

MANIPAL UNIVERSITY**PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2015****SUBJECT: PAPER I: BASIC SCIENCES AS APPLIED TO ANAESTHESIOLOGY: ANATOMY, PHYSIOLOGY, PHARMACOLOGY AND BIOCHEMISTRY, ETHICS, QUALITY ASSURANCE, MEDICOLEGAL ASPECTS**

Wednesday, April 01, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

1. Explain the mechanism of spontaneous respiration. Discuss how positive pressure ventilation differs from spontaneous respiration and its effects on different organ systems. Explain the terms minute ventilation and alveolar ventilation.
(15 marks)
2. Draw a labelled diagram of Brachial plexus. Explain any one technique of axillary approach to brachial plexus block. Which important nerve is often missed with this technique? Describe how you would block that nerve.
(15 marks)
3. **Write short notes on:**
 - 3A. Draw a labelled diagram and explain the pressure waves as recorded from central venous catheter.
 - 3B. Outline the steps of management of intraoperative atrial fibrillation under general anaesthesia.
 - 3C. What are the reasons for anaemia in chronic renal failure patients? How does the body compensate for this?
 - 3D. With respect to hepatic drug metabolism, explain the terms Phase I and Phase II reactions.
 - 3E. Metabolic acidosis and management.
 - 3F. Discuss the current recommendations and controversies regarding the role of colloids in resuscitation.
 - 3G. Compare and contrast the intravenous induction agents propofol and etomidate.
 - 3H. Minimum mandatory monitoring during anaesthesia.
 - 3I. Write briefly on principle behind pulse oximetry and the limitations of this monitor.
 - 3J. Briefly discuss ethical issues relevant to organ transplantation in the scenarios of donation after brain death.

(7 marks × 10 = 70 marks)



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PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2015

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

Thursday, April 02, 2015

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 concerns and anaesthetic management of a 35 year old male patient with pituitary adenoma and features suggestive of acromegaly posted for transnasal excision of the tumour.

(15 marks)

2. Discuss the anaesthetic management of a one day old neonate weighing 3 Kg scheduled for trachea-oesophageal fistula repair.

(15 marks)

3. Write briefly on:

3A. Describe the technique of interscalene brachial plexus block using the nerve stimulator. Name any two complications.

3B. Amniotic fluid embolism.

3C. Describe the management of hypoxaemia during one-lung ventilation for a patient undergoing right upper lobectomy.

3D. Describe the three-legged stool approach used for preoperative evaluation of a patient undergoing pulmonary surgery.

3E. Enumerate the techniques of myocardial preservation during coronary artery bypass grafting.

3F. A 60 year old male with carcinoma colon is posted for hemicolectomy. He is a known diabetic and hypertensive patient with a history of myocardial infarction one year ago and underwent percutaneous coronary intervention with placement of a drug eluting stent and is on appropriate antiplatelet treatment now. He is currently able to climb a flight of stairs. Discuss the stepwise approach to his preoperative cardiac risk stratification and assessment.

3G. Describe the plan of airway management in a patient with trismus due to Ludwig's angina for decompression of the abscess.

3H. Describe the algorithm for management of failed intubation in a parturient.

3I. What are the different types of obstetric haemorrhage? Give examples of each. Discuss briefly, the management of a lady with placenta previa for emergency caesarean section.

3J. A primigravida with no known comorbidities in the second stage of labour is now scheduled for emergency caesarean section in view of non-progress of labour. She has an epidural catheter established in the first stage and has an infusion of 0.1% bupivacaine with 2µg/ml on flow. Describe your plan of anaesthesia for the caesarean section.

(7 marks × 10 = 70 marks)



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PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2015
SUBJECT: PAPER III: ANAESTHESIA IN RELATION TO ASSOCIATED SYSTEMIC
DISEASES, INTENSIVE CARE MEDICINE, PAIN MEDICINE

Saturday, April 04, 2015

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 initial management plan of a patient with acute major burns. Briefly describe the perioperative anaesthetic management of the same patient scheduled for tangential excision of 30% burnt area at a later date.
(15 marks)
2. Discuss the management algorithm for a victim of cardiac arrest with pulseless electrical activity. Add a note on the immediate care of this victim following return of spontaneous circulation.
(15 marks)
3. Write briefly on:
 - 3A. Classify haemorrhagic shock as outlined by the American College of Surgeons.
 - 3B. Discuss the problems associated with massive transfusion of preserved blood.
 - 3C. Discuss the measures that can be taken to prevent/treat atelectasis during mechanical ventilation.
 - 3D. Enumerate the criteria to establish systemic inflammatory response syndrome (SIRS). Discuss the management principles for SIRS.
 - 3E. Discuss how you will calculate the energy requirements for total parenteral nutrition in an adult patient admitted to the intensive care unit for chronic pancreatitis.
 - 3F. Discuss the noninvasive ventilation strategy in a patient with chronic obstructive pulmonary disease.
 - 3G. Discuss the mechanism of action, clinical uses, side effects and dosage of dexmedetomidine in anaesthesia.
 - 3H. Enumerate the methods available for pain relief in a child weighing 10 kg for an elective circumcision. Describe in detail any one technique.
 - 3I. Briefly describe the modalities of pain relief in a patient diagnosed to have advanced cervical cancer with distant metastasis.
 - 3J. Enumerate the options available for analgesia in a patient suffering from trigeminal neuralgia. Briefly discuss any one technique.

(7 marks × 10 = 70 marks)

