

INI CET Anaesthesiology

Sample Paper – 1

Duration: 14 Minutes

Maximum Marks: 15

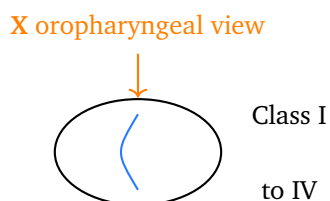
Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Anaesthesiology content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AIIMS New Delhi.
- The **15-question** length matches the number of Anaesthesiology items you actually meet in the real 200-question paper.
- Each correct answer carries **+1 mark**. There is **negative marking of one-third (0.33) mark** for every incorrect answer; unattempted questions carry no penalty.
- Every question has **exactly one best answer**. Choose the single most appropriate option.
- Attempt this practice paper in one timed sitting of about **14 minutes**, the pace the real computer-based test demands.

Preoperative Assessment and Airway

- Q1.** Under the ASA physical status classification, a grade of **ASA III** describes a patient with:
- (A) A normal healthy patient
 - (B) Mild systemic disease with no functional limitation
 - (C) Severe systemic disease that limits activity but is not incapacitating
 - (D) A declared brain-dead organ donor
- Q2.** The modified Mallampati test shown below, which grades the visibility of the faucial pillars, soft palate and uvula, is used to predict the difficulty of:





- (A) Endotracheal intubation and airway management
- (B) Spinal anaesthesia
- (C) Peripheral venous cannulation
- (D) Liver function

Q3. For an elective procedure under anaesthesia, the standard minimum fasting time for *clear fluids* in a healthy adult is:

- (A) 8 hours
- (B) 6 hours
- (C) 2 hours
- (D) 30 minutes

General Anaesthesia and Pharmacology

Q4. The intravenous induction agent of choice for day-case surgery, giving rapid onset, smooth quick recovery and an antiemetic effect but causing pain on injection and dose-dependent hypotension, is:

- (A) Propofol
- (B) Ketamine
- (C) Etomidate
- (D) Thiopental sodium

Q5. The depolarising neuromuscular blocker with the fastest onset and shortest duration of action, used for rapid sequence induction but causing fasciculations and hyperkalaemia, is:

- (A) Vecuronium
- (B) Suxamethonium (succinylcholine)



- (C) Rocuronium
- (D) Atracurium

- Q6.** The minimum alveolar concentration (MAC) of an inhalational anaesthetic agent is defined as the alveolar concentration that:
- (A) Causes cardiac arrest in all patients
 - (B) Produces amnesia in 50% of patients
 - (C) Represents the maximum safe deliverable dose
 - (D) Prevents movement in response to a standard surgical stimulus in 50% of patients

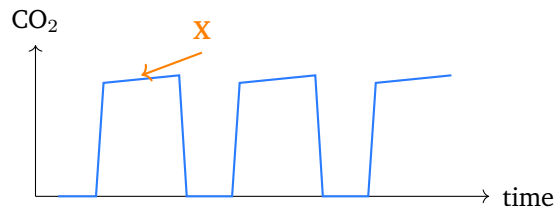
Regional and Local Anaesthesia

- Q7.** Spinal (subarachnoid) anaesthesia injects local anaesthetic into the cerebrospinal fluid. To avoid injuring the spinal cord, the needle is inserted at an interspace below the level of:
- (A) T12
 - (B) L2 (for example the L3-L4 interspace, below the conus medullaris)
 - (C) T6
 - (D) S2
- Q8.** The specific first-line treatment for cardiac arrest caused by local anaesthetic systemic toxicity (LAST) is:
- (A) An adrenaline infusion alone
 - (B) Immediate defibrillation only
 - (C) Oral activated charcoal
 - (D) Intravenous 20% lipid emulsion (Intralipid)

Monitoring, Fluids and Equipment

- Q9.** The capnograph trace below plots end-tidal carbon dioxide against time. A normal square waveform (marked X) is the single most reliable confirmation of:





- (A) Adequate depth of anaesthesia
- (B) Complete neuromuscular blockade
- (C) Correct placement of the endotracheal tube in the trachea
- (D) The blood glucose level

Q10. A pulse oximeter estimates arterial oxygen saturation from the differential absorption of two wavelengths of light by oxygenated and deoxygenated haemoglobin. These two wavelengths are:

- (A) Red (about 660 nm) and infrared (about 940 nm) light
- (B) Ultraviolet light only
- (C) Green and blue visible light
- (D) X-rays

