

Sample Written Exam – Anesthesiology

Question 1

- a. Name **FOUR** types of central nervous system (CNS) evoked potential monitoring.

MODEL ANSWER (1 mark each, 4 marks total)

- somatosensory evoked potential
- brainstem auditory evoked potential
- visual evoked potential
- motor evoked potential

- b. What are the **THREE** components of triple-H therapy for cerebral vasospasm after subarachnoid hemorrhage?

MODEL ANSWER (1 mark each, 3 marks total)

- hypervolemia
- hemodilution
- hypertension

Question 2

With respect to nociceptive pathways,

- a. Name the **TWO** types of nerve fibers that transduce acute noxious stimuli into action potentials.

MODEL ANSWER (1 mark each, 2 marks total)

- A delta fiber
- C fiber

- b. Name **THREE** types of stimuli that activate primary afferent neurons.

MODEL ANSWER (1 mark each, 3 marks total)

- Thermal
- Mechanical
- Chemical

Question 3

According to the Canadian Anesthesiologists' Society (CAS) monitoring guidelines for standard patient care, what **FOUR** monitors must be exclusively available for each patient but are NOT required to be in continuous use during administration of an anesthetic?

MODEL ANSWER (1 mark each, 4 marks total)

- apparatus to measure temperature
- peripheral nerve stimulator
- stethoscope
- appropriate lighting



Question 4

A 53-year-old man with an open forefoot fracture presents for open reduction and internal fixation. He has been difficult to intubate in the past. His past medical history is significant for insertion of a coronary artery stent for stable angina 1 month ago. He is asymptomatic from a cardiac standpoint. His only medication is clopidogrel (Plavix®), which he took this morning. He absolutely refused an awake intubation.

- a. List all **FIVE** target nerves for an ankle block.

MODEL ANSWER (1 mark each, 5 marks total)

- saphenous
- sural
- superficial peroneal
- deep peroneal
- posterior tibial

- b. Name **THREE** anatomic (non-sonographic) landmarks for a posterior popliteal sciatic nerve block.

MODEL ANSWER (1 mark each, 3 marks total)

- popliteal fossa crease
- tendon of biceps femoris
- tendon of semitendinosus muscle

Question 5

- a. What **FOUR** settings can be adjusted on the ultrasound machine to optimize the image?

MODEL ANSWER (1 mark each, 4 marks total)

- Gain
- Depth
- Focus
- Sector width
- Frequency
- Frame rate

- b. To facilitate the insertion of an internal jugular catheter, what would be the MOST appropriate ultrasound probe? Provide a rationale for your response.

MODEL ANSWER (2 marks, must have both answers to get marks)

- Linear high frequency probe (>7.5 MHz accepted)
- Provide less penetration but better resolution in the near field.