

**Information Paper (Revised)**  
February 2014

*International Accounting Education Standards  
Board*

---

# Development and Management of Written Examinations

Based on the Practices of  
Selected IFAC Member  
Bodies

**IAESB**

International Accounting  
Education  
Standards Board™

This document was developed and approved by the International Accounting Education Standards Board (IAESB).

The IAESB develops education standards, guidance, and information papers on pre-qualification education, training of professional accountants, and continuing professional education and development.

The objective of the IAESB is to serve the public interest by setting high-quality education standards for professional accountants and by facilitating the convergence of international and national education standards.

The structures and processes that support the operations of the IAESB are facilitated by the International Federation of Accountants (IFAC).

Copyright © February 2014 by the International Federation of Accountants (IFAC). For copyright, trademark, and permissions information, please see [page 104](#).

## Preface

The International Accounting Education Standards Board (IAESB) issues International Education Information Papers in support of the International Education Standards (IESs). Information Papers aim to promote awareness of, and to transfer knowledge and information on, education and development issues or practices relating to the accountancy profession. As such, they are not intended to create new standards or override existing IESs.

The aim of this Information Paper is to provide examples of “good practice” in developing and administering written examinations. More specifically, the Information Paper will include examples of the processes and procedures that member bodies use to deliver written examinations which meet the principles of assessment identified in IES 6, including appropriate elements of quality control. The Information Paper has been updated to align with the principles and concepts of the recently revised IES 6, *Assessment of Professional Competence*. It remains a comprehensive resource to those who wish to inform themselves of the practical aspects of developing and administering written examinations.

We believe that the Information Paper will interest many stakeholder groups, including educators; education directors and other executives of professional associations; regulators; policymakers; education and Continuing Professional Development (CPD) providers; employers, including public accounting firms; and professional accountants and those training for that profession. We believe that this paper will also interest professional associations outside the accounting profession, because many of the objectives and challenges of developing and administering written examinations exist in other professions, both regulated and unregulated.

Readers are provided with an overview of the policies concerned with developing and administering examinations. Executives of professional associations, regulators, and policymakers will find Chapter 2 on examination oversight and governance especially relevant to understanding responsibilities in the area of professional examinations. Education directors and providers of education and CPD will find Chapter 3 on the use of computers in the examination process useful in reaching a decision whether to adopt this approach in delivering examinations.

Those readers involved with developing, administering, and marking examinations will find Chapters 4 to 10 and the appendices very informative in implementing good practice when evaluating the qualifications of candidates for membership in a member body or professional association. In particular, examination managers and item writers are directed to Chapters 4 and 5 on developing and managing the examination and its questions. Examination administrators will find Chapters 6 to 8 helpful in understanding and solving issues related to the security of examination processes, approval of candidates, and the examination center. Finally, executives, directors, and managers of professional associations will appreciate the discussion on the marking process and the examples provided in the appendices.

In publishing this Information Paper, the IAESB hopes to (a) advance the use of good practice in the area of assessment, and (b) support professional associations in the implementation of assessments. Based on feedback from this Information Paper and further developments in the area of assessment, the IAESB will reconsider the need to develop guidance in the form of a practice statement supporting IES 6.

The IAESB welcomes feedback from readers on the following questions:

- What other topics in the area of assessment should be addressed in developing guidance on assessment?
- What other materials could be included to support the adoption and implementation of good practice in assessment by professional associations?
- Would additional guidance on implementing IES 6 in the form of an International Education Practice Statement (IEPS) be helpful to member bodies?

Feedback on these or any other topics or issues related to assessment should be sent to

Technical Manager  
International Accounting Education Standards Board,  
529 Fifth Avenue, 6th Floor  
New York, NY, USA 10017

We would like to take this opportunity to thank Ms. Paule Bouchard (Task Force Chair), Professor Kim Langfield-Smith and task force members in researching and developing this Information paper.

Mark Allison  
Past Chair of IAESB (2010)

Peter Wolnizer  
Chair of IAESB (2014)

## **Acknowledgments**

This paper includes information and data supplied by several member bodies of IFAC in response to a request for information on developing and managing written examinations. To maintain the confidentiality of the systems used by these member bodies, they are not identified by name in the body of this paper but simply referred to as “respondent member bodies.”

