

MANIPAL ACADEMY OF HIGHER EDUCATION
PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2022

PAPER I

Friday, April 01, 2022

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

1. Describe the arterial circulation of the heart with the aid of a diagram. Mention the unique features of coronary blood flow. Discuss factors affecting oxygen demand and supply to the myocardium.

(15 marks)

2. Enumerate the major factors that determine the nerve conduction blocking properties of a local anaesthetic. Describe the toxicity of commonly used local anaesthetic agents and its management.

(15 marks)

3. **Write short notes on:**

3A. Describe Bernoulli's principle and its various applications in anaesthesia.

3B. Causes and prevention of awareness under anaesthesia.

3C. Describe the anatomy of IJV with the help of a diagram. Discuss any one approach for IJV cannulation.

3D. Define FRC. What is its significance in anaesthesia?

3E. Regulation of Intracranial pressure.

3F. What are the major buffer systems in the body? Enumerate the causes, effects and management of metabolic acidosis.

3G. Define diffusion hypoxia and second gas effect. How are they of importance to the anaesthetist?

3H. Role of humidification in anaesthesia practice.

3I. Describe the anatomy of larynx with difference in adult and children. What is importance of recurrent laryngeal nerve in anaesthesia practice?

3J. Describe consent in anaesthesia practice including ethical and legal aspects.

(7 marks × 10 = 70 marks)



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PAPER II

Saturday, April 02, 2022

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer to the point as padding of answers will not fetch extra marks.

✍ Illustrate your answer with diagrams where appropriate.

1. Describe the theories of action of a local anaesthetic drug injected for sub-arachnoid block. Outline the complications of spinal anaesthesia. Describe the management of total spinal block.

(15 marks)

2. A six year old child with a ventricular septal defect, diagnosed at birth with a current size of 1 cm² with a left to right shunt and moderate pulmonary arterial hypertension is now posted for a laparoscopic appendicectomy. Describe the preoperative evaluation and intraoperative management and postoperative concerns in this case.

(15 marks)

3. **Write briefly on:**

3A. Compare and contrast hypertonic saline with mannitol for reduction of intracranial tension.

3B. Cerebral protection in intracranial aneurysm surgery.

3C. Choice of intravenous fluids in neonates undergoing surgery.

3D. Management of laryngospasm in an infant during induction of anaesthesia.

3E. Preoperative evaluation and optimisation of a patient, a chronic smoker with chronic obstructive pulmonary disease scheduled for open cholecystectomy.

3F. Discuss any three lung isolation techniques available for lobectomy in adults. Enumerate any two advantages disadvantages of each.

3G. A 20 year old male with temporomandibular joint ankylosis is posted for release of the same. His mouth opening is less than one finger breadth. What are the options available for securing the airway? Explain any one technique in detail.

3H. A 35 year old apprehensive female has a cervical fracture at C₄-C₅ level with no spinal cord injury. She is now posted for an anterior stabilization. Enumerate the options available for securing her airway? Describe any one in detail.

3I. What are the preoperative and intraoperative concerns for a 55 year old lady with a large ovarian tumour and ascites but no other comorbidities posted for surgical excision?

3J. Describe the physiological changes that occur during pregnancy with reference to respiratory and gastrointestinal system.

(7 marks × 10 = 70 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION**PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2022****PAPER III**

Monday, April 04, 2022

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Essay Questions:**

1. Draw a labelled diagram of labor pain pathway. Describe the various regimens for painless labour.

(15 marks)

2. Discuss in detail the etiology, pathophysiology, diagnosis and treatment of fat embolism syndrome.

(15 marks)

3. **Write short notes on:**

3A. What do you mean by the golden hour in trauma? Discuss the role of anesthetist in resuscitation of trauma.

3B. Trigeminal neuralgia: clinical features and management.

3C. Outline the various modalities for management of postoperative pain following major abdominal surgery. Enumerate the differences between acute and chronic pain.

3D. What are the limitations and hazards of providing anaesthesia in the MRI suite? Describe the anaesthetic management of a 6 months old child with hydrocephalus scheduled for MRI.

3E. Describe the in-hospital management of Organophosphorus poisoning.

3F. A 65-year-old patient, chronic cigarette smoker is admitted to emergency department with acute respiratory distress and altered sensorium. His ABG reveals Pao₂ 50 mmHg, Paco₂ 85 mmHg, pH-7.10. Discuss your plan of management.

3G. Criteria for weaning from prolonged ventilation.

3H. Describe the BLS measure in an adult, who has been brought into the emergency room of the hospital; in a state of cardiac arrest.

3I. Role of vasopressors in septic shock.

3J. Non- invasive ventilation (NIV): advantages, disadvantages and methods of administration

(7 marks × 10 = 70 marks)

