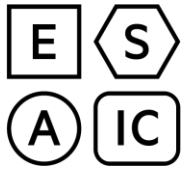


European Society of  
Anaesthesiology and  
Intensive Care



## **Diploma Guide**



European Society of  
Anaesthesiology and  
Intensive Care

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## **1. INTRODUCTION: OBJECTIVES AND STRUCTURE**

### **OBJECTIVES OF THE EXAMINATION**

#### **Testing of knowledge**

The primary object of any examination is to find out whether the examination candidate has acquired the necessary breadth and depth of knowledge, as judged by the examiners. The examination standard, therefore, is set by the examiners who act as the agents of the diploma granting body, in this case, the European Society of Anaesthesiology. The aim is to achieve a uniformly high standard of knowledge by anaesthesiologists throughout Europe. Possession of the Diploma in Anaesthesiology and Intensive Care (EDAIC) demonstrates that the owner has a high level of knowledge as judged by the Board of Examiners.

#### **Effect on training programmes**

The existence of a supra-national examination in anaesthesiology provides an incentive for the development of departmental, university, national and European training programmes. The examination is a target for which anaesthetic trainees can prepare and this has a beneficial effect on both learning and teaching. Thus, a demand is created for training programmes including relevant books and journals, dedicated lecture courses and examination-orientated tutorials. The inclusion of the basic medical sciences in both parts of the diploma examination helps to ensure that this essential ingredient in anaesthetic training is not neglected. Moreover, an examination target covering both basic science and the clinical subjects helps to ensure that trainees obtain a broad-based training and do not succumb to the temptation of indulging in highly specialised research work before their training is complete.

#### **Effect on promotion**

One of the problems confronting heads of departments of anaesthesiology is in judging the competence, knowledge and skills of the various departmental trainees with a view to promotion to higher grades. The existence of a two-part diploma examination can be very useful in helping to solve this problem. The Part I can act as a 'promotional hurdle' for movement from one grade to another and the Part II, which cannot be taken until the candidate has a specialist status (or is in the last year of training in a European country), can act as the mark of the especially high-ranking candidate.

#### **Evaluation of foreign medical graduates**

The aim of the European Union of facilitating movement of individuals throughout the EU countries often presents problems to potential medical employers. These problems are not, of course, confined to the EU countries. How does the potential employer in one country assess the competence of an applicant for a post from another country which may have very different training programmes? The existence of a European diploma goes a long way towards solving this problem and possession of the EDAIC (European Diploma in Anaesthesiology and Intensive Care) provides evidence of a high standard of training.

#### **Competition for permanent posts**

When applying for career posts, those applicants who succeed rely heavily on evidence of a first-class training. The possession of the EDAIC can be expected to influence selection committees since it demonstrates that the applicant has been judged by an independent Board of Examiners as a fully trained anaesthesiologist.

#### **Mutual recognition of other diploma examinations**

Postgraduate diploma examinations in anaesthesiology exist in several other countries around the world. It is the aim of the European Society of Anaesthesiology to gain mutual recognition with those examinations. Thus, holders of the EDAIC can gain exemption from the Primary examinations of both the Royal College of Anaesthetists of United Kingdom and the College of Anaesthetists of Ireland. Equally, Fellows of either of these organisations can gain exemption from Part I of the European Diploma in Anaesthesiology and Intensive Care.

## **STRUCTURE OF THE EXAMINATION**

The examination is a multilingual, end-of-training, two-part examination covering the relevant basic sciences and clinical subjects appropriate for a specialist anaesthesiologist.

### **Part I**

- a) The examination is held annually in September or October simultaneously in several centres and different languages as listed in the annual examination calendar.
  
- b) The Part I examination comprises two multiple choice question (MCQ) papers. Each paper has sixty questions and is of two hours duration (or 90 minutes if the examination is taken on a computer). The MCQ format adopted is that of a stem with five responses, each of which may be either true or false. Instructions to candidates on how to answer the MCQ's can be found on the ESAIC website. Some sample questions and their answers are available in this Guide.
  