We give particular thanks to the following member bodies that took the time to give detailed answers and/or provided documentation of the procedures followed by their own member bodies.

American Institute of Certified Public Accountants (AICPA)

Association of Chartered Certified Accountants (ACCA)

The Canadian Institute of Chartered Accountants (CICA)

The Chartered Institute of Management Accountants (CIMA)

Hong Kong Institute of Certified Public Accountants (HKICPA)

The Institute of Chartered Accountants in Australia (ICAA)

Chartered Accountants Ireland (CAI)

The Institute of Chartered Accountants of Scotland (ICAS)

Instituto Mexicano de Contadores Publicos (IMCP)

The South African Institute of Chartered Accountants (SAICA)

# DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS

## BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

### CONTENTS

---

	Page
1. INTRODUCTION.....	10
2. BROAD POLICY ISSUES.....	12
2.1. Overview.....	12
2.2. Examination Oversight.....	12
2.3. Independence, Conflict of Interests, and Confidentiality.....	14
2.4. Outsourcing Aspects of the Examination Processes.....	15
3. THE USE OF COMPUTERS IN THE EXAMINATION.....	16
3.1. Overview.....	16
3.2. Approaches to the Use of Computers for Assessments.....	16
3.2.1. Question Types.....	16
3.2.2. Use of Permissible Examination Aids.....	17
3.2.3. Available Computer Resources.....	17
3.2.4. Costs.....	17
3.3. Rationale for Increasing the Use of Computers for Assessments.....	18
3.4. Overall Impact on Examination Administration.....	19
3.4.1. Stakeholder Preparedness.....	19
3.4.2. Communications Measures.....	20
3.4.3. General Security and Control Measures.....	21
4. DEVELOPING THE EXAMINATION.....	22
4.1. Overview.....	22
4.2. Testing Objectives.....	23
4.3. Knowledge-Based vs. Competence-Based Assessment.....	24
4.4. Choice of Question Types.....	24
4.5. Scope of the Examination.....	25
4.5.1. Link to Syllabus or Competency Map.....	25
4.5.2. Limits on Scope.....	25
4.6. Design Options.....	26
4.6.1. Disclosed or Non-Disclosed.....	26
4.6.2. Access to Reference Material and Other Aids (i.e., open vs. Closed Book Examination).....	26

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

4.6.3.	Time Limits .....	27
4.6.4.	Examination Delivery .....	27
4.7.	Examination Coverage .....	27
4.7.1.	Amount .....	27
4.7.2.	Integration .....	27
4.7.3.	Psychometric Considerations .....	27
5.	MANAGING THE DEVELOPMENT OF THE EXAMINATION.....	29
5.1.	Overview.....	29
5.2.	Selection of Authors/Reviewers.....	29
5.3.	Directions to Authors .....	30
5.4.	Examination Approval process.....	30
6.	ENSURING THE SECURITY OF THE EXAMINATION BEFORE THE EXAMINATION DATE.....	32
6.1.	Overview.....	32
6.2.	Security and Confidentiality .....	32
6.3.	Contingency Plan .....	32
6.4.	Printing and Distribution of Hardcopy Examination .....	33
6.5.	Electronic Distribution of the Examination.....	34
6.6.	Control of Stationery and Other Supplies.....	34
7.	APPROVAL OF CANDIDATES .....	35
7.1.	Overview.....	35
7.2.	Applications to Undertake the Examination.....	35
7.3.	Approval to Undertake the Examination.....	35
7.4.	Examination instructions for candidates.....	35
7.5.	Anonymity.....	36
7.6.	Candidates with Special Needs.....	36
8.	THE EXAMINATION WRITING CENTER .....	38
8.1.	Overview.....	38
8.2.	Selecting the Writing Center.....	38
8.3.	Storage of Materials .....	39
8.4.	Writing Center Supervisors.....	39
8.4.1.	Duties of the Chief Supervisor of the Writing Center .....	40
8.4.2.	Duties of Other Supervisors .....	41
8.5.	Security issues.....	41
8.5.1.	Identification of Legitimate Candidates .....	41
8.5.2.	Entry/Exit into the Examination Room.....	42

