

MANIPAL ACADEMY OF HIGHER EDUCATION
PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – MAY 2021
PAPER I

Monday, May 03, 2021

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.**

✍ **Long essay questions:**

1. Describe the events of a cardiac cycle. What are the factors which affect myocardial oxygen demand and supply?

(15 marks)

2. Explain the terms concentration effect, second gas effect and diffusion hypoxia. Discuss briefly the effect of changes in cardiac output on the ratio of alveolar anaesthetic concentration to inspired concentration.

(15 marks)

3. **Write short notes on:**

- 3A. Describe the conduct, information obtained from and relevance of a forced expiratory manoeuvre.
- 3B. What is capnography? Compare and contrast i) mainstream and sidestream capnographs ii) timed and volume capnograms.
- 3C. Describe indications and technique of sciatic nerve block (any one approach).
- 3D. What is the difference between shunt and dead space? What changes would you expect in gas exchange with significant alterations of shunt and dead space?
- 3E. Opioid antagonist
- 3F. Enumerate the causes of hypokalaemia. How will you manage a case of hypokalaemia?
- 3G. How will you treat severe perioperative hypertension?
- 3H. Describe any one technique of axillary brachial plexus block. Add a note on its complications.
- 3I. Discuss ethical issues relevant to organ transplantation.
- 3J. Discuss briefly various applications of ultrasound in anaesthetic practice.

(7 marks × 10 = 70 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – MAY 2021
PAPER II

Tuesday, May 04, 2021

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.**
- ✍ **Long essay questions:**

1. Define PIH. Discuss the pathophysiology of PIH. Discuss the preparation, anaesthetic management and post-operative care of a patient with preeclampsia

(15 Marks)

2. 77-year-old man known hypertensive on irregular treatment with angiotensin receptor blocker and diuretics comes with a one-week old fracture neck of femur for PFN fixation, outline the preoperative evaluation and intraoperative management of this patient.

(15 Marks)

3. **Write short notes on:**

- 3A. Anaesthetic challenges of performing early clipping of intracranial aneurysm in a 48 years old hypertensive patient presenting with subarachnoid haemorrhage.
- 3B. Anaesthetic problems during Laparoscopic surgeries
- 3C. Briefly outline the pre and post cardiopulmonary bypass checklist.
- 3D. Pacemaker and anaesthesia
- 3E. Problems associated with the use of bone cement.
- 3F. Anaesthetic concerns in patients with coronary stents
- 3G. Postoperative Analgesia for 2 day old child coming for tracheoesophageal fistula repair.
- 3H. Anaesthetic concerns for laser surgery
- 3I. Anaesthesia for electro convulsive therapy
- 3J. Anatomy and technique of sciatic nerve block

(7 marks × 10 = 70 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
PG DIPLOMA IN ANAESTHESIOLOGY (DA) EXAMINATION – MAY 2021
PAPER III

Wednesday, May 05, 2021

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.**

✍ **Long essay questions:**

1. A 40 year old male is brought to the emergency department in an altered state of consciousness following a road traffic accident. He has a pulse rate of 140/min and a blood pressure of 70/40 mm Hg. Describe the assessment and optimization goals for the haemodynamic status of this patient.

(15 marks)

2. Describe the pathophysiology and management of organophosphorus poisoning.

(15 marks)

3. **Write short notes on:**

3A. Discuss the perioperative anaesthetic concerns for a 5-year old boy suffering from sickle cell anaemia scheduled for laparoscopic appendicectomy.

3B. Discuss the problems of providing anaesthesia in the magnetic resonance imaging unit.

3C. Compare and contrast the recent guidelines for the adult and paediatric basic life support with respect to airway, breathing and circulation.

3D. Describe the 'flat line protocol' when seen on the electrocardiographic monitor. Outline the algorithm for the resuscitation of an adult male patient with asystole.

3E. Discuss the role of corticosteroids in septic shock. Enumerate the complications of long-term corticosteroid therapy.

3F. Discuss the pharmacology of vasopressin and norepinephrine and explain their role in septic shock.

3G. With the help of a neatly labelled diagram, describe the technique of intercostal nerve block.

3H. Design a patient controlled analgesia plan for a 45 year old man belonging to ASA physical status I undergone radical nephrectomy.

3I. Discuss the treatment of phantom limb pain.

3J. Mention the possible mechanisms of action of epidural steroid injection. Add a note on complications of epidural steroid injection.

(7 marks × 10 = 70 marks)