- c) Paper A concentrates on the basic sciences and Paper B comprises questions on internal and emergency medicine, general anaesthesia, regional anaesthesia, special anaesthesia including pain and intensive care medicine. Further details on the subjects covered are given in the 'Guide to Candidates' (page 8). The candidate enters his/her responses on answer sheets which are computer marked (or in the computer directly if the examination is available on computers). The marking method is that each correct response earns one positive mark. Each incorrect response carries no mark. Each blank response carries no mark. The computer assessment produced is then analysed by the Examinations Committee. After the Exam, MCQ booklets and answer sheets may be made available for review under monitored conditions to candidates who have failed the Part I examination from countries where it is mandatory or recognised as equivalent to one of the national examinations for the anaesthetic specialty.
  
- d) In deciding the pass marks for the two multiple choice question papers, the Examinations Committee takes into account two important variables:
  - i. The use of new and altered MCQ's each year can potentially result in slight variations in the standard of the papers. This may result in higher or lower marks being achieved as a result of the standard of the paper rather than variation in the quality of the candidates.
  - ii. The actual standard of those entering the examination may also vary between years. It would be wrong to fail one candidate simply as a result of comparison with others in a particularly strong year when he/she might have appeared comparatively better in a weaker group of candidates at another time.

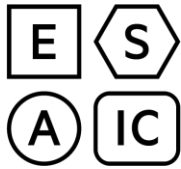
Because of these variables the pass mark varies slightly year on year depending on both the standard of the paper and the performance of candidates on reference or discriminator questions.
  
- e) In order to provide some "feedback" information, both successful and unsuccessful candidates are provided with a Candidate Report of which a specimen is shown on the last page of this Guide. From this, candidates can see how well or badly they have performed in each paper of the examination and in various subject areas. This information can be of particular value to those who have failed the examination and wish to prepare themselves to re-sit. It should be noted that pass / fail marks are evaluated on the paper as a whole and both papers must be passed in order to pass the Part I examination.

## Part II

- a) The Part II examinations are held annually between February and November in several centres and different languages as listed in the examination calendar.
- b) The examination of each candidate is held in a single day during which there are four separate 25-minute oral examinations. In each of these, the candidate is examined by a pair of examiners (in most cases, one from the host country of the examination and the other from outside the host country) thereby meeting eight examiners in all. As far as possible, candidates are not examined by examiners to whom they are known.
- c) The oral examination embraces the same range of basic science and clinical subjects as is covered by the Part I.
- d) In the oral examinations, 'Guided Questions' are used in which candidates will be given a brief written presentation 10 minutes before meeting the examiners. The subsequent examination will then begin by concentrating on the problems arising from this presentation. Two of the oral examinations will concentrate on the basic sciences and two on clinical topics. In the clinical orals, X-rays, Computed Tomography scans, Magnetic Resonance Imaging and ultrasound images are also used.
- e) Part II examiners use a marking system which is divided into three marks. The marks are '0' fail, '1' borderline and '2' pass. For each of the 20 topics of the day, each examiner can award one of three marks. All the marks of the eight examiners (two examiners for each of the four sessions) will be added up to make the final score of the candidate.  
To be successful, the candidate needs to obtain:
  1. a score of at least 25 out of 40 in the morning sessions (Viva 1 + Viva 2)
  2. a score of at least 25 out of 40 in the afternoon sessions (Viva 3 + Viva 4)
  3. an overall score of at least 60 out of 80.It is therefore most important that candidates should try to achieve a consistent and broad range of knowledge rather than become experts in narrow fields.
- f) At the end of each day, the examiners meet, and the marks are declared and reviewed. Until this time, no examiner knows how the candidate has fared in other parts of the examination. Following this meeting, the results are handed to the candidates.
- g) Successful candidates are invited to attend the European Diploma Presentation Ceremony of the annual Euroanaesthesia congress of the Society where the Diplomas are granted. Candidates unable to receive their Diplomas in person may receive them by post.