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

8.5.3.	Seat Assignments.....	42
8.5.4.	Materials Allowed Into the Writing Center .....	42
8.5.5.	Distribution of the Examinations .....	43
8.6.	Announcements.....	43
8.7.	Emergency Procedures .....	44
8.8.	Suspected Errors on the Examination .....	44
8.9.	Misconduct during the examination .....	44
8.10.	Illness of Candidates .....	45
8.11.	Collection of the Examinations .....	45
8.12.	Return of Materials from the Writing Center .....	46
9.	MARKING THE EXAMINATION .....	47
9.1.	Overview.....	47
9.2.	Administrative Arrangements for the Marking Process .....	47
9.3.	Selection of Markers.....	48
9.4.	Preparing the Marking Guide.....	48
9.5.	Test Marking .....	49
9.6.	The “Live” Marking Process.....	49
9.7.	Double Marking .....	49
9.8.	Auditing the Marks Awarded.....	50
9.9.	Re-marking of Examinations .....	50
9.10.	Reporting the Outcomes of the Marking.....	50
10.	APPROVAL OF MARKS, RELEASE OF RESULTS AND APPEALS .....	52
10.1.	Overview.....	52
10.2.	Determination of the Passing Standard.....	52
10.3.	Approval of the Results of Marking Process .....	52
10.4.	Notification Procedures .....	54
10.5.	Appeals.....	54
10.6.	Performance Appraisal Review .....	55
10.7.	Publication of Results, Examinations, and Solutions .....	55
APPENDIX 1.	EXAMINATION BOARD MEMBER CONFIDENTIALITY STATEMENT .	56
APPENDIX 2.	CONTRACT SIGNED BY CANDIDATES.....	57
APPENDIX 3.	EXAMPLES OF A LAERNING OUTCOMES TABLE AND A COMPETENCE MAP .....	59
APPENDIX 4.	TYPES OF QUESTIONS.....	62
APPENDIX 5.	AUTHORS CONFIDENTIALITY AND CONFLICT OF INTEREST STATEMENT .....	65



DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

APPENDIX 6.	GUIDE TO WRITING MULTIPLE-CHOICE QUESTIONS .....	66
APPENDIX 7.	GUIDELINES FOR AUTHORS.....	73
APPENDIX 8.	MONITORING THE EXAMINATION IN DIFFERENT LANGUAGES.....	78
APPENDIX 9.	EXAMINATION TRIAL-SIT TEMPLATE.....	79
APPENDIX 10.	TEMPLATE FOR CONFIRMING EXAMINATION ATTENDANCE .....	81
APPENDIX 11.	CANDIDATE EXAMINATION INSTRUCTIONS AND INFORMATION...	82
APPENDIX 12.	CANDIDATE EXAMINATION RULES .....	86
APPENDIX 13.	APPLICATION TO COMPLETE AN EXAMINATION UNDER SPECIAL CONSIDERATIONS .....	88
APPENDIX 14.	APPLICATION FOR SPECIAL CONSIDERATION DUE TO MEDICAL ILLNESS WHICH IMPACTED ON THE EXAMINATION PERFORMANCE	91
APPENDIX 15.	SAMPLE ANNOUNCEMENTS.....	93
APPENDIX 16.	SAMPLE INSTRUCTIONS ON EMERGENCY PROCEDURES.....	95
APPENDIX 17.	MARKING GRID EXAMPLE .....	97
APPENDIX 18.	DESCRIPTORS.....	98
APPENDIX 19.	MARKING PROTOCOLS .....	99
APPENDIX 20.	COMPETENCY-BASED EXAMINATION PASSING PROFILE .....	100
APPENDIX 21.	APPROVAL OF RESULTS.....	102

---

## 1. INTRODUCTION

It is the responsibility of IFAC member bodies to have in place assessment procedures that ensure that candidates admitted to membership are appropriately qualified.

IES 6, *Initial Professional Development – Assessment of Professional Competence*, prescribes the requirements for the assessment of professional competence of aspiring professional accountants that need to be achieved by the end of IPD. IPD is the learning and development through which individuals first develop competence leading to performing a role in the accountancy profession. Member bodies can use a range of assessment activities to formally assess whether aspiring professional accountants have achieved an appropriate level of professional competence by the end of IPD. IES 6 prescribes that the assessment shall be based on verifiable evidence. The following assessment activities are examples of assessment based on verifiable evidence: written examinations, oral examinations, objective testing, work place assessment of competence by employers, and a review of a portfolio of evidence based on completion of workplace activities.

