



होमी भाभा राष्ट्रीय संस्थान
Homi Bhabha National Institute

(Tata Memorial Centre)

Tata Memorial Hospital
Dr. Ernest Borges Marg, Parel Mumbai – 400 012

MD – Anaesthesia – Paper I

(2011)

Duration: 3 hours

Total marks: 100

Instructions:

- 1) Use blue/black ball point pen only
- 2) Draw diagrams wherever necessary
- 3) The number to the right indicates full marks

Q 1) Long answer question:

Describe regulation of cerebral blood flow. What are the factors that affect intracranial pressure perioperatively? Discuss various methods used to reduce intracranial pressure.

(25 marks)

Q 2) Long answer question:

Describe the physiology of neuromuscular transmission. Discuss how neuromuscular blockers produce neuromuscular blockade. Describe how neuromuscular blockade can be monitored.

(25 marks)

Q 3) Short answer questions: Answer any ***five*** of the following.

(5 x 10 = 50 marks)

- a) Oxygen flux
- b) Alpha receptor agonists
- c) Pulse oximetry
- d) Coaxial breathing systems
- e) Context sensitive half time
- f) Positive end-expiratory pressure



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MD – Anaesthesia – Paper II

(2011)

Duration: 3 hours

Total marks: 100

Instructions:

- 1) Use blue/black ball point pen only
- 2) Draw diagrams wherever necessary
- 3) The number to the right indicates full marks

Q 1) Long answer question:

What are the indications of general anaesthesia during Caesarean section? Describe your plan of management of a failed intubation (Grade III laryngoscopic view) after induction of general anaesthesia in a parturient? Add a note on 'rapid sequence spinal anaesthesia'.

(25 marks)

Q 2) Long answer question:

What is end-stage renal disease? Discuss the anaesthetic implications and perioperative management of a 40-year old male patient (recipient) posted for renal transplant surgery.

(25 marks)

Q 3) Short answer questions: Answer any ***five*** of the following.

(5 x 10 = 50 marks)

- a) Caudal epidural anaesthesia
- b) Anaesthetic implications of laser surgery of the airway
- c) Humidifiers
- d) Stridor after thyroid surgery
- e) Capnography
- f) Postdural puncture headache



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MD – Anaesthesia – Paper III

Duration: 3 hours

(2011)

Total marks: 100

Instructions:

- 1) Use blue/black ball point pen only
- 2) Draw diagrams wherever necessary
- 3) The number to the right indicates full marks

Q 1) Long answer question:

A 24-hour old term neonate is diagnosed to have proximal oesophageal atresia with a distal trachea-oesophageal fistula. Detail the anaesthetic concerns and perioperative management of this case. (25 marks)

Q 2) Long answer question:

Describe the preoperative preparation and management of a 56 year old male with acute exacerbation of chronic obstructive pulmonary disease posted for emergency surgery for obstructed umbilical hernia. (25 marks)

Q 3) Short answer questions: Answer any **five** of the following.

(5 x 10 = 50 marks)

- a) Venous air embolism
- b) Malignant hyperpyrexia
- c) Supine hypotension syndrome
- d) Criteria for discharge after day care surgery
- e) Latex allergy
- f) Pacemakers and anaesthesia



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MD – Anaesthesia – Paper IV

Duration: 3 hours

(2011)

Total marks: 100

Instructions:

- 1) Use blue/black ball point pen only
- 2) Draw diagrams wherever necessary
- 3) The number to the right indicates full marks

Q 1) Long answer question:

Describe the terms sepsis, severe sepsis and septic shock. Describe the principles of management of a patient admitted to the emergency department with septic shock.

(25 marks)

Q 2) Long answer question:

Describe the indications and management of invasive mechanical ventilation in a patient with acute severe asthma. Add a note on its concurrent medical management.

(25 marks)

Q 3) Short answer questions: Answer any five of the following.

(5 x 10 = 50 marks)

- a) Transfusion trigger
- b) Coeliac plexus block
- c) Assessment of pain
- d) Ultrasonography in anaesthesia
- e) Intercostal chest drain
- f) Tachycardia



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Theory Examination MD – Anaesthesia
May – June 2012

Paper I

Paper I: Basic Sciences Related to Anaesthesia

Duration: 3 hours

Total marks: 100

Instructions:

Use blue / black ball point pens only.

Draw diagrams / flow charts whenever necessary.

The number to the right indicates Full marks.

Question Number		Marks
Q. 1	Long Answer Question Describe the anatomy of larynx. Mention the nerve supply of upper airway and larynx. Discuss the technique of upper airway nerve blocks for awake endotracheal intubation	25
Q. 2	Long Answer Question What are the factors affecting cerebral perfusion pressure? Describe anaesthetic problems in a patient with head injury.	25
Q. 3	Short Answer Questions: Answer any five of the following	5 x 10 = 50
	A Ralph Waters	
	B Desflurane versus sevoflurane	
	C Sterilization of Anaesthesia equipments	
	D Amiodaron	
	E Hazards of positive pressure ventilation & its prevention	
	F Regional block for Inguinal hernia repair – HERNIA BLOCK	



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May – June 2012

Paper II

Duration: 3 hours

Total marks: 100

Instructions:

Use blue / black ball point pens only.

Draw diagrams / flow charts whenever necessary.

The number to the right indicates Full marks.

