

**MANIPAL ACADEMY OF HIGHER EDUCATION****PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2018****SUBJECT: PAPER I: BASIC SCIENCES AS APPLIED TO ANAESTHESIOLOGY: ANATOMY, PHYSIOLOGY, PHARMACOLOGY AND BIOCHEMISTRY, ETHICS, QUALITY ASSURANCE, MEDICOLEGAL ASPECTS**

Monday, April 02, 2018

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

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

✍ **Illustrate your answer with diagrams where appropriate.**

1. Discuss the physiology of cerebrospinal fluid (CSF) formation and its circulation. Enumerate the various options available for assessing the intracranial pressure (ICP). Add a note on the measures to control ICP.

(15 marks)

2. Discuss in detail the factors that affect uptake and distribution of inhalational anaesthetics. Add a note on second gas effect.

(15 marks)

3. **Write short notes on:**

3A. Describe briefly the mechanical events during a normal cardiac cycle.

3B. Discuss the cardiopulmonary changes that are seen with the Trendelenburg and anti-Trendelenburg positions under general anaesthesia.

3C. What are the different methods of measurement of functional residual capacity (FRC)? What is the clinical significance of FRC to the anaesthesiologist?

3D. Draw and label a normal oxygen dissociation curve, with due attention to the P<sub>50</sub>, venous point and the arterial point. Denote on the diagram, how would the ODC change in the following situations: i) the haemoglobin is of foetal type ii) haemoglobin is 5 g% iii) if the pH is 7.0 iv) body temperature of 28° C.

3E. Describe the parts of a flowmeter assembly. Discuss the arrangement of flowmeters and their significance.

3F. Describe briefly the working principle of a temperature probe available on a multimodular monitor. What are the effects of accidental intraoperative hypothermia? Add a note on deliberate alterations of temperature for surgical and therapeutic purposes perioperatively.

3G. Illustrate with the help of diagrams, the functional analysis of **Any ONE** coaxial breathing system.

3H. Describe with the help of a diagram, the anatomy of the wrist as relevant to a wrist block. Describe **Any ONE** technique of wrist block.

3I. Describe how you would identify the caudal epidural space and institute a caudal block for a 3 year old child scheduled for urethroplasty.

3J. Discuss Withdrawal vs Withholding therapy in the context of 'Do-not-resuscitate' orders.

(7 marks × 10 = 70 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION****PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2018****SUBJECT: PAPER II: PRINCIPLES AND TECHNIQUES OF ANAESTHESIA  
INCLUDING REGIONAL ANAESTHESIA**

Tuesday, April 03, 2018

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✘ **Answer ALL the questions.**

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

✘ **Illustrate your answer with diagrams where appropriate.**

1. Describe the anaesthetic management of a full term primigravida with mitral stenosis (valve area of 1.2 cm<sup>2</sup>) in congestive cardiac failure scheduled for Urgent Caesarian section.

(15 marks)

2. Describe the anaesthetic management of a 3 month old child posted for cleft lip and anterior palate repair.

(15 marks)

3. **Write briefly on:**

3A. Glasgow coma scale

3B. Tension pneumothorax

3C. Accidental dural puncture

3D. Cerebral dehydrating agents

3E. Peak expiratory flow rate

3F. Retinopathy of newborn

3G. Anaesthetic considerations in open eyeball injury

3H. Predictors of difficult mask ventilation

3I. Protamine sulphate

3J. Complications of supraclavicular brachial plexus block

(7 marks × 10 = 70 marks)



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## MANIPAL ACADEMY OF HIGHER EDUCATION

PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – APRIL 2018

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

Wednesday, April 04, 2018

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Answer to the point as padding of answers will not fetch extra marks.**
- ✍ **Illustrate your answer with diagrams where appropriate.**
1. A 90 year old patient with controlled hypertension on ACE inhibitors is scheduled for transurethral resection of prostate. Discuss the preoperative preparation, anaesthetic management, intra- and postoperative complications and their management. (15 marks)
2. A 25 year old male, after being in a high speed motor vehicle accident, is admitted to the casualty with fracture lower ribs of the left side with a blood pressure of 70/40 mm Hg, feeble pulse with a rate of 140/min and pallor. He is also unresponsive. Describe in detail, along with the rationale, how you would provide the initial management to this trauma victim. (15 marks)
3. **Write short notes on:**
- 3A. Cardioversion
- 3B. APGAR scoring system
- 3C. Weaning criteria in COPD patients on ventilator
- 3D. Bundled care for sepsis
- 3E. Postoperative analgesia for a child operated for inguinal hernia
- 3F. Stellate ganglion block
- 3G. Entonox in labour analgesia
- 3H. Thromboelastography
- 3I. Near drowning
- 3J. Current concepts on perioperative use of nitrous oxide

(7 marks × 10 = 70 marks)