Q11. The intravenous fluid that is isotonic and balanced, closely matching plasma electrolytes and preferred for routine perioperative resuscitation, is:

- (A) 5% dextrose in water
- (B) 0.45% (half-normal) saline
- (C) Ringer's lactate (Hartmann's solution)
- (D) 25% mannitol

Complications and Critical Incidents

Q12. Shortly after suxamethonium and a volatile agent, a patient develops a rapidly rising end-tidal CO_2 , tachycardia, masseter (jaw) spasm, generalised rigidity and a climbing temperature. The specific drug treatment is:

- (A) Adrenaline
- (B) Atropine
- (C) Cold intravenous fluids alone
- (D) Intravenous dantrolene

Q13. Cricoid pressure (the Sellick manoeuvre) applied during a rapid sequence induction is intended to:

- (A) Compress the oesophagus against the vertebral body to prevent regurgitation and aspiration
- (B) Lift the larynx to improve the view of the vocal cords
- (C) Dilate the trachea for tube passage
- (D) Directly relieve bronchospasm

Critical Care, Resuscitation and Pain

Q14. In adult basic life support, the recommended rate of external chest compressions is:

- (A) 60 to 80 per minute
- (B) 100 to 120 per minute
- (C) 140 to 160 per minute
- (D) About 40 per minute

Q15. On the WHO analgesic ladder, the management of step 1 (mild pain) begins with:

- (A) Strong opioids such as morphine
- (B) Non-opioid analgesics such as paracetamol and NSAIDs
- (C) Epidural anaesthesia
- (D) General anaesthesia



Detailed Solutions**Q1.****Solution**

Concept – the ASA physical status classification: The ASA grade summarises a patient's preoperative fitness.

Step 1 – recall grade III: ASA III is a patient with **severe systemic disease** that limits activity but is not incapacitating (for example poorly controlled diabetes or stable angina).

Step 2 – the scale: I = normal healthy, II = mild disease, III = severe non-incapacitating disease, IV = incapacitating disease that is a constant threat to life, V = moribund, VI = brain-dead donor.

Why the other options are wrong:

- A, normal healthy: is ASA I.
- B, mild systemic disease: is ASA II.
- D, brain-dead donor: is ASA VI.

Final Answer: Severe systemic disease, not incapacitating ⇒ **C**

Answer: (C) [Go Back to Q1](#)

Q2.**Solution**

Concept – the modified Mallampati test: This bedside test predicts a difficult airway.

Step 1 – what it grades: With the mouth open and tongue out, it grades the visibility of the soft palate, faucial pillars and uvula (Class I to IV), predicting the difficulty of **intubation**.

Step 2 – interpretation: Higher classes (III and IV, where only the hard palate is seen) predict a more difficult laryngoscopic view.

Why the other options are wrong:

- B, spinal anaesthesia: difficulty is judged by spinal landmarks, not the mouth.
- C, venous cannulation: is assessed by inspecting the veins.
- D, liver function: is a laboratory assessment, unrelated to the airway.



Final Answer: Endotracheal intubation $\Rightarrow$ A

Answer: (A) [Go Back to Q2](#)

Q3.

Solution

Concept – preoperative fasting rules: Fasting reduces gastric volume and the risk of aspiration.

Step 1 – recall the clear-fluid rule: Clear fluids are allowed up to **2 hours** before anaesthesia.

Step 2 – the ‘2-4-6-8’ rule: Clear fluids 2 h, breast milk 4 h, a light meal (or formula) 6 h and a fatty meal 8 h.

Why the other options are wrong:

- A, 8 hours: applies to a heavy or fatty meal.
- B, 6 hours: applies to a light solid meal.
- D, 30 minutes: is unsafe and not a recognised fasting interval.

Final Answer: 2 hours for clear fluids $\Rightarrow$ C

Answer: (C) [Go Back to Q3](#)

Q4.

Solution

Concept – propofol for day-case anaesthesia: The ideal day-case induction agent gives rapid clear-headed recovery.

Step 1 – match the profile: Propofol has a rapid onset, smooth quick recovery and antiemetic properties, but causes pain on injection and dose-dependent hypotension.

Step 2 – why it suits day-case work: Its short context-sensitive half-time means patients wake promptly with little hangover.

