POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

Master COM

MD (ANAESTHESIOLOGY) FINAL EXAMINATION – MAY 2026

Date:- 7th May 2026 **Time:-** 9.30 a.m. – 12.30 p.m.

SHORT ANSWER QUESTIONS

Candidates are requried 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. A 58-year-old man is scheduled for an elective right hemimandibulectomy for a cancer recurrence. He gives a history of wide local excision of a right buccal cancer followed by radiotherapy. His mouth opening is one finger breadth and thyromental distance is 3 cm.

1.1. Define a difficult airway. (20%)

1.2. List four (04) specific preoperative investigations for assessment of his airway. (20%)

1.3. State with reasons the most appropriate method to secure his airway. (20%)

1.4. Enumerate the important steps and the components in the airway management plan. (40%)

2. A 68-year-old man with hypertension, ischaemic heart disease, and a history of transient ischaemic attack is scheduled for an elective carotid endarterectomy for 80% stenosis of right internal carotid artery.

2.1. Outline the preoperative assessment specific to this patient. (40%)

2.2. Outline how you would manage the intraoperative haemodynamic status. (40%)

2.3. List the methods that you would use to monitor cerebral perfusion. (20%)

Contd..../2-

3. A 45-year-old previously healthy woman is scheduled to undergo laparoscopic assisted vaginal hysterectomy (LAVH) for severe endometriosis.

3.1. What is the recommended position for this surgery? (10%)

3.2. List the effects of pneumoperitoneum and the above position on:

3.2.1. Cardiovascular system

3.2.2. Respiratory system

3.2.3. Central nervous system (40%)

3.3. State five (05) strategies used to prevent peripheral nerve injuries in this patient. (20%)

3.4. List three (03) anticipated postoperative complications and state the measures to overcome them. (30%)

4. A 3-year-old child weighing 12 kg is brought to the emergency department two hours after swallowing a 20 mm Lithium button battery.

He is drooling and irritable. His SpO_2 is 98% on room air. A chest radiograph shows a foreign body at the level of T2, consistent with oesophageal button battery impaction.

The child had consumed a full meal one hour before the incident.

4.1. Enumerate your preoperative anaesthetic concerns specific to this patient and state the preparation. (40%)

4.2. Outline the intraoperative management for endoscopic removal of the battery. (40%)

4.3. List four (04) specific complications in the postoperative period. (20%)

Contd..../3-

5. A 55-year-old man with a diagnosis of a medulloblastoma in the posterior fossa is scheduled for an elective craniotomy and tumour resection.

5.1. State the important structures of the posterior fossa. (20%)

5.2. Outline the anaesthetic concerns pertinent to this surgery. (30%)

5.3. During tumour resection, there is a sudden rise in pulse rate to 123 beats/minute, a drop in blood pressure to 80/60 mmHg and $ETCO_2$ to 18 mmHg.

5.3.1. Give the most probable diagnosis. (10%)

5.3.2. Name two (02) additional monitoring techniques used to detect this condition. (20%)

5.3.3. Briefly discuss the management of this condition. (20%)

6. A 45-year-old man with a history of Type I diabetes mellitus and smoking of 20 pack years, is scheduled for a free flap reconstruction of a lower limb defect following a traumatic injury sustained four weeks back.

6.1. List preoperative concerns. (25%)

6.2. Outline the intraoperative strategies for optimum flap survival. (40%)

6.3.

6.3.1. How is flap failure identified postoperatively? (15%)

6.3.2. Outline the immediate management. (20%)

Contd..../4-

PART B

7. An 85-year-old woman is scheduled for a right hemiarthroplasty following a fracture neck of femur. A Pericapsular Nerve Group (PENG) block is planned for pain relief.

7.1. Draw and label the sonoanatomy related to PENG block. (30%)

7.2. Describe how you would perform the PENG block. (45%)

7.3. List the alternative nerve blocks for pain relief in this patient. (15%)

7.4. What is the main advantage of PENG block over above mentioned nerve blocks? (10%)

8. A 25- year-old, ASA 1 man was brought to Accident and Emergency unit with a history of blunt trauma to the abdomen. On examination, he is severely pale. His GCS is 14/15, respiratory rate 20/minute, SpO_2 on room air 96%, blood pressure 70/40 mmHg, heart rate 130 beats/minute. FAST scan was positive.

He was rushed to the operating room for emergency laparotomy, with a crystalloid infusion and face mask oxygen.

8.1. Outline the principles of haemostatic resuscitation giving reasons. (40%)

A grade IV splenic laceration and large bowel contusion were noted and splenectomy was performed.
He developed a tense abdomen on the 3rd postoperative day in the ICU. Intra-abdominal hypertension (IAH) was suspected.

8.2. List the risk factors for IAH in this patient. (25%)

8.3. Enumerate the steps to minimise the progression of IAH. (35%)

Contd..../5-

9. A 48-year-old woman underwent a right mastectomy two years ago. She is being followed up at the oncological clinic for metastatic recurrence. She was referred to the pain clinic with poorly controlled pain.

9.1. Outline the possible causes contributing to pain in this patient. (35%)

9.2. She has been prescribed oral morphine.
Outline the key considerations for morphine prescription. (30%)

9.3. List the non-pharmacological approaches for her pain management. (20%)

9.4. List five (05) interventional procedures for her refractory right anterior chest wall pain. (15%)

10. A 25-year-old previously asymptomatic primi mother with an atrial septal defect (ASD) and moderate pulmonary hypertension, presented with shortness of breath and exertional dyspnoea at POA of 33 weeks.

