



Faculty of Medicine University of Ruhuna
Third Examination for Medical Degrees (Part II) – September 2020

Forensic Medicine Paper I

Monday 7th September 2020

9.00 am to 12.00 noon
Three hours

Answer **ALL FIVE** questions.

Answer each **PART** in a **SEPARATE** book.

Part A

1. A 55-year-old pedestrian was hit by a car on a pedestrian crossing in a main city. He was a habitual drinker for several decades but has not taken alcohol on that day. The victim was thrown away for several meters off the road and was dead on admission to the hospital.

1.1 State the inquest procedure of this death. (10 marks)

1.2 Discuss the different injury patterns you would expect to see in the body. (25 marks)

1.3 Briefly describe macroscopic and microscopic features of the pathological conditions of the liver which you would expect to see on the deceased. (25 marks)

The driver of the car was a lawyer and was produced to the Judicial Medical Officer (JMO) for medico legal examination. He refused the medico-legal examination.

1.4 List four (4) objectives of the medico legal examination of this driver. (20 marks)

1.5 Discuss the possible outcomes of refusal of the medico legal examination. (20 marks)

2. A 70-year-old man was assaulted by a known person and was admitted to the surgical ward. There was a periorbital contusion on the right eye and he complained of loss of vision on the same eye. There were numerous contusions on the body.

2.1 List four (4) medico-legal issues of this scenario. (10 marks)

2.2 Briefly describe different causes of periorbital contusion. (25 marks)

2.3 Discuss possible causes for the loss of vision in this patient. (25 marks)

2.4 List the different sections of the Penal Code of Sri Lanka which can be used to categorize the periorbital contusion in this patient. (20 marks)

2.5 Briefly describe the medico-legal importance of contusions. (20 marks)

Part B

3.

3.1 A 15-year-old girl, who was living in a child protection home, was alleged to be sexually abused by a known male. She was produced before the judicial medical officer for medico-legal examination.

3.1.1 List five (5) important medico-legal issues of this scenario. (10 marks)

3.1.2 Discuss problems associated with obtaining a valid consent from this child. (10 marks)

3.1.3 Define statutory rape. (10 marks)

3.1.4 Briefly outline the medico-legal management of this child. (15 marks)

3.2 A drunken doctor amputated the wrong lower limb of a 30-year-old female patient. The doctor was reckless and ignorant during the procedure. The patient filed negligence charges against the doctor.

3.2.1 Define medical negligence. (10 marks)

3.2.2 List different types of medical negligence. (10 marks)

3.2.3 Indicate the type of medical negligence in this scenario with reasons. (10 marks)

3.2.4 List the steps of proving medical negligence at the Court of Law. (15 marks)

3.2.5 List three (3) defenses for the doctor against the allegation of medical negligence in this scenario. (10 marks)

4.

4.1 A 33-year old male was arrested by the police as he was behaving disorderly. He was found to have 5 grams of "ICE" in his possession. He denied previous use of any illicit drugs. He was produced before the judicial medical officer for medico-legal examination.

4.1.1 List five (5) important medico-legal issues related to this scenario. (10 marks)

4.1.2 Briefly discuss the mechanism of action of the above-mentioned illicit drug (15 marks)

4.1.3 List the essential steps of the medico-legal examination of this patient (15 marks)

4.1.4 What is the most important sample that should be collected at the examination of this patient? Give 2 reasons. (10 marks)

- 4.2 A 10-year-old boy was brought to the emergency department with a history of consuming a fruit similar to "Rambutan". On admission, he was found to have dilated pupils, dry mouth and hot dry skin.
- 4.2.1 What is the most likely poisonous plant involved in this scenario? (10 marks)
- 4.2.2 List the poisonous substances found in the fruit of this plant. (10 marks)
- 4.2.3 What are the other clinical features you would expect in this child? (15 marks)
- 4.2.4 Briefly discuss the medico-legal management of this child. (15 marks)

Part C

5. A wealthy businessman living in a metropolitan area was fired at several times while he was entering his house in a car around 2.00 pm by a group of 4 persons arrived in a van. He died instantaneously and the perpetrators had left the scene in a flash. The police expect your advice as the Chief Forensic Pathologist in the region to initiate the crime scene examination.
- 5.1 State three (3) major objectives of your plan for the investigation of the death scene. (10 marks)
- 5.2 State five (5) instructions you would give to the Scene Of Crime Officers (SOCO) who are visiting the scene. (15 marks)
- 5.3 Briefly state how you would examine the victim's car? (10 marks)

Later, it was revealed that the perpetrators have followed the businessman since morning on that day and they had a meal and liquor at a particular restaurant. One of the perpetrators had vomited at the restaurant. The SOCO have found a fresh betel stain near the crime scene as well.

- 5.4 State the relevance of this information. (10 marks)
- 5.5 How would you obtain samples of those physical evidences? (10 marks)
- 5.6 Briefly describe the underlying principle and methods of analyzing the collected samples. (25 marks)

The vehicle used by the perpetrators was later recovered few kilometers away from the crime scene. The police also found evidence that perpetrators have used mobile phones to communicate with an unknown person prior to the event.

- 5.7 State your advice to the police on examining the vehicle used by the perpetrators. (10 marks)
- 5.8 Briefly describe the value of tracing the phone calls in this scenario. (10 marks)