IES 6 provides (a) an introduction to the assessment principles of reliability, validity, equity, transparency and sufficiency, which are applied to individual assessment activities conducted during IPD, (b) examples of assessment activities, and (c) examples of the configurations that examinations might take. Some member bodies rely on one comprehensive examination at the end of the IPD, while others make undertake assessments at various stages throughout IPD. Typically, a series of assessment activities contribute to the assessment of professional competence.

Many member bodies seek advice and information on good practice in setting up and maintaining an examination in recorded form to benchmark and evaluate their own processes. The IAESB believes that additional sharing of good practices to develop, evaluate, and provide feedback on a recorded assessment would be helpful to all member bodies.

This paper identifies the major issues in developing and administering a written examination, and applies to the administration of a summative and “high stakes” examination leading to qualification as a member of a member body. Many of the issues may also be appropriate for written examinations that are not necessarily a final examination, but are offered as part of a series of examinations leading to qualification as a member of a member body.

The paper also provides examples of how several member bodies handle major administrative issues related to such examinations. Although some of the specific procedures described in this paper may apply more to a larger member body than to a smaller one, a member body will still need to address the issue if it is relevant; in which case, the specific procedures could act as guidance as to what may be possible. Administrative procedures will vary substantially because of (a) differences in the overall approach to an examination, and (b) factors as the number of candidates to be examined, the size of the geographic area from which candidates come, the nature and extent of governmental regulation, the availability of examination authors within the country, the technology and technology resources available to the member body, and even language policy. The specific procedures or examples provided by respondent member bodies in this paper are intended only to assist member bodies in benchmarking and evaluating their own processes.

This paper cannot and does not propose specific procedures for adoption by all member bodies; rather, it is a compendium of good practices and examples provided by the respondent member bodies to assist other member bodies in implementing IES 6.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

Finally, it should be noted that some of the topics addressed in this paper are complex areas of study in their own right, for example, the use of psychometrics in examination development or computer security in examination delivery. This paper identifies the major issues associated with the administration of examinations, but does not purport to provide a comprehensive coverage of all topics.

## 2. BROAD POLICY ISSUES

### 2.1. Overview

The basic objective of professional examinations is to assess, through one or a series of examinations given over a period of time, whether candidates have the requisite technical competence and professional skills to become members of the profession.

To that end, member bodies adopt procedures for developing and administering professional examinations to ensure (a) that the examination(s) appropriately test the relevant technical competence and professional skills, (b) that the examination(s) are reliable and valid, (c) that examination(s) are fair, without bias, and details are disclosed publicly, and (d) that examination(s) have balance of depth and breadth, knowledge, and application, and combines material from different areas applied to a range of situations and contexts.

To provide reasonable assurance that (a) candidates passing the examination(s) possess the requisite technical competences and professional skills, and (b) candidates are treated fairly and objectively, careful consideration is given to a number of broad policy issues, including the scope of the examination, its structure, the types of questions used, the determination of the passing standard, the use of computers in the examination process, and the nature and extent of appeal processes.

Broad policy decisions will be influenced by a number of factors in addition to meeting the assessment principles of validity, reliability, equity, transparency, and sufficiency of the examination process, such as:

- the member body's control/influence over the education program leading to examination;
- assessment methodology chosen (e.g., the extent of competency-based evaluation);
- number of candidates per examination;
- geographic dispersion of candidates;
- limitations on the cost/price of examinations;
- limits on resources;
- availability of supporting resources (human and computer); and
- cultural and legal environment (privacy laws, fairness, language laws, etc.)

This section addresses examination oversight and governance based on the practices of respondent member bodies. Education and examinations boards are typically established to provide oversight of the examination process and broad policy decision making, including independence, conflict of interest, and confidentiality matters relating to the members of these boards. These same issues are also discussed in relation to how they may apply to outsourcing the examination process to third parties.

