

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**MD (ANAESTHESIOLOGY) DEGREE EXAMINATION – APRIL 2019**  
**SUBJECT: PAPER I: BASIC SCIENCES AS APPLIED TO ANAESTHESIOLOGY**

Tuesday, April 02, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essas:**

1. Describe briefly the regulation of acid base balance. Discuss the anion gap approach to investigate metabolic disturbances.

(15 marks)

2. Define loading dose and context sensitive, half life of an intravenous anaesthetic agent. Discuss the similarities and differences between propofol and etomidate with respect to distribution half life, clearance, volume of distribution and protein binding.

(15 marks)

3. **Write briefly on:**

3A. Describe the safety features of anaesthesia machine.

3B. Describe the oxygen cascade.

3C. Define minimal alveolar concentration (MAC), MAC awake, MAC E1 and MAC-BAR. Enumerate the factors that affect the minimal alveolar concentration of an anaesthetic.

3D. Define the terms closing volume, closing capacity and functional residual capacity (FRC). Enumerate the methods used to measure FRC and briefly describe any one of them.

3E. List the bio- chemical and physiological functions of the liver. Discuss the role of the liver in the drug metabolism and excretion.

3F. Describe proseal laryngeal mask airway.

3G. Enumerate various approaches for blocking the sciatic nerve. Describe any one technique in detail.

3H. Discuss the physiologic role of rennin- angiotensin aldosterone axis in the maintenance of internal homeostasis. Explain the relevance of the axis in anaesthesia.

3I. What are the ECG changes seen in Acute Hyperkalemia? Describe the management of Acute Hyperkalemia.

3J. Describe the anatomy of the sacral canal including relevant surface anatomy. Describe the technique of performing a caudal epidural anaesthesia in a 3 year old child weighing 12 kg for inguinal herniotomy.

(7 marks × 10 = 70 marks)



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**MANIPAL ACADEMY OF HIGHER EDUCATION**

**MD (ANAESTHESIOLOGY) DEGREE EXAMINATION – APRIL 2019**

**SUBJECT: PAPER II: ANAESTHESIA IN RELATION TO ASSOCIATE SYSTEMIC DISEASES**

Wednesday, April 03, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. A 20 year old lady is on tab prednisolone 15 mg twice a day for the past 6 months for idiopathic thrombocytopenic purpura. Her platelet count is 35000/mm<sup>3</sup>. Discuss the anaesthetic management of this patient scheduled for elective Splenectomy.

(15 marks)

2. 50 year old man is scheduled for incision and drainage of Ludwig's angina. Outline how you would evaluate him preoperatively and problems anticipated during intubation.

(15 marks)

3. **Write Short notes on:**

3A. Hypotensive anaesthesia for FESS surgery.

3B. Anaesthetic management of extraction of wisdom teeth.

3C. Aorto-caval syndrome.

3D. Anaesthetic consideration in fetal surgery.

3E. Discuss Thyroid function tests.

3F. Discuss the preoperative consideration and preoperative management of a patient posted for laser excision. Write a note on apnoeic oxygenation.

3G. Discuss the preoperative anaesthetic management of a patient posted for laparoscopy assisted vaginal hysterectomy. Write a note on the options for post operative pain management.

3H. Occulo Cardiac reflex.

3I. Discuss infant BLS as per AHA 2015 guidelines.

3J. Conscious sedation.

(7 marks × 10 = 70 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**MD (ANAESTHESIOLOGY) DEGREE EXAMINATION – APRIL 2019**  
**SUBJECT: PAPER III: ANAESTHESIA IN RELATION TO SUB SPECIALITIES**

Thursday, April 04, 2019

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.**

✍ **Essay Questions:**

1. Describe the preoperative assessment, preparation, intraoperative and postoperative management of a 40-year old patient scheduled for elective posterior cranial fossa tumour excision in the sitting position.  

(15 marks)
2. Discuss the preoperative evaluation, anaesthetic goals, intraoperative and postoperative management of a 4-day old preterm baby posted for omphalocele repair.  

(15 marks)
3. **Write briefly on:**
  - 3A. With the help of a schematic diagram, describe the components of a cardiopulmonary bypass circuit.
  - 3B. Management of perioperative myocardial infarction.
  - 3C. Preoperative evaluation and preparation of a 50-year old chronic smoker with bronchiectasis posted for right-sided pneumonectomy.
  - 3D. Anaesthetic management of an adult patient posted for bronchoalveolar lavage for suspected malignancy of right lung.
  - 3E. Advantages and disadvantages of irrigation fluids used during transurethral resection of the prostate.
  - 3F. Anaesthetic management for robotic radical nephrectomy.
  - 3G. Management of a 4-year-old child scheduled for exploration of intraoral bleeding 2 hours following a tonsillectomy.
  - 3H. How will you secure an intravenous line in a child weighing 8 kg posted for herniotomy? Describe intraoperative fluid management for this child.
  - 3I. Discharge criteria from recovery room for day care surgeries.
  - 3J. Aetiology, diagnosis and management of malignant hyperthermia.

(7 marks × 10 = 70 marks)



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**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**MD (ANAESTHESIOLOGY) DEGREE EXAMINATION – APRIL 2019**  
**SUBJECT: PAPER IV: INTENSIVE CARE MEDICINE, PAIN MEDICINE AND**  
**RECENT ADVANCES**

Friday, April 05, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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- ✍ **Answer ALL the questions.**
- ✍ **Answer to the point as padding of answers will not fetch extra marks.**
- ✍ **Illustrate your answer with diagrams where appropriate.**

✍ **Essay Questions:**

1. Define difficult airway. Explain in detail about preparation and management of difficult airway.  
(15 marks)
  
2. Define Disseminated intravascular coagulation. Discuss in detail about pathophysiology diagnosis and management of DIC.  
(15 marks)

3. **Short answer questions:**

- 3A. Explain the management of atrial fibrillation.
- 3B. What are the various available types of non invasive ventilation? Explain BIPAP method.
- 3C. Short note on parametric tests used in statistics.
- 3D. Short note on management of air embolism.
- 3E. Anaesthetic management of a patient with pacemaker posted for hernia surgery.
- 3F. Intensive care management of septic shock.
- 3G. Discuss the methods available to reduce ICP.
- 3H. Indications and complications of central line insertion.
- 3I. What are the various sedation scales available to measure ICU sedation?
- 3J. VAP prevention strategies in ICU setting.

(7 marks × 10 = 70 marks)

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