

ASSISTANT PROFESSOR (ANAESTHESIA) IN IGMCM (PAPER-II) (S.A.T.)

T.B.C.: 2025/AP-A-II/II

Roll No. _____

Time Allowed: 03 hours

Maximum marks: 120

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

1. There are **EIGHT** questions in TWO Parts in this paper.
2. The candidate has to attempt **(06) SIX** questions by choosing at least **(03) THREE** questions from each part.
3. All questions carry equal marks. Each question will consist of 04 sub parts having 05 marks and word limit will be 150 words for each sub-part.
4. Write answers in legible handwriting. Illustrate your answers with suitable sketches, diagrams and figures, wherever considered necessary.
5. Each part of the question must be answered in sequence and in same continuation.
6. Attempts of the questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in answer booklet must be clearly struck off.

IMPORTANT NOTE: ANSWER ANY (03) THREE QUESTIONS FROM EACH PART.

USE OF MOBILE PHONES OR ANY OTHER COMMUNICATION DEVICES IS STRICTLY PROHIBITED IN THE EXAMINATION.

Part-I (60 marks)

Q. No. 1. A recovery nurse calls you to assess a patient who has just woken up from anaesthesia. The patient has had a diagnostic laparoscopy. She is complaining that she heard everything during the procedure.

- a) Enumerate the tests for awareness. Describe Evan's score.
- b) What is Isolated Forearm technique for evaluation of awareness?
- c) Describe the surgeries and patient groups who are prone for awareness under anaesthesia.
- d) Enumerate four devices which can be used for detection of awareness. Describe information that you get from entropy.

Q. No.2. In the middle of a Sunday night you are called to the emergency department to see an elderly female patient who has been brought to hospital after being found unconscious in bed. She has a temperature of 29°C.

- a) How would you classify this degree of hypothermia? What mortality is associated with severe hypothermia?
- b) What are the cardiovascular effects of hypothermia?
- c) Mention 7 sites where you can measure core body temperature.
- d) Describe the ways of rewarming the patient.

Q. No. 3. Answer the following questions:-

- a) Describe the different ways of drug metabolism in body.
- b) What is the pharmacological effect of liver failure?
- c) What is hepatorenal syndrome?
- d) What drugs may cause jaundice?

Q. No. 4. Answer the following questions on oxygen therapy:-

- a) What is hyperbaric oxygen and what are its applications?
- b) Enumerate the harmful effects of prolonged oxygen therapy.
- c) How do you know how much oxygen you are giving to your patient?
- d) How do the fuel cell/ Clark electrode/ paramagnetic analyser work?

Part-II (60 marks)

Q. No. 5. A 44-year-old man is referred to you by the acute pain team in your pain clinic for evaluation and management. He was recently diagnosed with adenocarcinoma of the pancreas with retroperitoneal lymph nodes in the para-aortic region. He has pain in the epigastric region which is worst in the night and decreases during the day. He is taking sustained-release morphine 100 mg orally every 8 hours. He wishes to know what the other options available.

- a) Describe with diagram WHO ladder for chronic pain relief.
- b) Differentiate neuropathic and visceral pain.
- c) What is break through pain and how is it managed?
- d) Describe Coeliac plexus block for pain relief.

Q. No.6. Describe about Neuromuscular junction and pathology related to it.

- a) Describe the structure of the neuromuscular junction.
- b) Describe the structure of the neuromuscular acetylcholine receptor.
- c) How does neuromuscular transmission take place?
- d) What are the implications in myasthenia and myasthenic syndromes?

Q. No. 7. Regarding Critical illness neuropathy.

- a) In a critically ill patient what neuromuscular problems will you come across and the causes for same?
- b) What is critical illness neuropathy? How is it diagnosed? What is the incidence?
- c) What investigations can be performed to diagnose critical illness neuropathy?
- d) What are its implications for perioperative management?

Q. No. 8. Regarding Physics and clinical measurements of Ultrasound.

- a) Discuss the physics of ultrasound—how is it generated, what is the frequency used?
- b) What is the piezoelectric effect?
- c) What is the Doppler effect and what are its uses in clinical ultrasound?
- d) Describe uses of ultrasound in anaesthesia and intensive care.

Space for rough work