

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MD (EMERGENCY MEDICINE)
APRIL / JUNE 2015

Date : 3rd June 2015

Time : 1.00 p.m. – 4.00 p.m.

ESSAY PAPER

Answer all six (06) questions.

Answer each question in a separate book.

1.
 - 1.1. Describe briefly the course, relations and branches of the axillary artery. (30 marks)
 - 1.2. Describe briefly the posterior relations of the right kidney indicating the structures that could be damaged by a stab injury at the renal angle. (40 marks)
 - 1.3. Draw a labeled diagram of the inlet of the larynx as seen from above and briefly describe the innervation and function of the intrinsic laryngeal muscles. (30 marks)
2. A 24 year-old victim of a road traffic accident was admitted to the accident and emergency with a head injury. The Glasgow Coma Score was 8/15.
 - 2.1. Explain the effects of PaCO₂ and PaO₂ on cerebral blood flow in this patient, using appropriate diagrams. (40 marks)
 - 2.2. List the determinants of intracranial pressure. (10 marks)
 - 2.3. Discuss the regulation of cerebral perfusion pressure in this patient. (50 marks)

- 3.1. Explain the pharmacokinetic and pharmacodynamic basis of administration of the following drugs.
- 3.1. Adrenaline (epinephrine) 0.5 mL in 1:1000 dilution intramuscularly to the anterolateral aspect of the middle third of the thigh in a patient with anaphylaxis. (40 marks)
 - 3.2. Aminoglycosides as a single daily dose. (30 marks)
 - 3.3. Cefotaxime 6-hourly in bacterial meningitis. (30 marks)
- 4.
- 4.1. State the difference between temperature and heat. (10 marks)
 - 4.2. Define the triple point of water indicating the value. (20 marks)
 - 4.3. List five (05) instruments used in the measurement of temperature. (20 marks)
 - 4.4. Briefly explain the physical principles used in the instruments you listed in 4.3. (50 marks)
5. A 55 year-old woman presents to the emergency treatment unit with sudden onset dyspnoea and right sided chest pain. On examination, a localized pleural rub and coarse crackles were heard over the right lower zone of the lungs. The patient has undergone total abdominal hysterectomy and bilateral salpingo-oophorectomy for uterine fibroids 2 weeks back. The medical officer in the emergency treatment unit suspects a pulmonary embolus following deep vein thrombosis.
- 5.1. List the differences between thrombus and an embolus. (15 marks)
 - 5.2. Explain the pathophysiological basis of pulmonary embolism in this patient. (40 marks)
 - 5.3. List three (03) other sequelae of a thrombus. (15 marks)
 - 5.4. Describe the likely macroscopic pathological changes you would expect to see in this patient's lung giving reasons. (30 marks)

6.

6.1. A massive explosion occurred in a large chemical factory. The accident & emergency unit of the local District General Hospital expects around 100 casualties within the next 20 minutes.

6.1.1. List five (05) categories injuries or illnesses that could be expected among the casualties. (10 marks)

6.1.2. List five (05) important resources that you would mobilize to the Accident & Emergency unit to attend to the casualties. (10 marks)

6.1.3. Discuss briefly the importance of having a properly developed and updated disaster response plan at the hospital to respond to this type of incidents. (40 marks)

6.2.

6.2.1. List five (05) manmade disasters that the post-war Sri Lanka is encountered with. (10 marks)

6.2.2. Discuss briefly the role of the medical officer in preventing such disasters and in reducing the human suffering from such manmade disasters. (30 marks)