## **2. PRIVILEGES FOR DIPLOMATES**

1. Diplomates shall be known as "Diplomates of the European Society of Anaesthesiology & Intensive Care" (D.E.S.A.I.C.).
2. New Diplomates who choose to attend the ESAIC annual congress to receive their diploma are entitled to a reduced registration rate for the congress in the year that follows their passing the EDAIC Part II.
3. EDAIC Part I candidates will be offered one year of ESAIC membership. It is hoped that Diplomates will renew their membership and contribute to the achievement of the Society's aims and objectives.



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### **3. EXAMINATION REGULATIONS**

1. The structure of the examination is described on pages 4 and 5.
2. The diploma may be granted to those who have passed both the Part I and the Part II examinations and who have complied with all the regulations.
3. The fees payable for admission to each Part and the dates of examination are available on the ESAIC website <http://www.esaic.org>. All enquiries should be addressed to:

**EDAIC Examinations Office**  
**European Society of Anaesthesiology & Intensive Care**  
**Rue des Comédiens 24**  
**1000 Brussels**  
**Belgium**  
**Tel: +32 (0)2 743 32 99**  
**Fax: +32 (0)2 743 32 98**  
[exam@esaic.org](mailto:exam@esaic.org)

4. Applications for admission to the examination must reach the Examinations Office not later than the dates shown in the Examination Calendar.
5. Applications for admission to an examination must be accompanied at first entry by the required certificates and the full amount of the fee payable.
6. A candidate who may desire to make representations with regard to the conduct of his/her examination must address them to the Examinations Office and not, in any circumstances, to an Examiner.
7. The Examinations Committee may refuse to admit to an examination, or to proceed with the examination of any candidate who infringes any of the regulations, or who is considered by the Examiners to be guilty of behaviour prejudicial to the proper management and conduct of the examination. Detailed regulations for the ITA, OLA, EDAIC Part I and EDAIC Part II are available on the ESAIC website.
8. Successful Part II candidates must send a copy of their final specialist diploma in anaesthesiology to the Examinations Office before the European Diploma can be granted to them.

#### **4. CRITERIA FOR ENTRY**

Candidates of any nationality shall be eligible to sit the European Diploma in Anaesthesiology and Intensive Care.

Candidates will be admitted to the **Part I Examination** provided they are medical graduates.

Candidates will be admitted to the **Part II Examination** provided that they:

- a) have passed the Part I examination **AND**
- b) I. are certified anaesthesiologists in any country\* **OR**  
II. are trainees in the final year of their training in anaesthesiology, in one or more of the [European member states of the World Health Organisation](#).

When applying for the EDAIC Part I examination, candidates must provide a copy of their primary medical diploma together with an official translation into English of that document made by a sworn translator, if their primary medical diploma is not written in one of the languages used for EDAIC Part I or EDAIC Part II.

When applying for the EDAIC Part II examination, candidates must provide a copy of their specialist diploma together with an official translation into English of that document made by a sworn translator, if their specialist diploma is not written in one of the languages used for EDAIC Part I or EDAIC Part II. Part II candidates in the last year of their anaesthetic training in one of the European member states of the WHO must provide an ESAIC Trainee Letter to prove that they are in the last year of their training; such candidates will only be accepted provided that their last year of training starts before or on the day of the Part II registration deadline.

Please note that we cannot award the EDAIC unless and until we see written evidence of actual specialist graduation. Trainees in the final year of their training in anaesthesiology in a European member state of the World Health Organisation will therefore have to provide a copy of their specialist diploma as soon as they receive it.

#### **\* NOTES**

Candidates who graduated as specialists in Pakistan must have the FCPS or equivalent to be eligible for the EDAIC Part II examination. Diplomas in anaesthesiology issued in Pakistan and with a curriculum of a shorter duration than FCPS (such as MCPS) can be accepted for the EDAIC Part I but not for the EDAIC Part II. Holders of the FCPS (or equivalent) are not exempted from the EDAIC Part I.

- Holders of the **FRCA** or **FCAI / FCARCSI** are exempted from the Part I examination. See "Mutual recognition of other diploma examinations" p. 3. Please note that only FRCA will be accepted as proof of specialist certification from UK.

