

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**SELECTION EXAMINATION FOR MD ( EMERGENCY MEDICINE)**  
**FEBRUARY / MARCH 2013**

**Date :** 25<sup>th</sup> March 2013

**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 Describe the boundaries and the contents of the carotid triangle of the neck. State its clinical relevance. (40 %)
  - 1.2 Outline the anatomy of the intercostals space. Discuss its clinical relevance. (30 %)
  - 1.3. Describe how the distal circulation of the lower limb is maintained in a patient with completely severed femoral artery (superficial femoral artery) at the mid thigh level. (30 %)
  
2.
  - 2.1 What are the causes of tissue hypoxia ? (10 %)
  - 2.2 Draw the oxygen dissociation curve of an adult and indicate the points of importance. (25 %)
  - 2.3 How would you calculate the dissolved oxygen content in the blood ? (25 %)
    - 2.3.1. What information can be derived from mixed venous oxygen saturation ? (20 %)
    - 2.3.2. State how mixed venous oxygen saturation changes according to the type of hypoxia. (20 %)

3. Discuss the importance of the following properties of a drug in clinical practice
  - 3.1. Bioavailability (50 %)
  - 3.2. Protein binding (25 %)
  - 3.3. Volume of distribution (25 %)
  
4. Describe the physical principles of
  - 4.1. ultrasound (40 %)
  - 4.2. defibrillator (30 %)
  - 4.3. pulse oximetry (30 %)
  
5. Write short notes on
  - 5.1. Acute inflammation (30 %)
  - 5.2. Diagnosis of acute myocardial infarction (35 %)
  - 5.3. Pathogenesis of diabetic ketoacidosis (35 %)
  
6.
  - 6.1. What is the definition of disaster ? (20 %)
  
  - 6.2. List the components of a disaster plan. (40 %)
  
  - 6.3. What do you understand by triage ? (10 %)
  
  - 6.4. Outline the parameters used in simple triage and rapid treatment technique. (30 %)

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**SELECTION EXAMINATION FOR MD ( EMERGENCY MEDICINE)**  
**MAY / JULY 2014**

**Date :** 2<sup>nd</sup> July 2014

**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 Draw a labeled diagram to illustrate the arrangement of structures at the inlet of the thorax. (30 marks)
  - 1.2 Describe briefly the atlanto axial joints and possible movements at these joints. (35 marks)
  - 1.3. Describe briefly the male urethra mentioning the important anatomical facts that need to be kept in mind when catheterizing a male urethra. (35 marks)
2. A patient with severe diarrhea had a plasma osmolality of 296 mmol/L , Describe the physiological mechanisms that will operate to normalize the
  - 2.1 intravascular volume. (60 marks)
  - 2.2 plasma osmolality in this patient. (40 marks)
3. Write short notes on the following, emphasizing the clinical relevance.
  - 3.1. First pass effect (metabolism) using morphine as an example. (40 marks)
  - 3.2. Pharmacological efficacy versus therapeutic efficacy using losartan as an example. (30 marks)
  - 3.3. Receptor regulation using examples. (30 marks)

4.
  - 4.1. Draw and label a direct arterial blood pressure measurement set up on a patient. (35 marks)
  - 4.2. List the factors that affect the accuracy of the blood pressure reading of the above set up. (15 marks)
  - 4.3. Explain the physical principle of a transducer in relation to the above set up. (50 marks)
  
5.
  - 5.1. Describe the pathogenesis of septic shock. (40 marks)
  
  - 5.2. Describe the macroscopic and microscopic features of the following organs in shock.
    - 5.2.1. Brain (20 marks)
    - 5.2.2. Heart (20 marks)
    - 5.2.3. Kidney (20 marks)
  
6. Discuss the role of the state health sector in disaster planning and management on the following.
  - 6.1. Disaster preparedness (50 marks)
  
  - 6.2. Disaster response (50 marks)