



**Faculty of Medicine University of Ruhuna**  
**Third Examination for Medical Degrees (Part II) – February 2024**

**Forensic Medicine Paper I**

Monday 5<sup>th</sup> February 2024

9.00 am to 12.00 noon  
Three hours

Answer **ALL FIVE** Questions.  
Answer each **PART** in a **SEPARATE BOOK**.

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**Part A**

1. The police has recovered two men trapped inside a motor car following a head on collision with a lorry. Both individuals were unconscious at the time of recovery. They were brought to the hospital and were pronounced dead on admission. Post-mortem examinations were held.
  - 1.1. List **five (05)** important medico-legal issues related to this scenario. **(15 marks)**
  - 1.2. List **five (05)** samples that you would collect during the post-mortem examination. **(10 marks)**
  - 1.3. Describe how would you identify the driver and the front seat passenger among the two recovered bodies during the post-mortem examination. **(40 marks)**
  - 1.4. State **three (03)** objectives of the medico-legal examination of the lorry driver. **(15 marks)**
  - 1.5. List **five (05)** protective measures that can be available in a motor vehicle to minimize the injuries on a vehicular occupant during a collision. **(20 marks)**

**Part B**

2.
  - 2.1. Narcotic drug addiction and drug related crimes cause different medical and social problems in the modern world. The "ICE" and cocaine are common abusive narcotic drugs in Sri Lanka.
    - 2.1.1 State the generic name for "ICE". **(10 marks)**
    - 2.1.2 State **three (03)** methods of self administration of "ICE". **(10 marks)**
    - 2.1.3 Briefly describe the mechanism of action of "ICE". **(20 marks)**
    - 2.1.4 List **five (05)** health issues of long term "ICE" abuse. **(15 marks)**
  - 2.2. A young man was produced by the police for medico-legal examination with a history of being involved in disorderly behaviour in the public. The drug screening test of urine was positive for cocaine.
    - 2.2.1 List **three (03)** medico-legal issues which should be addressed by the doctor during his medico-legal examination. **(15 marks)**
    - 2.2.2 Briefly describe the clinical features of cocaine abuse. **(30 marks)**

3. A group of people were involved in a brawl and a young man was witnessed shot with a revolver once to the front chest. He succumbed to his injuries at the scene.
- 3.1. Briefly describe the inquest procedure related to this death. **(20 marks)**
- 3.2. List **four (04)** different injury patterns which you would expect to see on the front chest due to different ranges of fire. **(20 marks)**
- 3.3. Describe one injury pattern which you have mentioned in 3.2. **(25 marks)**
- 3.4. Briefly describe **two (02)** special dissection techniques you would do at the autopsy of the deceased. **(20 marks)**
- 3.5. List **three (03)** investigations you would do after the autopsy to address the medico-legal issues in this case. **(15 marks)**

#### **Part C**

4. A 28-year-old previously healthy male was arrested by the police. He was beaten repeatedly with batons after the arrest. He was blindfolded and questioned by police officers at the police station. On the next day he was produced before a Judicial Medical Officer (JMO) and was admitted to the hospital for further observations. The victim clinically deteriorated and had to be dialysed on the 3<sup>rd</sup> day after admission.
- 4.1. Explain the clinical diagnosis and how the victim has developed it. **(20 marks)**
- 4.2. Briefly describe **three (03)** laboratory investigations which could be done to confirm the clinical status of the patient. **(15 marks)**
- 4.3. State **five (05)** important steps of medico-legal examination of this patient. **(15 marks)**
- 4.4. The victim had filed a case in the Supreme Courts for violation of his human rights.
- 4.4.1 State **four (04)** essential steps that you have to follow when preparing the medico-legal report to the courts. **(20 marks)**
- 4.4.2 State **five (05)** different physical torture methods the victim is likely to be subjected to in the police station. **(15 marks)**
- 4.4.3 Briefly explain why torture is considered as a major human rights violation. **(15 marks)**

- 5.
- 5.1. A 51-year-old previously healthy businessman was found unresponsive in the driving seat of his car parked inside a parking area. The businessman was transported to the hospital by the same vehicle and was diagnosed of having Out of Hospital Cardiac Arrest (OHCA).
- 5.1.1 State **five (05)** most likely causes of OHCA for this case. **(20 marks)**
- 5.2. He was resuscitated and was managed in the Intensive Care Unit (ICU). The police were informed by the hospital authorities soon after the emergency procedures. The SOCO unit was instructed to carry out a crime scene examination alleging an attempted murder.
- 5.2.1 State the law on attempted murder in Sri Lanka. **(15 marks)**
- 5.2.2 State **five (05)** advices that you would give to SOCO who are ready to deploy for scene examination. **(15 marks)**
- 5.3. The businessman died few hours later and the car was sent to Government Analyst for scientific examination.
- 5.3.1 Briefly describe the standard procedure of examining the vehicle of this case for forensic evidence. **(15 marks)**
- 5.4. Three weeks after the autopsy, the Government Analyst reported that Cyanide was detected in stomach contents.
- 5.4.1 Briefly describe the mechanism of death in cyanide poisoning. **(20 marks)**
- 5.4.2 List **five (05)** post-mortem features of cyanide poisoning **(15 marks)**