

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MD (EMERGENCY MEDICINE)
SEPTEMBER/OCTOBER 2019

Date:- 21st October 2019

Time :- 9.00 a.m. – 12.00 noon

ESSAY PAPER

Answer **all six (06)** questions.

Answer each question in a separate book.

1.

1.1. A 50-year-old woman had fallen on an outstretched right hand. She had pain and tenderness in the right anatomical snuff box.

1.1.1. Describe the anatomy of the anatomical snuffbox. (40 marks)

1.1.2. Briefly describe the anatomical basis of avascular necrosis of the scaphoid bone. (20 marks)

1.2. Describe the left coronary artery, mentioning its origin, course, branches, and area of distribution. (40 marks)

2.

2.1. Using clearly labeled diagrams and relevant examples, explain the physiological basis of 'diffusion-limited' and 'perfusion-limited' transfer of gases across the alveolocapillary membrane. (60 marks)

2.2. Explain the effect of preload, afterload and contractility of the left ventricle on the cardiac output, giving examples. (40 marks)

3. A 49-year-old heavy smoker was diagnosed with a bronchial carcinoma. Discuss the clinico-pathological effects of this tumour on the host, giving examples. (100 marks)

Contd...../2-

4.
 - 4.1. Briefly explain the Laplace's Law. (15 marks)
 - 4.2. Briefly describe the clinical relevance of this law to
 - 4.2.1. respiratory system (25 marks)
 - 4.2.2. cardiovascular system (25 marks)
 - 4.2.3. gastrointestinal system (10 marks)
 - 4.3. Briefly explain the application of the Henry's Law as a treatment strategy giving two (02) examples. (25 marks)
5. Explain the pharmacological basis of using following interventions in the given clinical scenario.
 - 5.1. Tranexamic acid for a 15-year-old who is having bleeding following tooth extraction. (20 marks)
 - 5.2. Nebulization with salbutamol and ipratropium bromide for an 8-year-old child with acute severe asthma. (30 marks)
 - 5.3. Atropine in organophosphate poisoning. (25 marks)
 - 5.4. Dextran 40 instead of fresh frozen plasma, in rapid fluid leakage stage of dengue hemorrhagic fever. (25 marks)
6.
 - 6.1.
 - 6.1.1. Write four (04) components of disaster risk management. (20 marks)
 - 6.1.2. Briefly explain four (04) types of practical exercises employed in disaster preparedness. (20 marks)
 - 6.1.3. List four (04) major components of hospital incident command system. (10 marks)
 - 6.2. A 45-year-old driver of a car was brought to the emergency unit following a collision. He was suspected to have splenic rupture. Six units of blood were transfused through a rapid infuser with warmer during laparotomy.
 - 6.2.1. List three (03) transfusion related biochemical abnormalities you would expect in this patient. (06 marks)
 - 6.2.2. List two (02) haematological complications which may occur in this patient? (04 marks)
 - 6.2.3. Briefly describe the pathogenesis of one (01) of the complications that you mentioned in 6.2.2. (20 marks)
 - 6.2.4. List the haematological investigations that you would request to diagnose the complication mentioned in 6.2.3. State the expected findings of the above giving reasons. (20 marks)