10.1. Outline the physiological changes in the cardiovascular system that lead to shortness of breath at POA of 33 weeks. (25%)

10.2. An urgent caesarean section was planned under CSE due to worsening symptoms.
List the anaesthetic concerns. (30%)

10.3. Intraoperatively, patient developed worsening of shortness of breath and desaturated to 90% on 4L oxygen. Heart rate was 120 beats/minute and blood pressure was 85/50 mmHg.

10.3.1. What is the most likely diagnosis? (05%)

10.3.2. Outline the management of this condition. (25%)

10.4. List five (05) other causes for shortness of breath related to pregnancy. (15%)

Contd..../6-

11. A 55-year-old man with a history of COPD is admitted to ICU with an acute exacerbation. He was in respiratory distress.

His GCS is 15, respiratory rate 30 breaths/minute, SpO_2 on room air is 80%.

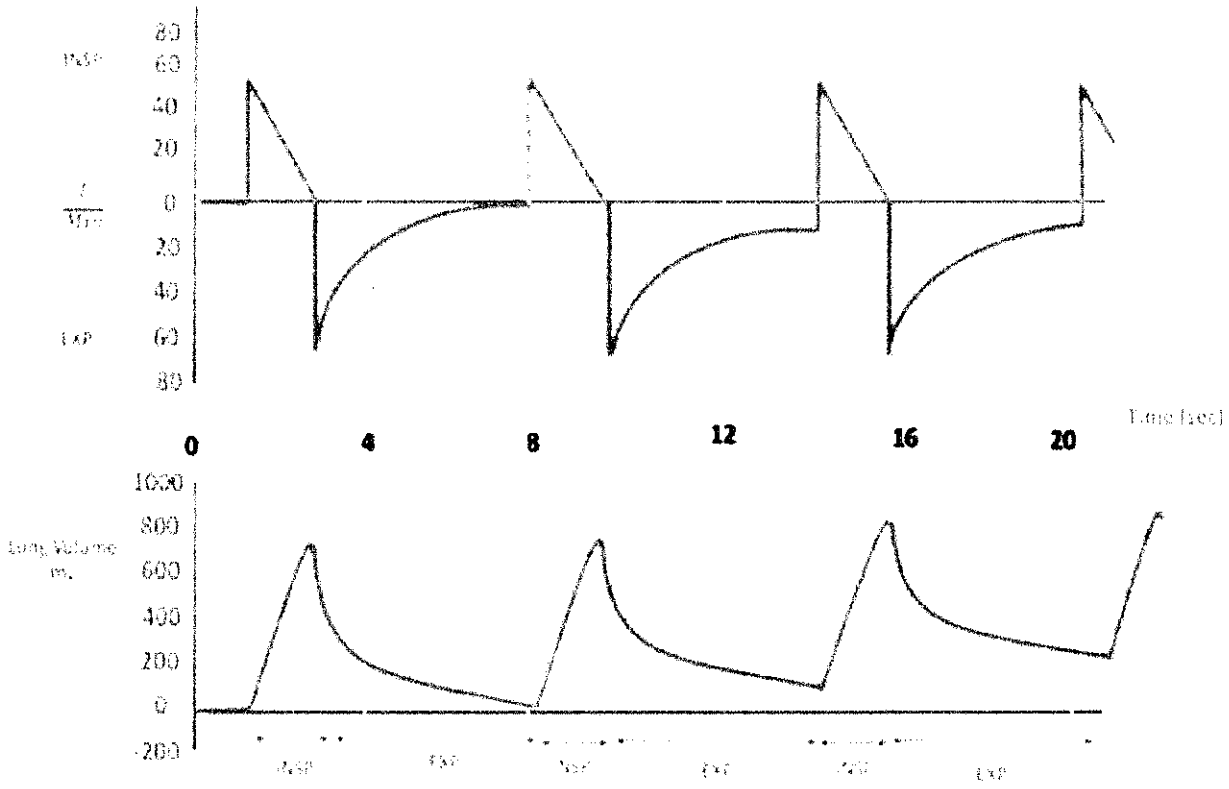
ABG (on FiO_2 0.4) revealed a PaO_2 of 60 mmHg and $PaCO_2$ 70 mmHg. A decision is taken to start non invasive ventilation (NIV) on Bi-Level mode.

11.1. Enumerate five (05) goals of initial respiratory management. (20%)

11.2. State the basic NIV settings indicating the values/range of values for the above patient. (30%)

Despite NIV, patient's respiratory distress worsened. He was intubated and ventilated with all supportive therapies. However, his oxygenation further decreased and ventilator dyssynchrony was noted.

Ventilation graphs appeared as below:



11.3. What is the most likely diagnosis? (10%)

11.4. Outline the impact of the above diagnosis on his lung mechanics. (20%)

11.5. Indicate three (03) parameters that you would change in the ventilator settings to overcome the effects of the impact mentioned in 11.4, giving reasons. (20%)

Contd..../7-

12. A 66-year-old man with a history of hypertension and ischaemic stroke is scheduled to undergo off pump coronary artery bypass grafting (OPCABG) surgery in an enhanced recovery pathway.

12.1. List three (03) specific preoperative blood investigations used for risk stratification and justify their clinical importance with values. (20%)

12.2. Enumerate with reasons, the additional monitoring required for this patient (other than AAGBI-recommended standard monitoring). (30%)

12.3. List pre and intraoperative components of a surgical site infection (SSI) prevention bundle specific to CABG. (25%)

12.4. Outline the cardiovascular criteria required for early tracheal extubation in the intensive care unit. (25%)