
 - Collect trace evidence and information for criminal cases
 - Determine the cause and nature of death and inform the government on the genetic risks involved as per CAP 149 on registration of births and deaths
 - Confirm or exclude disease diagnoses made before
 - All above
12. Which one of the Following is **NOT** a Key Forensic Specimen For Evaluating Toxicological Tests
- Stool / condoms collected at suspected scene of crime
 - Vitreous humor
 - Liver at autopsy
 - Hair & fibers on the dead
 - Kidney at autopsy
13. The Following are Habitual **Methods** used in Crime Detection by Surveillance Design

- a) Undercover
 - b) Electronic surveillance
 - c) Stakeout surveillance
 - d) Mobile observation
 - e) All above
14. Which of The Following is **NOT** one of the Main Methods used to Detect Crime in Forensic Science Department
- a) Interrogation
 - b) Surveillance
 - c) Court order
 - d) Scientific investigation
 - e) None of the above
15. Biological Material that **Alters** the Biochemical Activity of the Body in Human Body
- a) Toxin
 - b) Poison
 - c) Drug
 - d) Drug addict
 - e) Drug abuse
16. Which of the Following is **NOT** A Crime Detection Technique Employed in Trace Evidence Detecting, Collecting, and Preserving Trace Evidence in Forensic Science
- a) Picking
 - b) Lifting
 - c) Scrapping
 - d) Vacuum sweeping
 - e) None of above
17. Deoxyribonucleic Acid is Double Helix Strand Consisting of 4 **Basic Sugars** namely the Following **Except**
- a) Adenine
 - b) Thyminine
 - c) Cytosine
 - d) Quinine
 - e) Purine and pyridimine
18. The 4 Values of **Medical Ethics** for Health Professional Associated with Hippocratic Oath, Declaration Of Helsinki ,1964 And Nuremberg Code Of Conduct 1947 Are; **EXCEPT**
- a) Autonomy
 - b) Beneficence
 - c) Non – beneficence
 - d) Confidentiality
 - e) Informed consent
19. Nuremberg Code of Conducts Has **Ten Elements** Virtues, That Aim at Protecting Human Subjects Participating in Research Like, Principal Researcher Himself, **Except** the Following
- a) Terminate experiments when injury , disability or death is likely to occur
 - b) Risks should not exceed the benefits of the clinical trial
 - c) Avoid the uptake of placebo on human subject on clinical trials

- d) Voluntary consent
- e) Any experiment carried out should be based on the previous experiments
- 20. Declaration of the Helsinki 1964 Revised 2013:-
 - a) Inhibit involuntary , unprotected participation of human subjects in any clinical trial
 - b) Opines on the health of the patient and NOT uptake of medical knowledge to violate human rights
 - c) Nuremberg require issues of informed consents as an essential for clinical trial
 - d) All above

SECTION B; ANSWER ALL EIGHT QUESTIONS EACH QUESTION CARRYS 5 MARKS, (40 MARKS)

- 21. Describe Scientific **Investigation Methods** that Mediate Quality Crime Detection in Forensic Science,(5marks)
- 22. Describe type of Euthanasia **Practices**, Done By Health Professions, Globally and Regional. In addition, what does the Law States on Kenya, Euthanasia Practices **Scenario?**, (5marks)
- 23. State and Explain **FIVE** Core Disciplines of Forensic Medicine, Like Forensic Anthropology,(5marks)
- 24. **Compare** and **Contrast** Declaration Of Helsinki ,1964 And Nuremberg Code of Conduct In 1947, (5marks)
- 25. Describe the Vital Roles of DNA and PCR **Testing**, as Vital Source of Admissible Evidence in Forensic Science from the Crime Offenders,(5marks)
- 26. State and Explain Health **Laws** and Medical **Ethics Governing** Quality Uptake of Health Service Providers in the Society,(5marks)
- 27. State and Explain the **Rights and Privileges** which Remanded, Custody and Prisoners Have. While in Prison on Healthcare Provisions , as Per CAP 90 Of Prison Act in Kenya , (5marks)
- 28. Briefly Explain Key Effects of Forensic **Specimen Contamination**, that may Affect Admissibility of Forensic Evidence in Court of law,(5 marks)

SECTION C ANSWER ANY TWO QUESTIONS. EACH QUESTION CARRY 20 MARKS, (40 MARKS)

- 29. Briefly Describe Medico Legal **Manners of Death**, affecting Community Households in Kenya and State Possible Remedies in your Own Opinion.,(20marks)
- 30. Compare and Contrast the **FOUR** Basic Values of Medical Ethics Attributed to Hippocrates Oath, Declaration Helsinki, in 1964 And Nuremberg in 1947and their Health Professional Utilization in Kenya, (20marks)
- 31. State and Explain why Most **Medico Legal** Cases in Kenya Turn Up to Be **Negatives** .Thus Lacking Admissible Evidence to Court, for Judge Penalties to Offenders.(20marks)

