

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

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

**Date:-** 15<sup>th</sup> August 2019

**Time:-** 9.30 a.m. – 12.30 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.

**PART A**

1.

1.1. What do you understand by the term 'LASER'? (10%)

1.2. What are the hazards of laser surgery? (20%)

1.3. Outline specific anaesthetic precautions taken in patients having upper airway laser surgery? (30%)

1.4. What steps are taken in the management of an airway fire. (40%)

2. A 40 year old patient was admitted to the ICU with isolated traumatic brain injury (TBI) having a GCS of 5/15.

2.1. Describe the specific management of this patient with TBI explaining its physiological basis. (60%)

2.2. What are the prognostic indicators of TBI? (20%)

2.3. How do you differentiate between cerebral salt wasting syndrome and cerebral diabetes insipidus in TBI? (20%)

3.

3.1. What are the indications for flexible bronchoscopy in critical care? (30%)

3.2. Outline the pathophysiological consequences of flexible bronchoscopy on a ventilated patient in ICU? (40%)

3.3. List the circumstances which may increase the risk related to bronchoscopy? (30%)

Contd...../2-

4. A 3 year old girl (10 Kg) with trisomy 21 diagnosed with Tetralogy of Fallot, is scheduled for multiple dental extractions prior to corrective cardiac surgery.
- 4.1. List the features in Trisomy 21 relevant to anaesthetic management. (20%)
- 4.2. What are your considerations in providing anaesthesia for this patient? (25%)
- 4.3. During “WHO time-in” child developed irregular breathing, rapid desaturation and bradycardia
- 4.3.1. What is your immediate diagnosis? (10%)
- 4.3.2. Outline the management giving reasons. (45%)
- 5.
- 5.1. What are the dermatomes that can be blocked by a caudal epidural in a child? (05%)
- 5.2. Enumerate the anatomical considerations for a caudal block. (20%)
- 5.3. How would you perform a caudal block in a 4 year old child weighing 15kg for a hypospadias repair? (40%)
- 5.4. List the complications of a caudal block. (20%)
- 5.5. How do you assess adequacy of pain relief in this child? (15%)
6. A 60 year old lady with a long standing multi nodular goitre presented to the surgical clinic with rapid enlargement on the right side of the neck. She is referred for pre operative assessment and optimization before total thyroidectomy.
- 6.1. Briefly describe the specific problems you would consider in the preoperative assessment giving reasons. (30%)
- 6.2. State the specific investigations you would request with justifications. (20%)
- 6.3. What are the intraoperative considerations? (50%)

**PART B**

- 7.
- 7.1. Explain how capillary fluid dynamics have changed based on the revised Starling equation. (25%)
- 7.2. What is the best type of initial resuscitation fluid for a hypovolaemic patient? (05%)  
Justify with reasons. (20%)
- 7.3. Explain why Plasmalyte A is considered a “good” intravenous solution. (25%)
- 7.4. List the requirements for prescription of daily maintenance fluid for an adult patient. (25%)
8. A 40 year old, ASA 1 patient develops a sudden onset tachyarrhythmia with a blood pressure of 70/30 mmHg while undergoing a complex laparoscopic adhesiolysis. Her O<sub>2</sub> saturation drops to 80%. The capnographic trace shows a sudden drop in ETCO<sub>2</sub> value.
- 8.1. What is the most likely diagnosis? (05%)
- 8.2. List four (04) other possible causes for the above clinical picture. (10%)
- 8.3. What specific monitoring methods are available to arrive at a diagnosis? (30%)
- 8.3. List four (04) other clinical situations which carry a high risk of developing the above diagnosis. (10%)
- 8.5. Outline the immediate management of this patient. (45%)
9. A 25 year old male, ASA 1, has a severely crushed left lower limb following a road traffic accident. He has no other injuries. He was transferred 6 hours after the injury to a tertiary care center.
- 9.1. What are the injuries that you would expect in the limb? (10%)
- 9.2. He is brought for a limb saving surgery. What are your preoperative concerns in this patient? (40%)
- 9.3. Briefly state how you would optimize this patient prior to surgery. (50%)

10. A 52 year old lady is scheduled for electroconvulsive therapy (ECT) for severe bipolar disorder. She is on lithium and fluoxetine. There are no other comorbidities.
- 10.1. What are the specific considerations when providing anaesthesia for ECT? (30%)
- 10.2. What are the contraindications for ECT? (25%)
- 10.3. Briefly describe the cardiovascular effects of ECT. (30%)
- 10.4. What are the anaesthetic implications related to her medication? (15%)
11. Maternal mortality and severe morbidity (near miss) rates are used as important quality indicators of maternal care of a country.
- 11.1. How does WHO define maternal mortality and severe morbidity? (20%)
- 11.1.1. What is the maternal mortality rate in Sri Lanka in year 2017? (05%)
- 11.1.2. What is the trend of MMR over the past few years in Sri Lanka? (05%)
- 11.1.3. How do you compare the MMR with other countries in the South Asian region? (05%)
- 11.2. Name the top four (04) causes of maternal mortality in the year 2017 in Sri Lanka? (20%)
- 11.3. List the main criteria used for identification of a severe morbidity (near miss). (15%)
- Indicate four (04) recognized features for each criterion. (30%)
- 12.
- 12.1. Define chronic post-surgical pain (CPSP). (20%)
- 12.2. Briefly describe the identified risk factors for development of CPSP. (60%)
- 12.3. What are the strategies practiced to prevent CPSP? (20%)

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**Date:-** 16<sup>th</sup> August 2019

**Time:-** 9.30 a.m. – 12.30 p.m.

**LONG ESSAY QUESTIONS**

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

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

1. A 65 year old male is awaiting Whipple's procedure for carcinoma of the head of the pancreas.

1.1. What are your preoperative strategies for a good outcome? (30%)

1.2. Describe the intraoperative anaesthetic considerations? (50%)

Three days post operatively this patient is suspected to have a pancreatic leak.

1.3. Describe the management of this patient in the ICU. (20%)

2. A 75-year-old previously healthy male patient presents to ETU with a difficulty in opening the mouth, pain in the neck and back for 2 days. He has had a nail prick injury to right foot one week before. Clinical examination revealed moderate trismus, rigidity of neck and muscles of abdominal wall with exaggerated tendon reflexes. There is evidence of infection at the site of nail prick injury.

2.1. How would you arrive at a diagnosis of tetanus in this patient? (20%)

2.2. How do you

2.2.1. classify the severity of tetanus? (10%)

2.2.2. predict the development of severe disease? (10%)

2.3. What is your initial management of this patient? (20%)

This patient subsequently develops severe spasms and is admitted to ICU.

2.4. Outline the management of this patient. (40%)

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3. A 27 year old morbidly obese primi in labour is presenting for an emergency caesarean section for foetal distress.
- 3.1. How do you categorize caesarean sections according to urgency? (10%)
- 3.2. Describe the management of this mother from the time of decision making up to the arrival at the operating theatre giving reasons. (40%)
- 3.3. Discuss the anaesthetic options available. (50%)
4. An 80 year old female is referred to you for preoperative evaluation for revision hip replacement.
- 4.1. Outline the important considerations during preoperative assessment. (20%)
- 4.2. How would you optimize this patient? (20%)
- 4.3. What specific problems would you anticipate during the intraoperative period? (20%)
- 4.4. Describe your intraoperative anaesthetic management by mentioning the measures you would take to overcome above problems. (40%)