***This advice is offered to prevent candidates entering for the Part I (MCQ) and subsequently discovering that they are ineligible for the Part II (oral).***

#### **RECOMMENDATIONS OF THE EXAMINATIONS COMMITTEE**

In order to maximise their chances of success, candidates are strongly advised to only register:

- for the EDAIC Part I examination after 3 years of training in the anaesthetic specialty
- for the EDAIC Part II examination after 5 years of training in the anaesthetic specialty.

The On-Line Assessment and In-Training Assessment are ideal tools to prepare for the EDAIC Part I. The ESAIC offers courses and material to prepare for the EDAIC, and these are available on the [ESAIC website](#).

## **5. GUIDE TO CANDIDATES**

The examination aims to assess a candidate's knowledge of:

### **The basic sciences relevant to anaesthesiology and intensive care as follows:**

- a) Anatomy: The anatomy of the head, neck, thorax, spine and spinal canal. The anatomy of peripheral nervous and vascular systems. Surface markings of relevant structures.
- b) Pharmacology: Basic principles of drug action. Principles of pharmacokinetics and pharmacodynamics, receptor drug interaction, physicochemical properties of drugs and their formulations, drug actions and drug toxicity. Pharmacology of drugs used, especially in anaesthesia and in internal medicine.
- c) Physiology and biochemistry (normal and pathological). Respiratory, cardiovascular and neurophysiology. Renal physiology and endocrinology. Physiological measurement: measurement of physiological variables such as blood pressure, cardiac output, lung function, renal function, hepatic function etc.
- d) Physics and principles of measurement. SI system of units. Properties of liquids, gases and vapours. Physical laws governing gases and liquids as applied to anaesthetic equipment such as pressure gauges, pressure regulators, flowmeters, vapourisers and breathing systems. Relevant electricity, optics, spectrophotometry, and temperature measurement together with an understanding of the principles of commonly used anaesthetic and monitoring equipment. Electrical, fire and explosion hazards in the operating room.
- e) Statistics. Basic principles of data handling, probability theory, population distribution and the application of both parametric and non-parametric tests of significance.

### **Clinical Anaesthesiology (including obstetric anaesthesia & analgesia) as follows:**

- a) Preoperative assessment of the patient, their presenting condition and any intercurrent disease. Interpretation of relevant X-rays, ECGs, lung function tests, cardiac catheterisation data and biochemical results. Use of scoring systems (e.g. ASA grading).
- b) Techniques of both general and regional anaesthesia, including agents, anaesthetic equipment, monitoring and monitoring equipment; and intravenous infusions. Complications of anaesthesia. Obstetric anaesthesia and analgesia including management of complications related to obstetric anaesthesia and analgesia. Neonatal resuscitation. Special requirements of anaesthesia for other surgical sub-groups such as paediatrics or the elderly; cardiothoracic or neurosurgery.
- c) Postoperative care of the patient including the management of postoperative analgesia.

### **Resuscitation and emergency medicine as follows:**

- a) Cardiopulmonary resuscitation. Techniques of Basic Life Support and Advanced Life Support.
- b) Emergency medicine. Prehospital care. Immediate care of patient with medical or surgical emergency including trauma.

### **Intensive care as follows:**

- a) Diagnosis and principles of management of patients admitted to a general intensive care unit with both acute surgical and medical conditions. Use of assessment and prognostic scoring systems.
- b) Management of circulatory and respiratory insufficiency including artificial ventilation.
- c) Management of infection, sepsis and use of antimicrobial agents.
- d) Management of fluid and electrolyte balance. Administration of crystalloids and colloids including blood and blood products. Parenteral and enteral nutrition.
- e) Management of biochemical disturbances such as acid base imbalance, diabetic keto-acidosis, hyperosmolar syndrome and acute poisoning.
- f) Management of renal failure including dialysis.
- g) Management of acute neurosurgical/neurological conditions.
- h) Management of patients with multiple injury, burns and/or multi-organ failure.
- i) Principles of ethical decision-making.