Question Number		Marks
Q. 1	Long Answer Question How will you evaluate and anaesthetize the patient with abruptio placenta posted for emergency cesarean section?	25
Q. 2	Long Answer Question What are the physiological changes in geriatric patients? Describe anaesthetic management of an 80 years old patient with myocardial infarction one month prior posted for femur nailing.	25
Q. 3	Short Answer Questions: Answer any five of the following	5 x 10 = 50
	A Blood conservation strategies	
	B Laryngeal Mask Airway Supreme	
	C Multimodal analgesia	
	D Ankle block	
	E Monitored anaesthesia care for cataract surgery	
	F Brochospasm under anaesthesia	



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Paper III

Paper III: Clinical Sciences like Medicine & Surgery Related to Anaesthesia

Duration: 3 hours

Total marks: 100

Instructions:

Use blue / black ball point pens only.

Draw diagrams / flow charts whenever necessary.

The number to the right indicates Full marks.

Question Number		Marks
Q. 1	Long Answer Question Discuss the pathophysiology of septic shock. Describe the Survival of Sepsis Campaign (SSC) Guidelines for the management of sepsis	25
Q. 2	Long Answer Question Describe the preoperative preparation and anaesthetic management of a neonate for repair of congenital diaphragmatic hernia.	25
Q. 3	Short Answer Questions: Answer any five of the following	5 x 10 = 50
	A Remifentanil	
	B Brain death	
	C Methods of ventilation during bronchoscopy	
	D Transurethral resection of prostate (TURP) syndrome	
	E Postoperative cognitive dysfunction	
	F Anaesthetic considerations in patient with sickle cell anaemia	



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Paper IV

Paper IV: Recent Advances in Anaesthesia

Duration: 3 hours Total marks: 100

Instructions:

Use blue / black ball point pens only.

Draw diagrams / flow charts whenever necessary.

The number to the right indicates Full marks.

Question Number		Marks
Q. 1	Long Answer Question Describe low flow anaesthesia system. What monitoring is essential? Describe advantages, disadvantages and complications of this system.	25
Q. 2	Long Answer Question Discuss Anaesthetic considerations for liver transplant surgery.	25
Q. 3	Short Answer Questions: Answer any five of the following	5 x 10 = 50
	A Anaesthetic considerations for Magnetic Resonance Imaging	
	B Induced hypothermia	
	C Simulators in anaesthesia training	
	D Bispectral index monitoring	
	E Deep vein thrombosis prophylaxis	
	F Sugammadex	



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May – June 2013

Paper I

Paper I: Basic Sciences Related to Anaesthesia

Duration: 3 hours

Total Marks: 100

Instructions:

Use blue/ black ball point pens only.

Draw diagrams and flow charts whenever necessary.

The number to the right indicates full marks.

Q.1: Long answer question

(25)

Describe physiology of lateral decubitus position. Describe in detail the various methods adopted for improving oxygenation during one lung anaesthesia.

Q.2: Long answer question

(25)

Describe the anatomy of caudal space. Describe in detail the indications, contra-indication, technique and various additives used for continuous caudal analgesia.

Q.3: Write short Notes on any five of the following:

(50)

- Plasma Expanders
- Jackson Rees circuit
- W.T.G.Morton
- Dose-response curve
- Functional Residual Capacity
- Use of Capnography in anaesthesia



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May – June 2013

Paper II

Paper II: Theory & Practice of Anaesthesia

Duration: 3 hours

Total Marks: 100

Instructions:

Use blue/ black ball point pens only.

Draw diagrams and flow charts whenever necessary.

The number to the right indicates full marks.

Q.1: Long answer question

(25)

Discuss evaluation and anaesthesia management of a 60 year old diabetic patient with intestinal obstruction for exploratory laparotomy.

Q.2: Long answer question

(25)

Describe the peri-operative management of 2 days old neonate with congenital diaphragmatic hernia for corrective surgery.

Q.3: Write short Notes on any five of the following:

(50)

- Soda lime
- Interscalene block
- Fat embolism
- Informed consent
- Prothombin time
- CVCI



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Paper III

Paper III: Clinical Sciences Related to Anaesthesia

Duration: 3 hours

Total Marks: 100

Instructions:

Use blue/ black ball point pens only.

Draw diagrams and flow charts whenever necessary.

The number to the right indicates full marks.

Q.1: Long answer question (25)

Discuss evaluation and anaesthesia management of a 53 year old patient with carcinoma - head pancreas with obstructive jaundice for Whipple's surgery.

Q.2: Long answer question (25)

Discuss evaluation and anaesthesia management of a patient with PIH for emergency LSCS.

Q.3: Write short Notes on any five of the following: (50)

- Metabolic acidosis
- Local anesthetic toxicity
- Patient controlled analgesia
- Complications of TPN
- Dysrhythmias under anaesthesia
- Monitoring of anaesthesia depth
- Methods to improve cerebral perfusion pressure



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Duration: 3 hours

Total Marks: 100

Instructions:

Use blue/ black ball point pens only.

Draw diagrams and flow charts whenever necessary.

The number to the right indicates full marks.

Q.1: Long answer question (25)

Discuss new concepts in resuscitation of trauma victim. What are the end points of trauma resuscitation?

Q.2: Long answer question (25)

Discuss evaluation and anaesthesia management of a 40 year old female patient with BMI of 40 kg/m² posted for gastric sleeve surgery (Bariatric surgery)

Q.3: Write short Notes on any five of the following: (50)

- Role of TEE in Anaesthesia
- Anaesthesia for MRI
- 2010 guidelines for CPR
- "FAST HUG" in ICU
- Pulmonary vasodilators
- Acute normovolemic haemodilution
- I-gel