### 2.2. Examination Oversight

The decisions on broad policy for professional examinations are generally made at an appropriately high level within a member body, typically in respondent member bodies by an Assessment or Education Board, comprised of elected or appointed members of the member body. This Board may be a standing committee of the member body's Council or Board, but in some cases it is an autonomous entity, or one that has its authority under the laws of the country. Frequently, the responsibility for the actual development and marking of the examination is delegated to a subcommittee of the Education Board, such as an Examinations Board. These committees are usually supported by appropriate staff.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

The Education Board's responsibilities are generally related to strategic policies and overall admission requirements. The Board's main objectives are to formulate, advocate, implement, and monitor policies and standards designed to achieve the strategic aims and objectives of business education and professional competence. Its responsibilities may cover all policy matters regarding education and syllabus/competence development, including pre-admission education, practical experience, and accreditation. In jurisdictions where external bodies (such as a government body or university) control some of these matters, the scope of the Education Board may be limited. In such cases, respondent member bodies work with that external body to influence professional education and examination matters.

The Examinations Board usually reports to the Education Board and has responsibility for:

- ensuring that examination standards, quality, and relevance are maintained and enhanced across the entire examination process;
- approving rules governing methods of work by examiners and methods to determine assessment criteria;
- reviewing the efficiency and timeliness of the examination paper-setting process;
- reviewing, moderating, and endorsing examination results;
- considering and agreeing to the means by which feedback is given to students; and
- being the point of appeal for all examination issues and adjudicating examination results, including appeals, special needs, difficulties, and indisposition.

Examples of the size, composition, accountability, and term of an Education Board and an Examinations Board are provided in Table 1.

**Table 1: Size, Composition, Accountability and Term of an Education Board and an Examinations Board**

	EDUCATION BOARD	EXAMINATIONS BOARD
<b>Alternative Name</b>	Education Board, Education and Qualification Committee, Education Committee, Education, Training and Lifelong Learning Board, The Learning & Professional Development Board	Examination Panel, Board of Evaluators, Examinations and Assessment Oversight Board, Examination Subcommittee, Professional Exams Committees
<b>Accountable To:</b>	The Board of the Member Body (This Board is often a standing committee of the Board of the Member Body)	Education Board
<b>Size</b>	10 to 15	5 to 12
<b>Composition</b>	Individuals with qualification, expertise, dedication, insight, and interest in educational matters  Typically includes individuals from academe (40%–50%) and the membership (50%–60%)  May include one or two representatives from the Member Body's Board  May include representation from significant stakeholders outside the member body (e.g., from government)	Members/academics with appropriate technical knowledge to set/prepare the examinations and who are free of conflicts of interest
<b>Term</b>	2–3 years renewable 1 or 2 times	3 to 5 years

### 2.3. Independence, Conflict of Interests, and Confidentiality

The integrity of the examination process begins with the governance structure. The Education Boards and/or Examinations Boards of respondent member bodies are independent groups that act in the best interests of the whole profession. Terms of Reference for the Boards clearly establish their independence and protect these committees against undue influence from outside sources.

Those involved on Education and/or Examinations Boards are typically academics and accounting professionals knowledgeable about the objectives and processes of the examination(s). To ensure that all candidates are treated fairly and objectively, and that no candidate is given an advantage over others, Board members continually demonstrate independence and confidentiality and their awareness of potential conflicts of interest.

The Examinations Boards of respondent member bodies, responsible for the examination and the examination process, including the marking and reporting of results, strive to be and be seen to be

independent and free from conflict of interest. Those responsible for the actual development and marking are chosen for their expertise and knowledge of the expected levels of knowledge and skills to be examined. At the same time, the proceedings of the Examinations Board are highly confidential and the utmost integrity is expected from members. Certain persons are disqualified from appointment, including, for example, teaching staff offering a course or course preparing candidates for the professional examinations or any person who is a close relative of a candidate who has registered for the examination.

Annual sign-offs and follow-up processes to investigate reported instances of conflict of interest are used to monitor the independence and integrity of Boards. See Appendix 1 for an example.

