



# CMSA

The Colleges of Medicine of South Africa NPC

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JOHANNESBURG OFFICE

**EXAMINATIONS & CREDENTIALS**

March 2023

## R E G U L A T I O N S

### FOR ADMISSION TO THE FELLOWSHIP OF THE COLLEGE OF ANAESTHETISTS OF SOUTH AFRICA

### FCA(SA)

#### 1.0 COMPONENTS

- 1.1 The examination comprises two parts: Part I and Part II.
- 1.2 The Part II must be passed within six years of passing the Part I examination.

#### 2.0 PURPOSE OF ASSESSMENT

This qualification forms part of the process to accredit medical practitioners as Anaesthesiologists (Specialist Anaesthetists).

#### 3.0 ADMISSION TO THE EXAMINATION

- 3.1 The CMSA Senate, through its Examinations and Credentials Committee, will review all applications for admission to the examination and may also review the professional and ethical standing of candidates.

##### 3.2 Part I

A candidate may be admitted to Part I of the examination on having:

- 3.2.1 a qualification to practice medicine that is registered or registrable as a Medical Practitioner with the Health Professions Council of South Africa (HPCSA)

##### 3.3 Part II

A candidate may be admitted to the Part II examination:

- 3.3.1 after passing the FCA (SA) Part I examination OR
- 3.3.2 after passing the MMed (Anaes) Part 1 from a South African University OR
- 3.3.3 after having been exempted by College of Anaesthetists from the primary examination

AND

- 3.3.4 on production of evidence of:

- 3.3.4.1 having held a fulltime appointment as a registrar in an academic Department of Anaesthesiology for at least three years. (Only one year may be spent in a satellite training hospital). The candidate must have completed 36 months of training as at the date of the OSCE examination.<sup>1</sup>

AND

- 3.3.4.2 having been assigned for three months of the above period to an accredited Intensive Care Unit on a fulltime basis

AND

- 3.3.4.3 having successfully completed a Portfolio of Learning for the training period as evidenced by a completed declaration from the head of the academic department. It is recommended that all candidates entering into their registrar training from 1 January 2019 use an online electronic portfolio to maintain a record of the teaching and training during their registrar training.

<sup>1</sup> Effective from SS 2019

## 4.0 FORMAT OF THE EXAMINATION

### 4.1 PART I

4.1.1 The examination consists of the following three subjects with emphasis on those general principles relevant to anaesthesiology and analgesia:

- i) **Physiology and Chemical Pathology**
- ii) **Pharmacology**
- iii) **Physics and the Principles of Clinical Measurement and Data Management**

4.1.2 At their initial attempt, candidates must write **ALL** of the subjects listed in 4.1.1 at a single sitting of the examinations of the Colleges of Medicine of South Africa.

4.1.3. The examination comprises the following for **each** of the subjects listed in 4.1.1 above:

4.1.3.1 a three-hour online written paper comprising a minimum of one hundred and twenty multiple choice/single best answer questions with a minimum of three choices per question.

AND

4.1.3.2 a three-hour online written paper, comprising a minimum of twenty questions requiring short answers.

#### 4.1.4 **Criteria for passing the Part I examination<sup>2</sup>**

4.1.4.1. Marks for the written examinations, for each subject, will be aggregated from all the different papers used, then analysed together for each subject and the pass mark determined by the Cohen method of standard setting. To ensure a higher probability of a true pass, the Standard Error of Measurement (SEM), a marker reflecting the reliability of the examination, will then be added to the Cohen pass mark to determine the final pass mark (standard). Candidates must achieve a mark on or above this final pass mark to pass.

4.1.4.2. In order to pass each subject a candidate must achieve an average mark equal to or greater than the passing score as determined in 4.1.4.1. for both papers combined in each of the subjects.

4.1.4.3. A candidate who passes all three subjects in terms of rule 4.1.4.2. will have passed the primary examination.

4.1.4.4. A candidate who passes any subject/s in terms of 4.1.4.2, must attempt the failed subject/s at the next two consecutive examinations of the CMSA.

4.1.4.5 All three subjects listed in 4.1.1 must be completed within **THREE** consecutive college examinations.

4.1.4.6. A candidate who fails the remaining subject/s at the next two consecutive examinations will be deemed to have failed the FCA(SA) Part I examination. Such a candidate will need to repeat **ALL THREE** subjects at a later examination.

