



होमी भाभा राष्ट्रीय संस्थान
Homi Bhabha National Institute

(Tata Memorial Centre)

Dr. Ernest Borges Marg, Parel Mumbai – 400 012

Theory Examination – MD Anaesthesia

May – June 2014

Paper I

Paper 1 : Basic Sciences Related to Anaesthesia

Duration: 3 hours

Total marks: 100

Instructions:

- Use blue/black pens only
 - Draw diagrams and flow charts where necessary
 - The number to the right within brackets indicates full marks
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Question 1

Describe the regulation and maintenance of body temperature. Discuss the causes, complications and management of perioperative hypothermia. (25 marks)

Question 2

Discuss the factors that regulate the uptake, distribution and elimination of inhaled anaesthetic agents. (25 marks)

Question 3

Write short notes on any five of the following: (50 marks)

- a) Cardioversion and defibrillation
- b) Thromboelastography
- c) Enclosed afferent reservoir breathing systems
- d) Mixed venous oxygen saturation
- e) Dermatomal chart of anterior and posterior surfaces of the body
- f) Anion gap



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Paper II

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Question 1

Discuss the causes and management of postoperative hypoxaemia. (25 marks)

Question 2

Discuss the preoperative evaluation and anaesthetic management of a 12-year old girl scheduled to undergo Harrington rod instrumentation for thoracic kyphoscoliosis. Add a note on blood conservation options that you could offer in this situation. (25 marks)

Question 3

Write short notes on any five of the following: (50 marks)

- Resuscitation of a neonate with a 5-minute Apgar score of 3/10
- Cricoid force (Sellick's manoeuvre)
- Soft skills in an anaesthesiologist
- Airway assessment in an adult patient
- Monitored anaesthesia care
- Anaesthesia for electroconvulsive therapy



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Paper III

Duration: 3 hours

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Instructions:

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Question 1

Discuss in detail the preanaesthetic evaluation, preparation and anaesthetic management of a patient with end-stage renal disease scheduled to receive the kidney from a live related donor. (25 marks)

Question 2

Discuss the perioperative anaesthetic management of a 40-year old patient scheduled to undergo excision of a midline posterior fossa tumour in the sitting position. (25 marks)

Question 3

Write short notes on any five of the following: (50 marks)

- a) Oculocardiac reflex
- b) Intravenous regional anaesthesia
- c) WHO regime for chronic pain management
- d) Management of post-tonsillectomy bleeding in a 4-year old boy
- e) Ramsay Sedation Score
- f) Irrigation solutions for transurethral resection of the prostate



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Paper IV

Duration: 3 hours

Total marks: 100

Instructions:

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Question 1

Discuss in brief the various methods of measuring cardiac output. Describe the management of low cardiac output at the end of on-pump coronary artery bypass grafting for triple-vessel coronary disease. (25 marks)

Question 2

Describe in detail the calculation and details of providing nutritional support in the intensive care unit. (25 marks)

Question 3

Write short notes on any five of the following: (50 marks)

- a) Airway management in a patient with polytrauma
- b) Total intravenous anaesthesia
- c) Videolaryngoscopes
- d) Low flow anaesthesia
- e) Ultrasound in anaesthesia and critical care
- f) Rapid sequence spinal anaesthesia for caesarean delivery