ANAESTHESIOLOGY

PAPER-I

Time: 3 hours
Max. Marks : 100

Attempt all questions in order.
Each question carries 10 marks.

1. What is the differential diagnosis of intra-operative bronchospasm? How will you manage it? 3+7

2. Discuss indications and techniques of renal replacement therapy. Discuss role of CRRT in septic shock. 5+5

3. Enumerate various approaches for central venous cannulation. Describe the technique and complications of internal jugular venous cannulation. 2+(4+4)

4. Discuss the regulation of intracranial pressure. Describe the methods available for reducing it under anaesthesia. 5+5

5. Discuss indications, technique and complications of caudal epidural block in children. 3+4+3

6. Define monitored anaesthesia care. Discuss its goals and techniques. 2+(3+5)

7. Discuss the perioperative problems and anaesthetic management of a one year old child with hydrocephalus scheduled for shunt procedure. 5+5

8. Discuss pharmacokinetics and pharmacodynamics of dexmedetomidine. What is its role in clinical practice? 5+5

9. Define and classify dead space ventilation. Define minute ventilation. Under what conditions is minute ventilation increased? 5+2+3

10. Discuss the pre-operative evaluation of a patient with ischaemic heart disease. Discuss the perioperative monitoring for myocardial ischaemia and its management. 4+(3+3)

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POSSSESSION/USE OF CELL PHONES OR ANY SUCH ELECTRONIC GADGETS IS NOT PERMITTED INSIDE THE EXAMINATION HALL
Attempt all questions in order. Each question carries 10 marks.

1. How would you assess a case of septic shock due to pancreatitis? Briefly discuss its management.  
   4+6

2. Discuss the various criteria for weaning a patient from prolonged mechanical ventilation.  
   10

3. What are the physiological functions of magnesium? Describe its therapeutic uses in anaesthesia.  
   5+5

4. Describe the anatomy of larynx and its innervation. What are the differences between neonatal and adult larynx?  
   4+3+3

5. What are the different types of carbon dioxide absorbents? Describe their composition. Discuss the advantages and disadvantages of each.  
   3+3+4

6. What are the objectives of premedication in a patient scheduled for elective caesarean section? Describe the drugs used with their doses and rationale.  
   4+6

7. Briefly outline the evaluation and management of a patient with suspected perioperative coagulopathy.  
   4+6

8. Discuss the preoperative evaluation of a 25 year old man with obstructive sleep apnea scheduled for laparotomy. How would you prepare him for surgery?  
   5+5

9. Describe the toxicity of commonly used local anaesthetic agents and its management.  
   5+5

10. Discuss the anaesthetic problems in robotic surgery.  
    10

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1. Discuss the preoperative evaluation and anaesthetic management of a 70 years old hypertensive patient for total laryngectomy. 5+5

2. Discuss the etiology and management of supraventricular arrhythmias during surgery under general anaesthesia. 4+6

3. What are the clinical features of Myasthenia Gravis? Discuss perioperative evaluation and anaesthetic management of a case presenting for Interval Appendectomy. 3+(3+4)

4. What are the various routes of administration of morphine? Discuss the pharmacokinetics and pharmacodynamics of epidural morphine. 2+(4+4)

5. Discuss preoperative evaluation and anaesthetic management of a 40 years old hyperthyroid patient posted for total thyroidectomy. Enumerate postoperative complications. (3+4)+3

6. What is capnography? Draw a labeled diagram of normal capnograph and discuss clinical considerations of capnography (EtCO₂ monitoring). 2+(3+5)

7. Discuss causes, clinical manifestations and treatment of hypercalcemia. What are their anaesthetic considerations? (2+2+2)+4

8. Discuss the criteria for patient selection, contraindications, advantages and disadvantages of autologous blood transfusion. 3+3+2+2

9. How would you evaluate and prepare a patient with chronic bronchiectasis scheduled for pneumonectomy? Briefly enumerate the postoperative complications. 7+3

10. Describe the counter current mechanism in the kidney. Discuss the renal protection strategies during perioperative period. 4+6

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ANESTHESIOLOGY

PAPER-IV

Time: 3 hours
Max. Marks : 100

Attempt all questions in order.
Each question carries 10 marks.

1. Enumerate the safety features in a modern anesthesia machine.
   Describe the hypoxia prevention safety devices. 5+5
2. How is autonomic neuropathy evaluated preoperatively? What is its significance in anesthesia? 5+5
3. Discuss the different types of colloid solutions. Describe their advantages and disadvantages. 5+5
4. Discuss the signs and symptoms, pathophysiology and management of cyanide toxicity. 3+3+4
5. Describe anatomy of paravertebral space with diagram. Describe one method of establishing paravertebral block. 5+5
6. What are the anaesthetic considerations for day care surgery? Discuss the clinical criteria for recovery and discharge after day care surgery. 2+(2+6)
7. Classify hypothermia. Describe the pathophysiological effects of hypothermia. 3+7
8. Describe Bernoulli’s principle and its various applications in anaesthesia. 5+5
9. Explain the term ‘Complex Regional Pain Syndrome (CRPS)’. What are the types of CRPS? Describe its clinical features and options for treatment. 2+2+6
10. Enumerate the environmental hazards in the operation theatre and discuss the methods for its prevention. 4+6

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