#### 4.1.5 Notice of change in regulations effective from First Semester 2024

The FCA 1 examination will **no longer** consist of the traditional three subjects with a total of six papers. The new FCA 1 examination will consist of **four papers: two short answer question [SAQ] papers and two single best answer [SBA] papers, each consisting of integrated questions combining the three subjects:**

1. Pharmacology
2. Anatomy, Physiology, Medical Biochemistry and Clinical pathology.
3. Physics, Clinical measurement, Anaesthetic environment and equipment.

Marks for the four papers will be aggregated, and the overall pass mark will be determined by applying Cohen standard setting, to the total mark of all four papers.

Due to the.../

<sup>2</sup> Rule change effective SS 2019

Due to the variability of the contents of each paper, supplementary examinations will be not offered. **Candidates who do not pass the examination, will have to sit for all four papers at a subsequent examination.**

**It should be noted that any candidate who has not completed the requirements for FCA part 1 under the old regulations by the end of December 2023, will have to re-enter under the new regulations.**

## 4.2 PART II

### 4.2.1 Components

The examination comprises 2 components, which must each be passed independently.

#### 4.2.1.1 Written

- i) ONE online written paper of THREE hours comprising a minimum of one hundred and twenty multiple choice/single best answer questions with a minimum of three choices per question.
- ii) ONE online written paper of THREE hours comprising a minimum of TWENTY short answer questions.
- iii) ONE online written paper of THREE hours comprising a minimum of TWENTY questions requiring short answers with an emphasis on data interpretation.

4.2.1.2 An **Objectively Structured Clinical Examination (OSCE)** consisting of a minimum of twelve (12) stations. The OSCE may be split into multiple parts, run over multiple days, for logistic reasons, and to ensure standardization. The **OSCE** will test multiple competencies including but not limited to:

- Communication
- Collaboration
- Leadership
- Health Advocacy
- Professionalism
- Scholarship
- Knowledge integration

### 4.2.2 Weighting of the components of the examination for the FCA (SA) Part II

#### 4.2.2.1 Written Examination

- Marks from all three written examination papers will be combined, then analysed together and the pass mark for the Part II written examination will then be determined by the Cohen method of standard setting. To ensure a higher probability of a true pass, the Standard Error of Measurement (SEM), a marker reflecting the reliability of the whole written examination, will then be added to the Cohen pass mark to determine the final pass mark (standard). Candidates must achieve a mark on or above this final pass mark to pass the written examination.<sup>3</sup>

#### 4.2.2.2 Objectively Structured Clinical Examination

- All stations in the OSCE examination are equally weighted
- The Borderline Regression method will be used to set the standard (pass mark) for each of the stations used in the OSCE. The overall OSCE standard will be calculated using the average from all the stations' pass marks in the OSCE.
- To ensure a higher probability of a true pass, 2 x the Standard Error of Measurement (a marker of reliability of the examination) will be added to the overall Borderline Regression OSCE pass mark (as explained in previous bullet point) to determine the final pass mark (standard) which will be used. Candidates must obtain an average OSCE mark greater than or equal to the final passing score, as explained in this section, for the entire OSCE, to pass the clinical component of the Part II examination.

4.2.3.../

<sup>3</sup> Rule change effective SS 2023

**4.2.3 Criteria for entry to the OSCE examination:**

The written component of the examination must be passed in order to progress to the OSCE examination

**4.2.4 Minimum Criteria for passing the Part II examination**

4.2.4.1. Entry into the OSCE section of the examination as in 4.2.3 above

4.2.4.2. Passing the OSCE as explained in 4.2.2.2. above.

4.2.4.3. If a candidate passes the written component of the FCA (SA) Part II examination, but fails the OSCE component of the exam, they will be permitted to repeat the OSCE component once only, at the next set of examinations, without having to rewrite the written component. This carry over of the written component results will only be permitted once, and only for the OSCE examination directly following the failed OSCE

**4.2.5 Calculation of the final composite mark of the FCA Part II examination**

Should a final composite mark for the FCA Part II examination be required for administrative purposes, it will be constituted equally by both components of the FCA Part II examination as described in 4.2.1

**5.0 ADMISSION AS A FELLOW**

5.1 Only candidates who have completed training in a CMSA recognised registrar post may be awarded a fellowship if successful in the examination.

