

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

**MD (ANAESTHESIOLOGY) FINAL EXAMINATION – MARCH 2019**

**Date :-** 28<sup>th</sup> March 2019

**Time:-** 1.00 p.m. – 4.00 p.m.

**LONG ESSAY QUESTIONS**

Answer any **three (03)** questions.

Answer each question **in a separate book.**

1. A 40-year-old lady who is awaiting total abdominal hysterectomy, presented to the preoperative anaesthetic clinic with iron deficiency anaemia one month prior to the scheduled date of surgery.

Her haemoglobin level is 7.4g/dl. She has no other comorbidities.

- 1.1. Define anaemia according to WHO guidelines. (10%)
  - 1.2. Briefly describe the physiological effects of anaemia. (35%)
  - 1.3. Discuss the perioperative measures you would take considering the concept of “patient blood management”. (40%)
  - 1.4. Briefly describe the mechanisms of action of drugs which are used to minimize intraoperative blood loss. (15%)
2. A 70-year-old male is in the casualty surgical ward with abdominal pain, vomiting and fever for two days. After evaluation by the surgical team, an emergency laparotomy is planned for a suspected large bowel perforation with evidence of sepsis.
- 2.1. How would you evaluate and optimize him preoperatively to improve the outcome? (40%)
  - 2.2. What pathophysiological mechanisms are responsible for organ dysfunction in sepsis? (25%)
  - 2.3. Outline your intra operative management. (20%)
  - 2.4. Write down the post operative plan for this patient. (15%)

Contd.../2-

3. You are asked to develop guidelines for an Accident and Emergency Unit to improve trauma care for patients presenting without head injury.

What aspects would you consider for the

- 3.1. management of airway? (40%)
- 3.2. optimization of cardiovascular system? (40%)
- 3.3. prevention of acute kidney injury in patients with high creatine phosphokinase? (20%)
- 4.
- 4.1. What physiological changes occur in the cardiovascular and respiratory systems in a normal pregnancy? How do they differ in a multiple pregnancy? (30%)
- 4.2. Outline the anatomical changes in twin pregnancy that are relevant for anaesthesia. (10%)
- 4.3.
- 4.3.1. A patient with a twin pregnancy (POA 37 weeks) is referred to you for assessment. What is your plan of management of this patient for a normal delivery? (10%)
- 4.3.2. She delivers the first of twin vaginally and fails to deliver the second of twin and needs an emergency caesarean section. Outline the anaesthetic options available giving reasons. (25%)
- 4.3.3. If she presents for a caesarean section due to lack of progress at 1<sup>st</sup> stage of labour, explain your anaesthetic technique giving reasons. (25%)

*Handwritten:* Macbr copy

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

**MD (ANAESTHESIOLOGY) FINAL EXAMINATION – MARCH 2019**

**Date :-** 29<sup>th</sup> March 2019

**Time:-** 1.00 p.m. – 4.00 p.m.

**SHORT ANSWER QUESTIONS**

**Candidates are required to answer all twelve (12) questions.  
Candidates who fail to attempt any one (01) question will not pass the examination.**

**All questions carry equal marks.**

**Answer each question in a separate book marked A and B**

**PART A**

1.

- 1.1. What is Hypertrophic Cardiomyopathy (HCM)? (05%)
- 1.2. What are the main clinical features of HCM? (25%)
- 1.3. What preoperative precautions could you take to minimise risk to a patient requiring anaesthesia? (25%)
- 1.4. Outline the main specific aims of perioperative care in these patients. (45%)

2.

- 2.1. What are the uses of flow, volume and pressure graphic displays on a ventilator? (40%)
- 2.2. Illustrate graphically how auto PEEP alters pressure, flow and volume-time scalar in volume controlled ventilation (VCV). (30%)
- 2.3. What measures can you adopt to overcome auto-PEEP? (30%)

Contd...../2-

3. A 68-year-old man presents for a carotid endarterectomy. He has suffered two episodes of transient ischaemic attacks in the last two weeks. A carotid duplex demonstrates a 75% occlusion of the right internal carotid artery.
  - 3.1. What significant information would you like to obtain from the history preoperatively? (20%)
  - 3.2. What measures would you adopt to prevent a perioperative stroke? (40%)
  - 3.3. How would you monitor cerebral perfusion? (20%)
  - 3.4. List postoperative complications of a carotid endarterectomy. (20%)
  
4.
  - 4.1. Describe the anatomy of the thoraco-lumbar fascial planes with an illustration. (40%)
  - 4.2. Briefly describe how you would perform the lateral quadratus lumborum block. (40%)
  - 4.3. What are the side effects and complications of this block? (20%)
  
5. A 30-year-old female presents for release of a contracture of the neck. She gives a history of a 50% burn injury 3 months ago. Her current BMI is 20kg/m<sup>2</sup>.
  - 5.1. List the specific pre-operative problems you would encounter in this patient. (25%)
  - 5.2. What are the available options to secure her airway? Explain with reasons. (40%)
  - 5.3. What intra operative problems would you encounter? Outline how you would minimize them. (35%)

- 6.
- 6.1. What are the anatomical differences between exomphalos and gastroschisis? (15%)
- 6.2. What are the possible treatment strategies practiced for both? (10%)
- 6.3. Outline your specific preoperative (40%), and postoperative (35%) strategies in the management for a newborn with gastroschisis.

### **PART B**

- 7.
- 7.1. Outline the anaesthetic challenges in a patient with acromegaly awaiting pituitary surgery. (60%)
- 7.2. Twelve hours following surgery, the patient's urine output increases to 500 ml/hour for the next 4 hours.
  - 7.2.1. What is the most likely cause? (05%)
  - 7.2.2. How would you confirm the diagnosis and manage? (35%)
8. A 40-year-old lady is scheduled for mastectomy and axillary clearance for carcinoma of her right breast.
  - 8.1. What are the main considerations in the perioperative management of this patient? (50%)
  - 8.2. List the different types of regional analgesic techniques suitable for breast surgery indicating advantages and disadvantages of each. (50%)
- 9.
- 9.1. List the different types of Cardiac Implantable Electronic Devices (CIED) giving indications for their use. (20%)
- 9.2. What functions of CIED need deactivation before surgery? (15%)
- 9.3. How would you minimize intraoperative electromagnetic interference on the CIED? (40%)
- 9.4. Enumerate the precautions taken post operatively with regard to CIED. (25%)

10. A 25-year-old boy has been scheduled for shoulder surgery on the beach chair and an interscalene block has been planned to provide post operative analgesia.

10.1. List the special problems you may encounter in this position. (40%)

10.2. Outline the strategies you would use to minimize these problems. (30%)

10.3. What are the complications of interscalene block? (20%)

10.4. List the other post operative analgesic techniques. (10%)

11.

11.1. What are the advantages of off pump coronary artery bypass surgery (OPCAB) over conventional coronary artery bypass surgery (CABG)? (30%)

11.2. What intraoperative problems would you anticipate with OPCAB and how will you minimise them? (40%)

11.3. A patient develops fast atrial fibrillation 3hrs after an OPCAB. The BP is 80/40 mmHg. What is your immediate management? (30%)

12. A 55-year-old smoker with a history of 40 pack years is awaiting a panendoscopy for a lesion in the throat.

12.1. Outline the specific pre-operative concerns in this patient. (30%)

12.2. Briefly describe how you would optimize this patient before surgery. (30%)

12.3. State the intra operative problems and how you would minimise them. (40%)