MCQs for the Primary FRCA

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Introduction

This book contains 540 questions in 6 papers as they might appear in the examination. Each paper has 90 questions, each with 5 parts. There are 30 physiological questions, 30 pharmacology questions and 30 physics, clinical measurement and statistics questions.

The questions have been constructed using information remembered by candidates sitting the London college examination in recent years. These may not be the exact questions as they appeared in the examination but will be of the same degree of difficulty and cover the same topics.

In order to pass the primary anaesthesia examination, knowledge is required and it is essential to learn about all the topics that might be examined. These questions are a guide to the syllabus and the subjects that should be covered before appearing in the examination.

It is probably not realistic to try to learn by just reading an MCQ book. But once the trainee has studied for 6 months or more then a book such as this is one way of testing whether enough of the topics have been covered and then the level of knowledge and understanding that has been achieved.

It is important to practise a technique for answering MCQ questions. In the examination hall it is a good idea not to record the answers on the answer sheet during the first 15 minutes as that is when mistakes of entering the answers under the wrong question number occur. But it is important that, every time a question is read, a decision is made about the answer and that decision should be recorded on the question sheet, before transferring anything to the answer sheet. Use a code that allows you to record a decision every time you read a question. Place a mark against each question on the question paper such as T (true), F (false) or X (do not know). Start to transfer your certain answers to the answer sheet only once the adrenaline is settling down. Go back again and re-read the questions you were not certain about. Look at what you thought the answer was the first time and if you think it is the same on a second reading it may be worth transferring that answer. Use the suggested answers in the book to check if you are guessing too much and getting it wrong too often or not transferring some of your hunches which are proving to be correct.

It is always difficult to be certain of the pass mark, but below 50% will not be a pass, between 50% and 55% will sometimes be a pass, between 55% and 60% should be a pass, but it will vary between each sitting of the examination.

If the examination changes to one correct answer for every five questions the answering technique will remain the same. Record your answer on the question paper to start with and only transfer answers when you are certain and when your adrenaline has settled. Then go back and check the ones you have not transferred. If there is no negative marking you should answer all the questions with your best guess but you want to avoid making too many changes on the answer sheet.

Read each question carefully. Some common problems include seeing a question on a familiar topic but not checking the decimal point, the units used or the negative phrasing. The words 'may' and 'can' are usually true but not always and 'always' will usually be false in medical matters.

MCQ tutor program

To complement this book, but separate from the book, the MCQ Tutor program has been developed by Dr Richard Shillito, who is an anaesthetist. The aim of the program is to specifically help candidates to work out if they are too cautious and do not answer questions that they would probably get right or are inclined the other way and guess too much and so score a lot of negative points.

For details of the program visit the Cambridge University Press website www.cambridge.org/9780521705097.

You will need Microsoft 2000 or XP in order to run this program. The program uses the same test papers that are in this book. The reader is asked to enter their answers – true/false – or if you are uncertain mark true/false and possible or do not know.

When the test paper is finished two scores will be calculated. One for all the answers given and a second score for the answers only marked as certain. From the two scores it will be possible to determine whether all the certain answers by themselves would have been enough to pass, or whether the 'possible' answers should be included.

This is the first program that we are aware of that allows the candidate to find out if their guesses are good guesses that should be used to add to their total score or bad guesses that are reducing their overall score. The authors are very grateful to Richard Shillito for all his efforts in writing this program.

Abbreviations

2,3-DPG	2,3-diphosphoglycerate
AA	amino acids
ACEI	angiotensin converting enzyme inhibitor
ACTH	adrenocorticotropic hormone
ADH	antidiuretic hormone
ADP	adenosine diphosphate
ALT	alanine aminotransferase
ANP	atrial natriuretic peptide
aPTT	activated partial thromboplastin time
ARDS	acute respiratory distress syndrome
AST	aspartate aminotransferase
ATP	adenosine triphosphate
AUC	area under the curve
AV	atrioventricular
AVP	arginine vasopressin
BBB	blood–brain barrier
BiS	bispectral analysis
cAMP	cyclic adenosine monophosphate
CBF	cerebral blood flow
CMRR	common mode rejection ratio
CoHb	carboxyhaemoglobin
CPAP	continuous positive airways pressure
CPP	coronary perfusion pressure
CSF	cerebrospinal fluid
CTZ	chemoreceptor trigger zone
CV	closing volume
DCT	distal convoluted tubule
DINAMAP	devices for indirect non-invasive automated mean arterial pressure measurement
DPPC	dipalmitoylphosphatidylcholine
DRA	dosage regimen adjustment
ECFV	extracellular fluid volume

EDP	end-diastolic pressure
EF	ejection fraction
EPSP	excitatory postsynaptic potential
FFA	free fatty acids
FRC	functional residual capacity
GFR	glomerular filtration rate
GIP	gastric inhibitory peptide
HbA	adult haemoglobin
HbF	fetal haemoglobin
ICFV	intracellular fluid volume
IOP	intraocular pressure
IP_3	inositol trisphosphate
IPPV	intermittent positive-pressure ventilation
IPSP	inhibitory postsynaptic potential
ISFV	interstitial fluid volume
IVC	inferior vena cava
LOH	loop of Henle
LOS	lower oesophageal sphincter
LVEDP	left ventricular end-diastolic pressure
MAO	monoamine oxidase
MAC	minimum alveolar concentration
MAP	mean arterial pressure
MetHb	methaemoglobin
MRI	magnetic resonance imaging
NANC	non-adrenergic, non-cholinergic
NIDDM	non-insulin-dependent diabetes mellitus
NIST	non-interchangeable screw thread
NMDA	N-methyl-D-aspartate
NSAIDs	non-steroidal anti-inflammatory drugs
ODC	oxyhaemoglobin dissociation curve
P_{50}	oxygen tension of 50% saturation
PA	pulmonary artery
PAH	para-aminohippuric acid
PCT	proximal convoluted tubule
PCV	packed cell volume
PDE	phosphodiesterase
PEEP	positive end-expiratory pressure
PEFR	peak expiratory flow rate
PONV	postoperative nausea and vomiting

PT	prothrombin time
PTH	parathyroid hormone
PV	plasma volume
PVR	pulmonary vascular resistance
RAM	random access memory
REM	rapid eye movement
ROM	read only memory
RPF	renal plasma flow
RQ	respiratory quotient
RV	residual volume
SA	sinoatrial
SD	standard deviation
SELV	safety extra low-voltage
SEM	standard error of the mean
SIADH	syndrome of inappropriate ADH secretion
SLE	systemic lupus erythematosus
SVP	saturated vapour pressure
SVT	supraventricular tachyarrhythmias
TBG	thyroxine-binding globulin
TBPA	thyroxine binding pre-albumin
TBW	total body water
TENS	transcutaneous electrical nerve stimulation
TLC	total lung capacity
TmG	tubular maximum
TMP	transmembrane pressure
TOE	transoesophageal echocardiography
TSH	thyroid-stimulating hormone
UF	ultrafiltrate
V/*Q*	ventilation/perfusion
VIC	vaporiser inside the circle

Note: Certain drug names used are known by alternatives:

- adrenaline–epinephrine
- noradrenaline–norepinephrine
- lidocaine–lignocaine
- amitriptyline–amitriptiline