#### 2.4. Outsourcing Aspects of the Examination Processes

Responsibility for confidentiality, awareness of conflicts of interest, and the fair and objective treatment of all candidates extends to all parties involved in the examination process. Processes to ensure the confidentiality and integrity of the examination and examination processes and to ensure freedom from conflict of interests extend to question developers, examination delivery providers, etc.; anyone involved in developing and delivering the examination processes. Typically, third parties are also required to (a) sign off on confidentiality of information under their control and on freedom from conflicts of interest, and (a) acknowledge their responsibilities for implementing and complying with appropriate control and security measures.

### 3. THE USE OF COMPUTERS IN THE EXAMINATION

#### 3.1. Overview

Two decades ago, an aspiring professional accountant might have been asked simply to demonstrate knowledge of the existing body of professional standards on a paper-based or computerized multiple-choice examination. Over the years, professional standards have proliferated and become more complex. Moreover, protection of the public interest demands that, in addition to professional knowledge, entry-level professional accountants need to possess a variety of professional skills that they can bring to bear in researching, analyzing, organizing, and communicating the vast array of information available to them. To assess this broad range of knowledge and skills, the use of computers in an assessment—for both knowledge-based and competency-based assessment models—has increased significantly (see Chapter 4).

The impact of the increased use of computers for assessments extends from the initial development of the examination to the delivery of the examination (including examination center security) and to the marking of the examination. Changes in policies and procedures require careful consideration by a member body's education and examinations board.

In making changes, respondent member bodies have considered:

- potential approaches to the use of computers for assessments;
- the rationale for increasing the use of computers for assessments; and
- the overall impact of the use of computers on examination administration.

This section addresses the major issues associated with the introduction of computers in developing and administering examinations. Specific examples of security and control measures used by respondent member bodies in a computer environment are referenced in each of the subsequent sections as appropriate. Many complex technological issues associated with computerized examinations and computer security are beyond the scope of this paper.

#### 3.2. Approaches to the Use of Computers for Assessments

The approach to be taken by a member body to the use of computers for assessments is directly related to its examination philosophy. Differences in approach result from the Education Board's assessment model (see Chapter 4), the question types used, the use of permissible examination aids, available computer resources, and cost.

##### 3.2.1. Question Types

Some respondent member bodies use computers for examinations that include multiple-choice and/or short answer formats. Other respondent member bodies use computers for examinations that require candidates to provide detailed written responses or essays, while others use a combination of the two formats. For multiple-choice and/or true/false format, some respondent member bodies use preprinted answer sheets that are graded manually or scanned into a computer for marking and reporting.

The trend in large-scale testing today is to computerize the initial recording of candidate responses, eliminating preprinted answer sheets or hand-written detailed responses. Further, some respondent member bodies provide access to a word processing or a spreadsheet package, which adds relevance and reality to the examination process, but also adds complexity.



### 3.2.2. Use of Permissible Examination Aids

Some respondent member bodies use computers to provide electronic access to permissible examination aids and approved reference materials. In some cases, the material is provided simply for reference or support if the candidate needed to refer to it, while in other cases there is an expectation, based on the competencies being tested and the format of the questions, that the candidate will demonstrate use of the materials.

### 3.2.3. Available Computer Resources

The respondent member bodies generally deliver computerized examinations in one of two ways:

- (a) Through a third party. Delivery of the examination is outsourced to an examination provider that operates a network of writing centers or learning centers throughout the geographic jurisdiction of the member body. Students attend one of the writing center offices at a prescribed time (or within a prescribed period of time) to sit the examination. The examination is housed on a centralized database accessible by all writing centers. The member body retains all responsibility for developing the examination, its marking, and the reporting of results. The member body works with the outsourced examination provider to ensure that all aspects of security, control, and integrity of the examination and the examination process are maintained.
- (b) Through the member body itself. Delivery of the examination is managed by the member body at a series of writing centers organized for the purpose of administering the examination, e.g., university classrooms. Typically, the examination is handed out at the writing center in either hardcopy or electronic form, and is collected in either hardcopy or electronic form. For computer-based examinations, the candidate uses either a computer provided at the writing center or a computer brought to the center by the candidate. In either case, the computer is limited by custom software to only those features, applications, and functions allowed by the Examinations Board. Gathering of examinations from the writing centers is either done physically or electronically.