5.2 **Candidates who have written the examination as a prerequisite from the HPCSA for inclusion on the specialist register are not eligible to be awarded a Fellowship but will be sent a letter confirming their success in the examinations**

All other candidates will be asked to sign a declaration as below:

I, the undersigned, ..... do solemnly and sincerely declare

that while a member of the CMSA I will at all times do all within my power to promote the objects of the CMSA and uphold the dignity of the CMSA and its members

that I will observe the provisions of the Memorandum and Articles of Association, By-laws, Regulations and Code of Ethics of the CMSA as in force from time to time

that I will obey every lawful summons issued by order of the Senate of the said CMSA, having no reasonable excuse to the contrary

and I make this solemn declaration faithfully promising to adhere to its terms

Signed at ..... this ..... day of

..... 20 .....

Signature .....

Witness .....

(who must be a Founder, Associate Founder, Fellow, Member, Diplomat or Commissioner of Oaths)

5.2 two-thirds majority of members of the CMSA Senate present at the relevant meeting shall be necessary for the award to any candidate of a Fellowship

5.3 Fellows shall be entitled to the appropriate form of certificate under the seal of the CMSA

5.4 In the event of a candidate not being awarded the Fellowship (after having passed the examination) the examination fee shall be refunded in full

5.5 The first annual subscription is due one year after registration (statements are rendered annually)

## APPENDIX A

The following information is intended as a guide to candidates, and indicates the general scope of the examination in the three papers for the **Part I** examination.

### PHYSICS and the PRINCIPLES of CLINICAL MEASUREMENT

#### 1.0 PHYSICS

- 1.1 Basic units of measurement
- 1.2 Work, energy and power
- 1.3 Elementary mathematics relevant to anaesthesia (natural exponential functions, sine waves etc)
- 1.4 The gas laws
- 1.5 Manufacture, storage and supply of anaesthesia gases
- 1.6 Vapour pressure, latent heat, and vaporisers
- 1.7 Diffusion and osmosis
- 1.8 Solubility
- 1.9 Humidity and humidification
- 1.10 Heat, thermometry
- 1.11 Fires and explosions
- 1.12 Basic electricity, electrical safety, diathermy
- 1.13 Bernouli effect; Coander effect and anaesthetic applications
- 1.14 The electromagnetic spectrum and its application
- 1.15 Ultrasound and the Doppler principle
- 1.16 Transducers, damping coefficient, natural frequency

#### 2.0 CLINICAL MEASUREMENT

##### 2.1 General:

- 2.1.1 Units of measurement
- 2.1.2 Recording of display of biological potentials [ECG, EEG, EMG evoked potentials etc]
- 2.1.3 Electrodes [pH, PCO<sub>2</sub>, and PO<sub>2</sub>]
- 2.1.4 Measurement of flow and volume
- 2.1.5 Measurement of pressure, non-invasive and invasive transducers, damping etc
- 2.1.6 Measurement of electrolytes
- 2.1.7 Gas and vapour analysis
- 2.1.8 **Tests of Organ Function:**
  - 2.1.8.1 Respiratory system
  - 2.1.8.2 Cardiovascular system
  - 2.1.8.3 Central nervous systems
  - 2.1.8.4 Coagulation
  - 2.1.8.5 Neuromuscular junction and blockade

**2.2 Anaesthesia Related Apparatus:**

- 2.2.1 The anaesthesia machine
- 2.2.2 Breathing systems
- 2.2.3 Ventilators
- 2.2.4 Filters
- 2.2.5 Monitors
- 2.2.6 Electrocardiograph machine
- 2.2.7 Cardiac defibrillators
- 2.2.8 Pacemakers
- 2.2.9 The effect of barometric pressure on functioning apparatus

**2.3 Basic Statistics:**

Candidates should understand the appropriate application of statistical tests to particular situations, but will not be expected to be able to perform the necessary calculations. Statistics should be learnt as a background for future research and to enable a candidate to evaluate the literature critically.

- 2.3.1 **Basic research methodology:** Randomisation and sampling; Hypothesis testing; Types of error; Power analysis; Types of data; Accuracy, bias, precision.
- 2.3.2 **Descriptive Statistics:** Types of distribution (Gaussian and non-Gaussian); Measures of central tendency - mean, median and mode; Measure of dispersion - standard deviation, standard error of the mean; Methods of displaying data graphically - histograms etc; Percentiles.
- 2.3.3 **Distribution:** Types of distribution; Standard deviation and standard error of the mean.
- 2.3.4 **Statistical Tests:** Probability and *p* values; Confidence intervals; Hypothesis testing for significance; Degrees of freedom; One-tail and two-tail tests; Student's *T* test; Analysis of variance; Chi-square test; Non-parametric tests (Wilcoxon, Mann-Whitney, Spearman); Odds ratios.
- 2.3.5 **Comparison:** Correlation and regression; Altman and Bland.