**Management of chronic pain as follows:**

- a) The physiology of pain.
- b) The range of therapeutic measures available for the management of pain. The psychological management of pain patients. The concept of multidisciplinary care.
- c) The principles of pain and symptom control in terminal care.

**Current literature:**

Candidates will be expected to be conversant with major topics appearing in current medical literature related to anaesthesia, pain relief and intensive care. Whilst national and linguistic differences are recognised, some knowledge is expected on topics of international importance (e.g. new agents) even if they are not in current use in all countries. The recommended reading list for EDAIC is available on [this webpage](#).

**It must be stressed that the foregoing is NOT intended either as an examination syllabus or as a comprehensive list of topics covered by the examination. It is however, a guide which it is hoped will prove useful to candidates preparing for the diploma examination. The EDAIC aims at covering the Syllabus to the Postgraduate Training Programme of the European Board of Anaesthesiology.**

## **6. SAMPLE MULTIPLE CHOICE QUESTIONS**

### **Paper A (Basic Science)**

- Concerning renal blood flow.
  - efferent glomerular arteriolar pressure affects systemic arterial pressure
  - renal vasoconstriction is stimulated by a decreased baroreceptor discharge
  - arterial hypoxaemia produces an increase in renal blood flow
  - renal vasodilation is a dopaminergic response
  - glomerular perfusion pressure is controlled by local autoregulatory mechanisms
- Side effects of ganglion blocking drugs include
  - intestinal ileus
  - atony of the bladder
  - postural hypotension
  - miosis
  - bradycardia

### **Paper B (Clinical Anaesthesiology)**

- ECG changes associated with hyperkalaemia include
  - a prolonged PR interval
  - high peaked T waves
  - U waves
  - ST segment depression
  - widening of the QRS complex
- Bilateral section of the recurrent laryngeal nerves
  - causes aphonia
  - causes respiratory embarrassment
  - causes tetany
  - allows adduction of the vocal cords on inspiration
  - puts the vocal cords into the cadaveric position

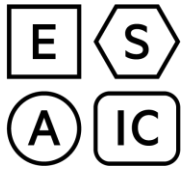
## **ANSWERS TO THE SAMPLE MULTIPLE CHOICE QUESTIONS**

### **Paper A (Basic Science)**

- T T F T F
- T T T F F

### **Paper B (Clinical Anaesthesiology)**

- T T F T T
- T T F T T



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## 7. SPECIMEN PART I CANDIDATE REPORT FORM

### EUROPEAN SOCIETY OF ANAESTHESIOLOGY AND INTENSIVE CARE DIPLOMA CANDIDATE REPORT FORM

Candidate Name:  
Centre:

Candidate No.:  
Country:

Overall Results					
	Right	Wrong	Void	Candidates % Score	Average % score of all candidates
<b>Paper A</b>	230	70	0	76.67%	74.44%
<b>Paper B</b>	237	63	0	79.00%	78.96%

Detailed Results		
<b>Paper A</b>	<b>Candidates % score</b>	<b>Average % score of all candidates</b>
Cardiorespiratory Physiology	79.00%	74.51%
Neurophysiology	79.00%	78.74%
General Physiology	81.00%	79.16%
Cardiovascular Pharmacology	85.67%	79.46%
CNS Pharmacology	91.00%	72.11%
General Pharmacology	75.92%	78.58%
General Physics	76.00%	68.32%
Clinical Measurement	61.00%	70.46%
Statistics	61.00%	65.74%
<b>Paper B</b>		
General Anaesthesia	79.00%	82.80%
Local, Regional Anaesthesia	83.67%	81.00%
Special Anaesthesia & Pain	95.00%	80.91%
Intensive Care	69.00%	76.79%
Internal Medicine	81.50%	73.44%
Emergency Medicine	66.71%	74.36%

Candidates are reminded that they have to pass **BOTH** papers to pass the Part I examination.

**NB.** Each correct answer scores one positive mark. There is **NO PENALTY** for incorrect or left blank answers. The candidate's score is the number of correct marks. The candidate's percentage score is this figure expressed as a percentage of the maximum score possible for the Paper (i.e. 180 correct out of 300 equals 60%).