Why the other options are wrong:

- B, ketamine: causes emergence hallucinations and raises blood pressure.
- C, etomidate: is cardiostable but suppresses adrenal steroidogenesis and causes myoclonus.
- D, thiopental: has a slower, less clear-headed recovery and is not antiemetic.



Final Answer: Propofol $\Rightarrow$ A

Answer: (A) [Go Back to Q4](#)

Q5.

Solution

Concept – suxamethonium (succinylcholine): It is the only widely used depolarising neuromuscular blocker.

Step 1 – read the profile: Suxamethonium has the **fastest onset and shortest duration**, ideal for rapid sequence induction, but causes fasciculations, hyperkalaemia and (rarely) malignant hyperthermia.

Step 2 – the mechanism: It depolarises the motor end-plate and is hydrolysed by plasma cholinesterase.

Why the other options are wrong:

- A, vecuronium; C, rocuronium; D, atracurium: are non-depolarising agents with a slower onset and longer duration (rocuronium is fast but still non-depolarising).

Final Answer: Suxamethonium $\Rightarrow$ B

Answer: (B) [Go Back to Q5](#)

Q6.

Solution

Concept – minimum alveolar concentration (MAC): MAC is the standard measure of inhalational anaesthetic potency.

Step 1 – state the definition: MAC is the alveolar concentration that **prevents movement in response to a standard surgical stimulus in 50% of patients**.

Step 2 – the use: A lower MAC means a more potent agent; MAC values are additive between agents.

Why the other options are wrong:

- A, cardiac arrest in all: is not the definition of MAC.
- B, amnesia in 50%: relates to MAC-awake, a different endpoint.
- C, maximum safe dose: MAC measures potency, not a safety ceiling.

Final Answer: Prevents movement to surgery in 50% of patients $\Rightarrow$ D



Answer: (D) [Go Back to Q6](#)

Q7.

Solution

Concept – safe level for spinal anaesthesia: The spinal cord ends higher than the vertebral column, which sets the safe puncture level.

Step 1 – recall the anatomy: The conus medullaris ends at about L1-L2 in adults, so the needle is placed **below L2** (typically L3-L4) to avoid the cord.

Step 2 – the landmark: Tuffier's line (the intercrystal line between the iliac crests) marks roughly the L4 spinous process, guiding the level.

Why the other options are wrong:

- A, T12; C, T6: are above the conus and would risk cord injury.
- D, S2: is too low, below the dural sac termination in most adults.

Final Answer: Below L2 (for example L3-L4) ⇒

Answer: (B) [Go Back to Q7](#)

Q8.

Solution

Concept – local anaesthetic systemic toxicity (LAST): LAST can cause seizures and cardiovascular collapse from an inadvertent intravascular or excessive dose.

Step 1 – name the specific treatment: Intravenous 20% lipid emulsion (**Intralipid**) is the specific antidote, given alongside standard resuscitation.

Step 2 – the mechanism: The lipid acts as a 'sink', drawing the lipophilic local anaesthetic away from cardiac sodium channels.

Why the other options are wrong:

- A, adrenaline alone: is used in reduced doses but is not the specific antidote.
- B, defibrillation only: does not address the underlying toxicity.
- C, activated charcoal: is for ingested poisons, not intravascular local anaesthetic.

Final Answer: Intravenous 20% lipid emulsion ⇒

Answer: (D) [Go Back to Q8](#)



Q9.

Solution

Concept – capnography: Capnography continuously displays exhaled carbon dioxide.

Step 1 – read the trace: A sustained normal square waveform (X) confirms that CO₂ is being exhaled from the lungs, verifying **correct tracheal placement** of the endotracheal tube.

Step 2 – why it is the gold standard: An oesophageal intubation shows no sustained CO₂ trace, so capnography is the most reliable confirmation of tube position.

Why the other options are wrong:

- A, depth of anaesthesia: is judged clinically or by processed EEG, not capnography.
- B, neuromuscular blockade: is monitored with a nerve stimulator.
- D, blood glucose: is measured by a glucometer.

Final Answer: Correct tracheal tube placement ⇒ C

Answer: (C) [Go Back to Q9](#)

Q10.

Solution

Concept – pulse oximetry: The pulse oximeter uses spectrophotometry across a pulsatile vascular bed.

Step 1 – name the wavelengths: It uses **red (about 660 nm) and infrared (about 940 nm)** light, because oxygenated and deoxygenated haemoglobin absorb these two wavelengths differently.