Alternative (a) requires a provider of writing centers throughout the jurisdiction of the member body. The member body relies on the third party provider for hardware, software, and security. Alternative (b) allows the member body to use computers in the examination without an available third party partner, but the member body assumes responsibility for all aspects of hardware, software, and security.

### 3.2.4. Costs

The cost of introducing computers into the examination process is a function of the nature and extent of the application of computers determined by the member body, i.e., the “examination shell.” The examination shell refers to the combination of hardware, custom software, and processes adopted by a member body to develop and deliver a computer-based examination in accordance with the Board’s objectives and the required security, control, and integrity.

Costs include:

- (a) custom software development, or licensing fees;
- (b) hardware costs;
- (c) technical support and maintenance costs; and
- (d) the increase in administrative costs associated with the delivery and supervision of a computer-based examination in a controlled environment.

Models that incorporate access to reference materials and permissible aids to evaluate a broader range of professional skills tend to cost more than models that allow no reference material. This is because of the added requirements for developing the examination shell and measures to enforce the closed nature of the model.

Models that incorporate word processing and spreadsheet functionality tend to cost more because of software licensing costs and the measures to enforce the security and integrity of the examination.

Delivery solutions that make use of existing resources, for example third party writing centers or candidate-supplied computers, require less investment in computer hardware and can be implemented more rapidly. Costs associated with these solutions are primarily for project management and site management.

Computer testing allows certain costs associated with paper-and-pencil testing to be eliminated, such as shipping and printing costs for test booklets, rental of examination administration locations, salaries for clerical verification of responses and marks awarded, etc. Most cost analyses fail to account for candidate opportunity costs associated with delays in testing and the effects of these delays on the ability of the candidate to pursue career or educational opportunities. For example, if a paper-and-pencil test is offered at a limited number of test locations on two annual test dates, candidates may have to incur high travel costs and forego opportunities as a result of the limited access to the test event.

Smaller member bodies may consider sharing the costs of implementing a computer-based examination among themselves or with a larger member body. Smaller member bodies may also consider making equivalent improvements to their paper-based examinations.

### 3.3. Rationale for Increasing the Use of Computers for Assessments

The respondent member bodies identify a number of reasons for moving to an increased use of computers in an assessment, including:

- **Simulation/emulation of real world skills, competence, and situations:** Use of computers allows testing of a broad range of professional skills in addition to knowledge, thereby providing improved coverage of the educational programs. Multi-dimensional simulations and case studies in a computerized environment enhance the ability to assess important skills such as research, communications, the ability to integrate knowledge, and organizational and analytical skills. Permitting candidates to perform calculations, research, and analysis using computer tools allows them to more fully demonstrate their professional skills. It gives candidates a real-world simulation and practical work environment.
- **Increased efficiency in delivery:** With the ever-expanding and changing body of knowledge, the cost to maintain, deliver, and control access to specific information/permissible examination aids as part of an assessment is becoming prohibitive, unless provided electronically. Printing examinations and mailing them to test centers can be a major expense for testing programs. If an error is found after examinations are printed, they must be reprinted and reshipped at considerable expense. If the test is contained in an electronic file, it can be relatively easily corrected at any point before test administration, and it can then be sent electronically for very little expense. Computer-based testing allows more opportunity to take the examination in test centers and on a timely and frequent basis.
- **Increased security:** Electronic transmission and encryption of the examination and the candidates' responses reduce the risk of losing data.

- **Increased efficiency in marking and reporting:** Immediate scoring and reporting by computer allows faster decision making and reduces response-entry errors.

### 3.4. Overall Impact on Examination Administration

The increased use of computers in the examination process generally increases and changes the nature of security, control, and integrity risks, and introduces the need for a complete set of stakeholder preparedness and communications measures.

The issues addressed by respondent member bodies that moved to computer-based examinations generally fall into one of three categories:

- stakeholder preparedness;
- communications measures; and
- general security and control measures.

#### 3.4.1. Stakeholder Preparedness

With the introduction of computers into the examination process, respondent member bodies find it necessary to communicate the standards and expectations to all candidates well in advance, and to provide them an opportunity to become familiar with the functionality and use of the computer before the “live” examination. Well-designed computer interfaces should be easy to use and be adaptable to candidates with special needs.