**PHARMACOLOGY****1.0 PRINCIPLES:**

- 1.1 General principles of pharmacology with particular attention to uptake, distribution, biotransformation and excretion of drugs and mechanism of drug action.

**2.0 SYSTEMATIC PHARMACOLOGY:**

This should include the pharmacology of:

- 2.1 General principles of receptor kinetics, pharmacokinetics and pharmacodynamics
- 2.2 Inhalational anaesthetic agents
- 2.3 Intravenous anaesthetic agents
- 2.4 Drugs blocking nerve conduction
- 2.5 Drugs blocking and stimulating autonomic pathways
- 2.6 Drugs affecting the neuromuscular junction and cholinergic receptors
- 2.7 Histamine, histamine antagonists; serotonin and antagonists
- 2.8 Drugs used in the relief of acute and chronic pain
- 2.9 Drugs producing anxiolysis, sedation, neuroleptosis and amnesia
- 2.10 Drugs used in treatment of epilepsy, Parkinson's disease, depression, mania
- 2.11 Drugs affecting voluntary and involuntary muscle tone
- 2.12 Drugs influencing the conduction, contractility, rhythm, and myocardial oxygen supply and demand balance of the heart
- 2.13 Drugs influencing blood pressure
- 2.14 Drugs influencing haemostasis
- 2.15 Oxytocic drugs
- 2.16 Drugs stimulating, stimulating or blocking hormones
- 2.17 Drugs influencing thermoregulation
- 2.18 Antibiotics, chemotherapeutic agents and immunosuppressive drugs (detailed knowledge not expected)

- 2.19 Diuretics
- 2.20 General principles of drug interactions
- 2.21 Anti-emetic and anti-diarrhoeal drugs
- 2.22 Drugs modifying gastric pH, volume of gastric aspirate, gastric emptying and gastrointestinal smooth muscle tone
- 2.23 Contrast media
- 2.24 Intravenous colloids
- 2.25 Pharmacogenetics related to anaesthesia

## **PHYSIOLOGY and CHEMICAL PATHOLOGY**

The relevant chemical pathology under each section should be studied.

### **1.0 BASIC ASPECTS**

- 1.1 Internal environment. Homeostasis. Control systems and mechanisms. The cell membrane. Intercellular and intracellular communication

### **2.0 WATER AND ELECTROLYTES**

- 2.1 Body water. Osmolality. Osmolarity. Osmolar and anion gap
- 2.2 Sodium. Potassium. Magnesium. Calcium. Phosphate. Chloride
- 2.3 Water and electrolyte disturbances

### **3.0 CELL PHYSIOLOGY**

- 3.1 Membranes. Membrane potentials. General cellular physiology
- 3.2 Basic genetics, genetic control of cellular activity and genetic diseases (eg Porphyria)

### **4.0 BLOOD**

- 4.1 Blood cells. Blood groups. Platelets. Haemostasis. Fibrinolysis. Body defence mechanisms. Blood transfusions. Clinical tests of function

### **5.0 INTERMEDIARY METABOLISM**

- 5.1 Carbohydrate metabolism; fat metabolism; protein metabolism - basic aspects. Aerobic and anaerobic metabolism. Energy metabolism

### **6.0 EXCITABLE TISSUES - NERVOUS SYSTEM**

- 6.1 Action potential and graded responses. Membrane excitability
- 6.2 Neuromuscular transmission. Skeletal muscle physiology
- 6.3 Reflexes. Muscle tone
- 6.4 Basic function of spinal cord and brain
- 6.5 Synaptic transmission. Neurotransmitters
- 6.6 Sensory mechanisms - basic aspects
- 6.7 Physiology of pain
- 6.8 Body temperature
- 6.9 Motor function - basic aspects
- 6.10 Autonomic nervous system
- 6.11 Consciousness and sleep
- 6.12 Cerebral blood flow. Brain metabolism
- 6.13 Intracranial pressure. Cerebrospinal fluid - formation and flow



