

Candidates MUST answer all 12 questions. Candidates will fail the written section if one or more questions on the SAQ paper are not attempted.

All 12 questions carry equal marks, although their pass marks may vary. Questions are printed in the appropriate coloured book:

1 & 2 in Book A (Blue)	5 & 6 in Book C (Green)	9 & 10 in Book E (Orange)
3 & 4 in Book B (Pink)	7 & 8 in Book D (Yellow)	11 & 12 in Book F (Grey)

One question will be printed on the first page and the second question will be printed half-way through the book. Candidates must write their answer underneath the question in each of their six books. Questions answered in the wrong book will not normally be marked (and the candidate will fail the written section). Please write clearly e.g. a, b, c etc. for which section of the question you are answering.

Where examiners have indicated the way marks are allocated, candidates are advised to spend their time accordingly.

Question 1 (Blue Book)

- Outline the production and circulation of cerebrospinal fluid (CSF) and how intracranial pressure affects production and absorption. (5 marks)
- How does the biochemistry of CSF differ from plasma? (4 marks)
- List the indications for lumbar puncture. (6 marks)
- Which factors predispose to the development of a post-dural puncture headache after lumbar puncture? (5 marks)

Question 2 (Blue Book)

You are asked to sedate a frightened adult patient for insertion of dental implants in an outpatient dental chair.

- Complete the table in your answer booklet with the four levels of sedation in the American Society of Anesthesiologists (ASA) continuum of sedation (top row) and the clinical features seen at each level (columns below). (8 marks)
- Outline drugs that may be used and their methods of administration, when providing sedation for this patient. (4 marks)
- What are the best practice principles for providing safe sedation to this patient? (8 marks)

Question 3 (Pink Book)

A 25 year-old woman who is 37 weeks pregnant and known to have pre-eclampsia is admitted to your labour ward with a blood pressure of 160/110mmHg on several readings.

- What is the definition of pre-eclampsia (1 mark) and which related symptoms should pregnant women be told to report immediately? (2 marks)
- How should this patient be managed following admission to your labour ward? (12 marks)
- What changes would you make to your usual general anaesthetic technique for a pregnant woman, if this woman needed a general anaesthetic for caesarean section? (5 marks)

Question 4 (Pink Book)

- How should you manage the perioperative opioid requirements of a patient who is having elective surgery and who takes regular opioids for non-malignant pain? (8 marks)
- Give the conversion factors for oral tramadol, codeine and oxycodone to the equianalgesic oral morphine dose. (3 marks)
- What are the perioperative implications of an existing spinal cord stimulator? (6 marks)
- What additional perioperative precautions should be taken if the patient has an intrathecal drug delivery system fitted? (3 marks)

Question 5 (Green Book)

- Which investigations are specifically indicated in the preoperative assessment of a patient presenting for thyroidectomy for treated thyrotoxicosis? (5 marks)
- What particular issues must the anaesthetist consider during the induction, maintenance and extubation phases of anaesthesia for a euthyroid patient having a total thyroidectomy? (11 marks)
- Describe the specific post-operative problems that may be associated with this operation. (4 marks)

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Question 6 (Green Book)

A 19 year-old patient has suffered a complete transection of the spinal cord at the first thoracic vertebral level due to a fall, but has no other injuries.

- Outline the sequence of neurological effects that may develop in the first three months following injury. (6 marks)
- Which disturbances of the cardiovascular, respiratory and gastrointestinal systems may subsequently occur? (8 marks)
- When and why may suxamethonium be contraindicated in this patient? (2 marks)
- Give the advantages of a regional anaesthetic technique for a patient having elective lower limb surgery 2 years after a high thoracic spine transection. (4 marks)

Question 7 (Yellow Book)

- Which specific nerves must be blocked to achieve effective local anaesthesia for shoulder surgery? (6 marks)
- What are the possible neurological complications of an interscalene block? (6 marks)
- Outline the measures available to reduce all types of neurological damage during shoulder surgery. (8 marks)

Question 8 (Yellow Book)

- List the effects of cigarette smoking on the cardiovascular system and on oxygen delivery, outlining the pathophysiological mechanisms involved. (12 marks)
- List the effects of cigarette smoking on the respiratory system, other than those you have outlined above, that are relevant to the conduct of general anaesthesia. (4 marks)
- What advice would you give a smoker 24 hours before a scheduled procedure under general anaesthesia and why? (4 marks)

Question 9 (Orange Book)

- What are the central and peripheral neurological complications of coronary artery bypass surgery? (7 marks)
- What are the risk factors for central neurological complications? (6 marks)
- How can the incidence of central neurological complications be reduced? (7 marks)

Question 10 (Orange Book)

You are called to the Emergency Department to see a 2 year-old child who presents with a 4-hour history of high temperature and drowsiness. On examination there is prolonged capillary refill time and a non-blanching rash. A presumptive diagnosis of meningococcal septicaemia is made.

- What are the normal weight, pulse rate, mean arterial blood pressure and capillary refill time for a child of this age? (4 marks)
- Define appropriate resuscitation goals for this child (2 marks) and outline the management in the first 15 minutes after presentation. (7 marks)
- After 15 minutes, the child remains shocked and is unresponsive to fluid. What is the most likely pathophysiological derangement in this child's circulation (2 marks) and what are the important further treatment options? (5 marks)

Question 11 (Grey Book)

A 26 year-old patient with stage 4B Hodgkin's disease (spread to lymph nodes and other organs) requires an open splenectomy.

- List the specific factors that are of importance when planning your anaesthetic management. (10 marks)
- Outline the options for providing postoperative analgesia for this patient and give a possible disadvantage of each. (6 marks)
- Which vaccinations should this patient receive and what is the optimal timing of these? (4 marks)

Question 12 (Grey Book)

- What is meant by the term ventilator associated pneumonia (VAP)? (3 marks)
- List the factors that increase the risk of the development of VAP. (10 marks)
- What measures may reduce the risk of development of VAP? (7 marks)