



FACULTY OF MEDICINE UNIVERSITY OF RUHUNA

Third Examination for Medical Degrees (Part II) – September 2015

34 paper ✓

FORENSIC MEDICINE - PAPER I

Answer ALL FIVE Questions.

9.00 a.m. to 12.00 noon (3 hours)

Answer each PART in a SEPARATE BOOK.

Part A

✓ Gun shot

1.1 A 35 year-old man was shot with a rifle at distant range over the mid forehead. He was admitted to the hospital in an unconscious state. The Glasgow coma scale was 3/15. He was connected to a ventilator.

1.1.1 Describe the external injuries you would expect to see in this patient. (20 marks)

1.1.2 List 3 medico-legal duties of the doctor managing this patient. (10 marks)

1.2 The on call surgeon has been called to confirm the brain death of this patient.

1.2.1 Describe the procedure of confirming the brain death of this patient. (20 marks)

1.2.2 Describe the medico-legal procedure which should be adopted by the doctor after confirming the brain death. (15 marks)

1.3 The autopsy of the deceased was performed by a judicial medical officer.

1.3.1 List 3 investigations you would perform at the autopsy. (10 marks)

1.3.2 Describe how you would perform the dissection of the head. (15 marks)

1.3.3 State possible internal findings of the head. (10 marks)

✓ 2. Death body

2.1 An adult male was found dead in a chena cultivation land. He was last seen alive 2 days ago. There were no obvious injuries on the body.

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

2.1.2 Describe how you would plan the death scene examination. (20 marks)

2.1.3 Describe the post-mortem changes you would expect to see at the autopsy. (20 marks)

2.2 The following findings were observed at the autopsy.

The pericardial sac containing 500 ml of clotted blood; the front left ventricular wall containing 1 cm tear which involves the full thickness of the myocardium; the surrounding myocardium soft with red and yellow appearance; left ventricular hypertrophy; left anterior descending coronary artery showing more than 75% eccentric occlusion.

2.2.1 State the most likely pathological condition of this deceased. ruptured haemopericardium (5 marks) followed

2.2.2 Describe the possible microscopical features of the myocardium. (15 marks) by MF

2.2.3 How would you write the cause of death of this deceased according to the WHO format of certification of death. (10 marks)

2.2.4 Describe the pathophysiology of the cause of death. (20 marks)

Part B

3. ^{1 1}
A 45 year-old farmer was transferred to TH Anuradhapura with abdominal pain, vomiting and diarrhoea. He developed bronchospasm, dystonia, tremors and miosis subsequently. He recovered eventually and discharged from the hospital on the 12th day. He was readmitted to the same hospital with progressive shortness of breath 2 weeks later. He died from respiratory failure at the end of 4th week regardless of continuous intensive care. The farmer was said to be in a financial crisis as his paddy harvest was affected by long term drought. It was believed that he has consumed a toxic substance though unwitnessed.

3.1.1 State 5 medico-legal issues related to this case. (10 marks)

3.1.2 What is the most likely clinical condition developed by the farmer on readmission? (5 marks)

3.1.3 Describe the other symptoms and signs of initial poisoning (10 marks)

3.1.4 How would you treat this acute stage? (10 marks)

3.1.5 Describe the pathophysiology of findings on readmission. (10 marks)

3.2. A 23 year-old male collapsed while he was dancing with friends around 3 am on December 31st night in a crowded hotel in a major tourist city. He was rushed to the nearest tertiary care hospital in a confused state. He developed fits in the hospital and died in 30 minutes despite vigorous resuscitative measures. The medical officer at the emergency treatment unit has observed that he had hypertension and pyrexia. A drug related incident was suspected at the inquest.

3.2.1. State 5 medico-legal issues of this case. (10 marks)

3.2.2. What is the most likely causative agent involved in this case? (5 marks)

3.2.3. Describe the other possible clinical findings of this case. (10 marks)

3.2.4. Describe the major steps of the autopsy and its findings in this case. (10 marks)

3.2.5. Discuss how you would retain samples for special investigations and proceed with further analysis. (15 marks)

3.2.6 State the special precautions you would adopt at the autopsy. (5 marks)

Part C

4. ⁴
A 21 year-old female was admitted to a tertiary care hospital in a critical condition with an alleged history of fall from the 5th floor of a multi-story building of a government hospital. Later it was revealed that this incident happened in a hospital quarters. It was alleged that the victim was sexually abused and was pushed from the said height to simulate a fall.

4.1.1 What are the medico-legal issues of this case? (10 marks)

4.1.2 Describe the injury pattern that you would expect in this victim. (15 marks)

4.1.3 How would you perform the medico-legal examination of this victim? (15 marks)

4.1.4 Discuss the ethical principles involved in the management of this victim. (10 marks)

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Sexual
offence

4.2 The victim succumbed to her injuries 3 days after the admission. The family members of the deceased alleged that she had a relationship with a medical officer employed in the hospital. During the internal inquiry, the presence of the victim and the medical officer in the hospital quarters on the said day was confirmed by an eye witness. The quarters of the medical officer and adjoining buildings were intensively searched and significant trace evidence was found by Scene of Crime Officers(SOCO).

- 4.2.1 Discuss the major concerns of the crime scene examination of this case. (10 marks)
- 4.2.2 Describe major steps of the autopsy examination of the victim. (10 marks)
- 4.2.3 State how you would assess whether the victim was sexually abused prior to fall? (10 marks)
- 4.2.4 Describe legal provisions against penetrative sexual acts in Sri Lanka. (15 marks)
- 4.2.5 State the likely consequences if charges against the medical officer are proved. (5 marks)

5

5.1 A 35 year-old female was brought to the emergency treatment unit (ETU) of a tertiary care hospital with a history of being collapsed following an intravenous injection given during a beauty therapy procedure at a beauty parlour. She was given ventilator care at the ETU but could not be revived despite repeated resuscitation attempts. She was pronounced dead 45 minutes after the admission. It was revealed that she was apparently well previously.

- 5.1.1 How would you perform the scene examination of this case? (20 marks)
- 5.1.2 Describe the possible autopsy findings in this case. (10 marks)
- 5.1.3 Discuss the special investigations you would perform to confirm the cause of death. (15 marks)
- 5.1.4 What is the most likely cause of death of this victim? (5 marks)

SLMC
Negligence

5.2 Subsequently the beauty parlour was examined by a team comprised of specialist doctors and scene of crime police officers. The search team was able to find multiple drugs which were expired. It was also found that the parlour was managed by a medical officer and two nurses who had no formal training in nursing practice. There was neither equipment nor drugs available in the beauty parlour for emergency medical care. The family members of the deceased have complained to the Sri Lanka Medical Council(SLMC) regarding malpractice of the doctor.

- 5.2.1 How would you establish negligence of the doctor involved in this incident? (20 marks)
- 5.2.2 State the legal provisions against criminal medical negligence in Sri Lanka (10 marks)
- 5.2.3 How would SLMC perform the disciplinary inquiry in this occasion? (20 marks)

AC H O P C e e v i s

(15)