

**DIPLOMA OF FELLOW OF THE ROYAL COLLEGE OF ANAESTHETISTS
FINAL EXAMINATION**

**Tuesday 10 September 2019
9:30 am to 12:30 pm**

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

20 marks are available for each CRQ and SAQ question, although the pass mark for each question may vary. Questions are printed in the appropriate coloured book:

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

CRQ:

The constructed response questions (CRQs) have a formulaic and structured layout and it is not practical to reproduce CRQ questions as part of this paper. Therefore, only a short introduction of the subject matter of each CRQ is provided below, along with the marks available for the subsections within the question. This will allow candidates to use this paper to keep a record of which questions and question subsections they have completed. The complete version of each CRQ question is printed in the first half of the relevant booklet. Candidates must aim to write their answers in the space provided within each question but if extra paper is used please make it clear which question/subsection the answer forms part of. Candidates should note that where a CRQ asks for a specific number of responses (e.g. "List 6 factors contributing to X"), they must limit themselves to the number of factors asked for. In this example, only the first six factors will be marked. Any additional answers will not be considered although candidates may cross an answer out in order to add another if needed. The marks available for correctly answering each subsection are set out within the question and candidates are advised to spend their time accordingly.

SAQ:

Short answers questions (SAQs) are set out in this paper as they appear in the answer booklets. However, candidates are advised to only use this paper as an aide memoir to which questions/subsections they have completed in the answer booklets. One SAQ question will be printed on the first page of the relevant answer booklet. Candidates must write their answer directly beneath the SAQ question within the relevant booklet. Questions answered in the wrong book will not normally be marked (and the candidate will fail the written section). Please write subsections identifiers clearly e.g. a, b, c etc. to indicate which subsection of the SAQ you are answering. The marks available for correctly answering each subsection are set out within the question and candidates are advised to spend their time accordingly.

Question 1 CRQ (Blue Book)

Investigation and preoperative management of a patient with aortic stenosis

- | | |
|-------------|-------------|
| a – 3 marks | d – 4 marks |
| b – 6 marks | e – 2 marks |
| c – 5 marks | |

Question 2 SAQ (Blue Book)

A 63 year old man has had an elective laparotomy and removal of intestinal tumour in an enhanced recovery setting. He has had a single shot spinal with an intrathecal (IT) opioid.

- What other methods could be used to control postoperative pain in this patient? (3 marks)
- Describe the mechanism of action of IT opioids. (5 marks)
- List the principal side effects of IT opioids. (6 marks)
- What factors may increase the risk of postoperative respiratory depression following administration of IT opioids? (6 marks)

Question 3 CRQ (Pink Book)

Malignant hyperthermia

- | | |
|-------------|-------------|
| a – 2 marks | e – 1 mark |
| b – 2 marks | f – 1 mark |
| c – 4 mark | g – 3 marks |
| d – 7 marks | |

Question 4 SAQ (Pink Book)

A 66 year old man is listed for carotid endarterectomy (CEA) 10 days after suffering a cerebrovascular accident.

- What are the advantages (4 marks) and disadvantages (4 marks) of performing the procedure under regional anaesthesia?
- What local or regional anaesthetic techniques may be used? (3 marks)
- Why is cardiovascular instability common during CEA? (3 marks)
- Following this procedure what specific postoperative complications may occur? (6 marks)

Question 5 CRQ (Green Book)

Tracheostomy Indications, insertion and complications

- | | |
|-------------|-------------|
| a – 3 marks | d – 3 marks |
| b – 3 marks | e – 3 marks |
| c – 4 marks | f – 4 marks |

Question 6 SAQ (Green Book)

- In a patient with diabetes mellitus, what clinical features may indicate autonomic involvement? (4 marks)
- What are the other microvascular and macrovascular complications of diabetes mellitus? (6 marks)
- What is the recommended upper limit of HbA1C for elective surgery (1 mark) and what is the Association of Anaesthetists of Great Britain & Ireland (AAGBI) guidance for perioperative blood glucose monitoring in diabetic patients? (3 marks)
- List 3 classes of oral hypoglycaemic agents that are available (3 marks) and describe the mechanism of action of each. (3 marks)

Question 7 CRQ (Yellow Book)

Paediatric day case ENT anaesthesia

- | | |
|-------------|-------------|
| a – 2 marks | d – 4 marks |
| b – 3 marks | e – 5 marks |
| c – 6 marks | |

Question 8 SAQ (Yellow Book)

- Why is cardioplegia solution used in cardiac surgery? (3 marks)
- What is the typical composition of cardioplegia solution? (4 marks)
- What are the physiological effects of cardioplegia solution on the myocardium? (5 marks)
- By which routes can cardioplegia solution be administered? (2 marks)
- What are the possible complications of cardioplegia solution administration? (6 marks)

Question 9 CRQ (Orange Book)

Myasthenia gravis

- | | |
|-------------|-------------|
| a – 2 marks | e – 2 marks |
| b – 2 marks | f – 5 marks |
| c – 3 marks | g – 2 marks |
| d – 1 mark | h – 3 marks |

Question 10 SAQ (Orange Book)

- What are the two commonest causes of direct maternal death (occurring within 42 days of the end of pregnancy) in the latest Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK (MBRRACE-UK) report 2018? (2 marks)
- What is the leading cause of indirect death in the latest MBRRACE-UK report 2018? (1 mark)
- Amniotic fluid embolism (AFE) is a direct cause of maternal mortality. How does AFE present clinically? (8 marks)
- What are the possible obstetric (3 marks) and non-obstetric (4 marks) differential diagnoses of AFE?
- State the two possible theories about the pathophysiology of AFE. (2 marks)

Question 11 CRQ (Grey Book)

Anaesthesia for revision hip surgery

- | | |
|-------------|-------------|
| a – 3 marks | e – 3 marks |
| b – 4 marks | f – 1 mark |
| c – 1 mark | g – 4 marks |
| d – 4 marks | |

Question 12 SAQ (Grey Book)

- List the implications for the patient of an inadvertent wrong-sided peripheral nerve block. (5 marks)
- Summarise the recommendations of the "Stop Before You Block" campaign. (4 marks)
- List the factors that have been identified as contributing to a wrong side block being performed. (5 marks)
- Define the term "never event" (2 marks) and list four drug related never events. (4 marks)