**7.0 CARDIOVASCULAR SYSTEM**

- 7.1 Transcapillary exchange. Oedema
- 7.2 Principles of blood flow. Compliance. Transmural pressures
- 7.3 Generation and conduction of the cardiac impulse. Common arrhythmias
- 7.4 Normal ECG
- 7.5 Cardiac cycle and cardiac sounds. Pressure changes in atria and ventricles
- 7.6 Cardiac output. Preload, afterload, contractility, the work of the heart
- 7.7 Blood pressure. Central venous and wedge pressures
- 7.8 Control of the circulation
- 7.9 Myocardial blood flow and metabolism
- 7.10 Pathophysiology of myocardial ischaemia, shock, hypertension, anaemia, and cardiac failure
- 7.11 The regulation of blood pressure
- 7.12 Tests of cardiac function

**8.0 RESPIRATORY SYSTEM**

- 8.1 Oxygen and carbon dioxide homeostasis
- 8.2 Pulmonary circulation. Transcapillary exchange. Pulmonary oedema
- 8.3 Characteristics of the respiratory centre
- 8.4 Pressures in the respiratory system
- 8.5 Lung volumes and capacities
- 8.6 Respiratory minute volume. Alveolar ventilation. Dead space
- 8.7 Respiratory muscle. Mechanism of spontaneous ventilation
- 8.8 Physiology of mechanical ventilation
- 8.9 Ventilation-perfusion relationships
- 8.10 Elasticity and compliance. Flow resistance. Work of breathing
- 8.11 Alveolar gas exchange
- 8.12 Gas transport to and from the tissues. Oxygen consumption and CO<sub>2</sub> production
- 8.13 Effects of barometric pressure
- 8.14 Control of ventilation
- 8.15 Non-respiratory pulmonary function
- 8.16 Hypoxia and hypercarbia. Pathophysiology of respiration failure - basic aspects
- 8.17 Pulmonary function tests

**9.0 URINARY SYSTEM**

- 9.1 Glomerular filtration. Renal blood flow. Re-absorption and secretion
- 9.2 Handling of water, electrolytes and other substances
- 9.3 Dilution and concentration of urine. Countercurrent mechanisms
- 9.4 Plasma clearance. Renin-angiotensin mechanisms
- 9.5 Renal function tests

**10.0 ACID-BASE PHYSIOLOGY**

- 10.1 Henderson-Hasselbalch equation
- 10.2 Chemical buffers
- 10.3 Acidosis and alkalosis

**11.0 NUTRITION AND GASTRO-INTESTINAL SYSTEM**

- 11.1 Enteral and parenteral nutrition - basic aspects. The lower oesophageal sphincter
- 11.2 Gastro intestinal function and secretion. Vomiting and regurgitation
- 11.3 Liver function tests. Pathophysiology of jaundice.
- 11.4 Hormones of the gastrointestinal tract

**12.0 ENDOCRINE SYSTEM**

- 12.1 Hypothalamus
- 12.2 Pituitary
- 12.3 Thyroid
- 12.4 Adrenal gland
- 12.5 Pancreas including abnormalities of glucose metabolism
- 12.6 Calcium and phosphate homeostasis
- 12.7 Mode of action of hormones
- 12.8 Prostaglandins, leucotrienes, encephalins and endorphins
- 12.9 Endocrine function of other organs (kidney, lung etc)

**13.0 REPRODUCTIVE SYSTEM AND PREGNANCY**

- 13.1 Physiology of pregnancy
- 13.2 Fetal circulation and adaptations after birth
- 13.3 Placental function and transfer mechanisms

**14.0 NEONATAL PHYSIOLOGY****15.0 TEMPERATURE REGULATION****16.0 BASIC IMMUNOLOGY**

- 16.1 Body defence mechanisms, allergy and anaphylaxis

**FCA(SA) PART I****RECOMMENDED READING LIST****All Three Subjects:**

1. Miller RD. *Anesthesia*. Churchill Livingstone, Latest Edition
2. *Annual ASA refresher course lecture notes*
3. *Relevant journal articles*
4. Morgan GE, Mikhail MS, Murray MJ. *Clinical anesthesiology*. Stamford, Conn. Prentice-Hall. Latest Edition

**Biochemistry:**

6. Murray RK, *Harper's illustrated biochemistry*. New York, London. McGraw-Hill. Latest Edition

**Chempath:**

7. Walmsley RN, White GH. *A guide to diagnostic clinical chemistry*. Oxford. Blackwell Scientific Publications. Latest Edition

