

Reg. No.

MANIPAL UNIVERSITY

PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2017

SUBJECT: PAPER I: BASIC SCIENCES AS APPLIED TO ANAESTHESIOLOGY: ANATOMY, PHYSIOLOGY, PHARMACOLOGY AND BIOCHEMISTRY, ETHICS, QUALITY ASSURANCE, MEDICOLEGAL ASPECTS

Monday, April 03, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

☞ Answer all questions.

1. Classify the anaesthesia vaporisers with examples. Briefly explain *pumping effect* and *pressurising effect* with respect to vaporisers. Explain various safety systems incorporated in the modern vaporisers.

(15 marks)

2. With the help of labelled diagram explain the bronchopulmonary segments. Explain the position and technique of postural drainage for each bronchopulmonary segment.

(15 marks)

3. Write short notes on:

3A. Management of intraoperative ventricular tachycardia.

3B. Factors affecting peripheral vascular resistance.

3C. Inhalational anaesthetic agents and neuroanaesthesia.

3D. Anaesthetic consideration of hypothyroidism.

3E. Clinical presentation, ECG changes and treatment of hyperkalaemia.

3F. Management of bupivacaine toxicity.

3G. With suitable examples explain the terms *zero-order* kinetics and *first-order* kinetics.

3H. Explain the technique of superior laryngeal nerve block and glossopharyngeal nerve block.

3I. Transversusabdominis plane (TAP) block.

3J. Write a short note on informed consent, including its relevance in the paediatric age group.

(7 marks × 10 = 70 marks)



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PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2017

SUBJECT: PAPER II: PRINCIPLES AND TECHNIQUES OF ANAESTHESIA
INCLUDING REGIONAL ANAESTHESIA

Tuesday, April 04, 2017

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 pre-operative evaluation and intra-operative management of a patient with right sided bronchiectasis scheduled for pneumonectomy. Add a note on post-operative analgesia for this patient.

(15 marks)

2. Classify types of burns. What are the anaesthetic implications if a patient with burns involving the lower part of the neck, chest, abdomen and limbs is scheduled for tangential excision after six months?

(15 marks)

3. **Write short notes on:**

- 3A. Indications, contraindications and advantages of caudal block in children.
- 3B. Options available for easy parental separation of children scheduled for surgery.
- 3C. Management of air embolism during neurosurgery in sitting position.
- 3D. Role of dexmedetomidine in neurosurgery.
- 3E. Describe the technique of three-in-one block. Name any two complications of this block.
- 3F. Discuss the technique and the drugs used for providing walking epidural analgesia.
- 3G. A 68 year old male who underwent a three vessel Coronary Artery Bypass Grafting (CABG) has a persistently low blood pressure of 70/40mm Hg on coming off the cardiopulmonary bypass. Explain the various management options available to optimise this situation.
- 3H. Discuss the techniques of myocardial preservation during coronary artery bypass grafting.
- 3I. Discuss the preoperative and intraoperative concerns of a primigravida at 24 weeks of gestation with acute appendicitis for laparoscopic appendicectomy.
- 3J. Define preeclampsia. Discuss the clinical and laboratory features of severe preeclampsia. Compare advantages and disadvantages of general versus regional anaesthesia for this condition.

(7 marks × 10 = 70 marks)

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PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2017

SUBJECT: PAPER III: ANAESTHESIA IN RELATION TO ASSOCIATED SYSTEMIC DISEASES, INTENSIVE CARE MEDICINE, PAIN MEDICINE

Wednesday, April 05, 2017

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. Discuss the perioperative anaesthetic management concerns in a patient with a body mass index of 40 kg/m² scheduled to undergo laparoscopic cholecystectomy.

(15 marks)

2. Describe briefly the pathophysiology of adult respiratory distress syndrome (ARDS). Discuss the strategies used for mechanical ventilation in a patient with ARDS.

(15 marks)

3. Write short notes on:

3A. Describe the criteria for the diagnosis of *brain death* in an adult.

3B. Discuss the perioperative anaesthetic management concerns in a patient with sick sinus syndrome scheduled for a permanent pacemaker implantation.

3C. Describe the steps of initial assessment and resuscitation of a 20-year old young adult with a history of high-speed road traffic accident brought to the Emergency Department.

3D. Describe the steps for evaluating a patient with suspected perioperative coagulopathy. Enumerate the therapeutic strategies available for the management of this problem.

3E. Describe the initial measures taken to manage a patient admitted to the intensive care unit with septic shock.

3F. Describe the relative merits and demerits of volume-controlled ventilation versus pressure-controlled ventilation.

3G. Discuss how you will diagnose and treat a case of postdural puncture headache (PDPH).

3H. Discuss the role of epidural analgesia in the management of labour pain.

3I. How do you differentiate between type 1 and type 2 *complex regional pain syndromes (CRPS)*? Enumerate the treatment options available to manage the same.

3J. With the help of diagrams, explain the anatomy and technique of *coeliac plexus block*.

(7 marks × 10 = 70 marks)