Step 2 – the principle: The ratio of absorption at the two wavelengths, measured only in the pulsatile (arterial) component, gives the oxygen saturation.

Why the other options are wrong:

- B, ultraviolet only; C, green and blue: are not the wavelengths used.
- D, X-rays: are ionising radiation, not used for oximetry.

Final Answer: Red (660 nm) and infrared (940 nm) ⇒ A

Answer: (A) [Go Back to Q10](#)



Q11.

Solution

Concept – balanced crystalloid for resuscitation: Perioperative fluids should resemble plasma to avoid electrolyte and acid-base disturbance.

Step 1 – name the fluid: Ringer's lactate (Hartmann's solution) is an isotonic, balanced crystalloid closely matching plasma electrolytes.

Step 2 – the advantage: It avoids the hyperchloraemic acidosis that large volumes of 0.9% saline can cause.

Why the other options are wrong:

- A, 5% dextrose: is effectively free water once the glucose is metabolised, and is hypotonic to plasma.
- B, 0.45% saline: is hypotonic and not for resuscitation.
- D, 25% mannitol: is a hyperosmolar diuretic, not a resuscitation fluid.

Final Answer: Ringer's lactate (Hartmann's) ⇒

Answer: (C) [Go Back to Q11](#)

Q12.

Solution

Concept – malignant hyperthermia: Malignant hyperthermia is a hypermetabolic crisis triggered by suxamethonium and volatile agents in susceptible people.

Step 1 – read the signs: A rapidly rising end-tidal CO₂, tachycardia, masseter spasm, rigidity and a climbing temperature indicate malignant hyperthermia.

Step 2 – the specific treatment: Stop the trigger agents and give **intravenous dantrolene**, which blocks calcium release from the sarcoplasmic reticulum, alongside active cooling.

Why the other options are wrong:

- A, adrenaline; B, atropine: do not treat the underlying hypermetabolism.
- C, cold fluids alone: help cooling but are not the specific antidote without dantrolene.

Final Answer: Intravenous dantrolene ⇒

Answer: (D) [Go Back to Q12](#)



Q13.

Solution

Concept – the Sellick manoeuvre (cricoid pressure): It is used during rapid sequence induction to protect against aspiration.

Step 1 – state the purpose: Pressing on the cricoid cartilage **compresses the oesophagus** against the vertebral body, preventing passive regurgitation of gastric contents and aspiration.

Step 2 – the context: It is applied from loss of consciousness until the airway is secured with a cuffed tube.

Why the other options are wrong:

- B, improving the laryngeal view: that is the BURP or external laryngeal manipulation, not the purpose of cricoid pressure.
- C, dilating the trachea: cricoid pressure does not dilate the airway.
- D, relieving bronchospasm: is unrelated to cricoid pressure.

Final Answer: Compress the oesophagus to prevent aspiration ⇒ **A**

Answer: (A) [Go Back to Q13](#)

Q14.

Solution

Concept – adult chest compression rate: High-quality compressions are central to basic life support.

Step 1 – recall the rate: The recommended compression rate is **100 to 120 per minute**.

Step 2 – the other targets: Compress to a depth of 5 to 6 cm, allow full recoil and minimise interruptions.

Why the other options are wrong:

- A, 60 to 80: is too slow for effective circulation.
- C, 140 to 160: is too fast and reduces the depth and filling.
- D, 40: is far too slow.

Final Answer: 100 to 120 per minute ⇒ **B**

Answer: (B) [Go Back to Q14](#)



Q15.

Solution

Concept – the WHO analgesic ladder: The ladder guides a stepwise approach to pain relief.

Step 1 – recall step 1: Step 1 (mild pain) starts with **non-opioid analgesics** such as paracetamol and NSAIDs, with an adjuvant if needed.

Step 2 – climbing the ladder: Step 2 adds a weak opioid (for example codeine), and step 3 uses a strong opioid (for example morphine) for severe pain.

Why the other options are wrong:

- A, strong opioids: are step 3, not step 1.
- C, epidural anaesthesia; D, general anaesthesia: are not part of the WHO analgesic ladder for step 1.

Final Answer: Non-opioid analgesics (paracetamol, NSAIDs) ⇒ **B**

Answer: (B) [Go Back to Q15](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	A	3	C	4	A	5	B
6	D	7	B	8	D	9	C	10	A
11	C	12	D	13	A	14	B	15	B