**Pharmacology:**

8. *SA medicines formulary*.
10. Stoelting, RK. *Pharmacology and physiology in anesthetic practice*. Philadelphia. Lippincott-Raven, Latest Edition
11. Neal MJ, *Medical pharmacology at a glance*. Oxford. Blackwell Science, Latest Edition
12. Rang HP, Dale MM, Ritter JM. *Pharmacology*. Edinburgh. Churchill Livingstone, Latest Edition
13. Bovill JG, Howie MB. *Clinical pharmacology for anaesthetists*. London. WB Saunders, Latest Edition
14. Calvey TN, Williams NE. *Principles and practice of pharmacology for anaesthetists*, Oxford. Blackwell Science,—Latest Edition
15. Kaufman L, Taberner PV. *Pharmacology in the practice of anaesthesia*. London. Arnold, Latest Edition
16. Milner A, Welch E. *Applied pharmacology in anaesthesiology and critical care*. Centurion. Medpharm 2012

**Physics:**

16. Davis PD, Kenny GNC. *Basic physics and measurement in anaesthesia*. Oxford. Butterworth Heinemann, Latest Edition
17. Aitkenhead AR, Moppett I, Smith JT Aitkenhead's *Textbook of Anaesthesia*, Latest edition
18. Dorsch JA, Dorsch SE. *Understanding anaesthesia equipment*. Baltimore. Williams & Wilkins, Latest Edition
19. Sykes MK, Vickers MD. *Principles of measurement and monitoring in anaesthesia and intensive care*. Blackwell, Latest Edition

**Physiology:**

19. Guyton AC, Hall JE. *Textbook of medical physiology*. London. WB Saunders, Latest Edition
20. Ganong WF. *Review of medical physiology*. Stamford, Conn. Appleton & Lange. London. Prentice Hall International, Latest Edition
21. West JB. *Respiratory physiology – the essentials*. Philadelphia. Lippincott Williams & Wilkins, Latest Edition
22. Stoelting RK. *Pharmacology and physiology in anesthetic practice*. Philadelphia. Lippincott-Raven, Latest Edition
23. Lumb AB. *Nunn's applied respiratory physiology*, Oxford. Butterworth-Heinemann, Latest Edition

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**APPENDIX B**

The following information is intended as a guide to candidates, and indicates the general scope of the examination for the **Part II** examination. **Candidates are referred to the DETAILED CURRICULUM on the CMSA website.**

**1.0 Recommended subjects to be covered in the FCA(SA) Part II examination:**

- The history, principles and practice of anaesthesiology and analgesia, including pre-operative evaluation and preparation and post-operative care
- Clinical medicine and surgery related to the practice of anaesthesiology
- The application of anatomy, pathology and pharmacology to the speciality of anaesthesiology
- Principles of continuous learning and quality assurance

**2.0 Anaesthesia for:**

- Airway management problems
- Ambulatory/Day case surgery
- Cardiac Surgery
- Conscious sedation
- Endocrine Surgery
- General surgery
- Gynaecological Surgery
- Hypotensive Anaesthesia
- Interventional Radiology
- Neurosurgery
- Obstetric procedures
- Ophthalmological Surgery
- Orthopaedic Surgery
- Otorhinolaryngology Surgery
- Paediatric Surgery
- Patients in remote situations
- Plastic and Maxillofacial Surgery
- Robotic Surgery
- Thoracic Surgery
- Transplant Surgery
- Trauma Surgery and resuscitation
- Urological Surgery
- Vascular Surgery

**3.0 Other**

- General management of patients with cardiovascular, respiratory, endocrine, metabolic, hepatic, neurological, neuromuscular, gastro-intestinal, musculo-skeletal, and renal disorders
- Critical & Intensive Care Medicine
- Ethics and Medico-Legal Issues
- Conscious sedation
- Acute & chronic pain management

**Recommended Reading List for Part II**

1. Miller RD. *Anesthesia*. Churchill Livingstone,–Latest edition
2. Morgan GE, Mikhail MS, Murray MJ. *Clinical anesthesiology*. MacGraw Hill Companies. Latest edition
3. *Stoelting's Anaesthesia & Co-existing Disease*. Saunders–Latest edition
4. Barash, Cullen, Stoelting, Cahalan & Stock. *Clinical Anesthesia*. Lippincott, Williams & Wilkins. Latest edition

**5. IN ADDITION:**

Candidates are referred to more specialised texts for the various subspecialist areas of anaesthesiology.