



**UNIVERSITY OF JAFFNA, SRI LANKA**  
**SECOND EXAMINATION FOR MEDICAL DEGREES PART (I) - (October 2022)**  
**FORENSIC MEDICINE**

**Date: 10.10.2022**

**9.00am to 12.00 noon. (3 hours)**

**Answer all five (5) questions**

**Answer each part in a separate answer book**

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**PART A**

1. Highway traffic police have brought a jeep driver related to a fatal road traffic collision. Police stated that the breathalyzer test was attempted, but the driver refused to do that and insisted on a clinical examination by a medical officer
  - 1.1. List Five (5) effects of alcohol on driving a motor vehicle. (20 marks)
  - 1.2. List five (5) other causes for impairment of driving. (10 marks)
  - 1.3. Describe the medico-legal management of this alleged drunken driver. (50 marks)
  - 1.4. Briefly describe what you understand from the term 'Breathalyzer test' (20 marks)
  
2. Describe the injury patterns in
  - 2.1. Fall from height (50 marks)
  - 2.2. Front seat passenger of a car collided against an electric post (50 marks)

## PART B

3. A 20-year-old girl was found hanging in a locked room at her home. She and her brother were at home before the incident. As a medical officer -medico-legal (MO-ML), you have been called to this scene.

3.1. State five (5) observations you would like to make at this scene, indicating the medicolegal significance of each (10 marks)

3.2 External examination of the body revealed petechial hemorrhages on the conjunctiva and a few abrasions on the neck. Explain autopsy findings that assist you in concluding the cause of death as manual strangulation (15 marks)

Later his brother confessed that he had sexual intercourse with his sister before the incident. He was found to be an intravenous heroin addict.

3.3 Briefly discuss the autopsy findings that would present in the body in forceful sexual intercourse. (15 marks)

3.4 Mention the special dissections you would carry out in this autopsy and describe the medico-legal significance of each method. (15 marks)

3.5 List three (3) samples that you would collect from the body in this case and indicate the tests that you would do with the samples (10 marks)

3.6 Mention under which penal code sections the suspects can be charged in the courts. (05 marks)

3.7 Mention the active substance in heroin (05 marks)

3.8 List two (2) complications of intravenous heroin use (05 marks)

3.9 List five (5) symptoms due to heroin withdrawal (05 marks)

3.10 It is suspected that the deceased was intoxicated with alcohol at the time of the incident. State the procedure in detail that you are going to obtain and transport the blood sample to the Government analysis department for the toxicological analysis (15 marks)

4. A 68-year-old man was found dead at the roadside near a pedestrian crossing on Saturday morning. He was last seen at the party with his friends the previous night. He is a known person with Hypertension and diabetes and has twice been admitted to the hospital with a history of chest pain and treated for unstable angina. The investigating police officers noticed a few abrasions on his body.

4.1. List five (5) medico-legal issues related to this case (10 marks)

The police officers suspected road traffic trauma or fall as a cause of death, while relatives strongly suspected foul play.

4.2. Discuss the autopsy features that favour the fall in this case (30 marks)

4.3. Discuss the autopsy features that favour the road traffic trauma in this case (30 marks)

4.4. List the five (05) possible natural causes that could cause the death of this person (10 marks)

4.5. Discuss the macroscopic and microscopic features of the heart in this autopsy (20 marks)

## PART C

5. A 40-year-old previously healthy mother of 5 children was diagnosed with breast carcinoma and underwent an elective mastectomy at a surgical unit of a teaching hospital. The routine surgical procedure was followed, and her left breast was removed during the surgery. However, staff at the recovery unit observed that she needed more than the expected time to recover. Eventually, she was sent to the post-operative surgical ward following recovery. She had a cardiac arrest in the ward approximately forty (40) minutes later, and the medical and nursing staff started cardiopulmonary resuscitation (CPR) on her. She was rushed to the surgical theater for further assistance. The surgeons were of the opinion that she had an uncomplicated surgical procedure and no need to open up again. She died 30 minutes later despite continuous efforts to revive her.

An inquest was ordered, and the deceased was subjected to an autopsy.

5.1 Explain why deaths following surgical procedures/interventions should be referred to an inquest. (10 marks)



At the autopsy, it was found that the deceased had hemopericardium. Further, a 1cm long incised injury was observed at the pericardium and wall of the right ventricle of the heart. All stages of postmortem dissection and findings were photographed, and later these findings were shown to the surgical team.

Although the surgical team denied the post-mortem findings initially, subsequently, they admitted that the drains inserted into the surgical site were done after closing the skin flap as they had forgotten to do it before closing the flap.

5.2 State three (3) advantages of postmortem photography in this case. (10 marks)

5.3 State the most likely cause of death in this case according to WHO format with reasons. (15 marks)

The family members of the deceased complained to the Ministry of Health about the incident and decided to sue the chief surgeon of the surgical team at the District Courts for causing the death of the patient.

5.4 Define the most likely offense committed by the surgeon in this case (05 marks)

5.5 Describe how you would establish it in this case. (15 marks)

5.6 State the possible defenses that could be submitted by the surgeon to justify his action. (10 marks)

The family members have also complained to Sri Lanka Medical Council (SLMC), alleging that the surgeon's action amounts to serious professional misconduct.

5.7 Explain how SLMC describes 'serious professional misconduct and whether the complaint of the family members is justifiable. (20 marks)

5.8 Outline how SLMC would investigate the complaint made by the next of kin against the surgeon. (15 marks)