Examples of measures for candidate preparedness include the following:

- Instructions and guidelines for use should be prepared and circulated well in advance of the evaluation;
- Candidates should be informed of the type of equipment and software in place, including sample screens, and be given an opportunity for hands-on practice;
- Industry-standard software or conventions should be used wherever possible in developing the computer shell (e.g., generally accepted word processing, spreadsheet, and/or search conventions) to reduce or eliminate any software learning curve for most candidates; and
- Where test times may vary (for example, if a computer-adaptive testing model is used), candidates should be provided sufficient information regarding the length of the examination and why test times vary.

For an example of preparing candidates for the examination, see the AICPA web site at [http://www.cpa-exam.org/lrc/exam\\_tutorial\\_parallel.html](http://www.cpa-exam.org/lrc/exam_tutorial_parallel.html) where students can access the CPA Examination Tutorial and Sample Tests.

Candidates are not the only stakeholders that need to be prepared for the use of computers. Other stakeholders include:

- **The examination sponsor:** The member body or third party responsible for developing and administering the computer shell;
- **The education community:** The agents responsible for training and educating the examination candidates;
- **The employers:** Those employers supporting employees in taking the examination;

- **The examination developers:** Those responsible for developing the examination and its reliability and validity; and
- **The regulatory community:** Organizations responsible for professional certification and licensing.

Some information needs are similar among all stakeholder groups, e.g., how the Education and Examinations Boards have decided to implement the use of computers and why. Other aspects may be relevant to only a limited set of stakeholders, e.g., the impact on/expectations of the employer. Respondent member bodies develop and implement a communications plan identifying the various stakeholder groups and their information needs. Particularly, in transition, these member bodies prefer to focus on more communication rather than less.

### 3.4.2. Communications Measures

Rapid advances in wireless communications technologies create the new risk of candidates communicating with other parties outside the writing center or with another candidate inside the writing center during the examination. Small wireless devices, such as smart phones are common and the ease of access of such devices to cloud storage creates challenges for examination security. Twitter, SMS and other messaging platforms are also widely used by such devices. Technologies such as Bluetooth, which enable the networking of devices within 30 meters, have dramatically increased connectivity over the past few years.

These broad trends affect security in the writing center regardless of whether a member body permits the use of computers in the examination process. One response to these trends might be to ban all devices from the writing center. However, this does not eliminate the risk entirely, and prevents any possible gains from the prudent use of technology. A better response to this risk has been to develop a comprehensive system of security measures to provide reasonable assurance that communications breaches are prevented. Whether or not examiners use technology, there is no guarantee that a candidate will not communicate with someone else. Countermeasures or controls are the best response.

Key elements of control depend on how computers are to be used, but could include both technical and policy measures, such as:

- A moral imperative contract signed by candidates (e.g., an Examination Standards and Policies document). Candidates are required to sign a document agreeing that they understand and will abide by all rules, and that they are aware of the consequences of any breach (see Appendix 2 for examples);
- Increased use of examination monitors. The number of examination monitors is increased to watch over candidates' activity;
- Increased training of examination monitors. Examination monitors are trained in what is acceptable computer use, and in how to identify inappropriate use;
- Prohibition of some peripheral devices;
- The use of lockdown software or equivalent;
- Protection of examination items from overexposure or breach of confidentiality. Measures should be taken to prevent candidates from divulging the nature or content of any examination question or answer under any circumstances
- Ensuring that all test forms are equivalent to ensure equity to all students;

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

- The choice of stand-alone implementation at writing centers or Internet-based implementation. If stand-alone, the costs of assuring standardization and reliable operation among writing centers and the costs of aggregating data are considered. If Internet-based, there is an additional choice between running applications locally or browser-based ones; and
- Prohibition of PDAs, wireless LAN/Modem cards, and other devices.

This is only a partial list of countermeasures or controls that are considered. As technology and security change rapidly, respondent member bodies generally assess security threats annually.

#### 3.4.3. General Security and Control Measures

Respondent member bodies also establish general security and control measures at their writing center's building on controls that are already in place:

- (a) To ensure the identity of the examination taker.
- (b) To prevent unauthorized access of information and tools.
- (c) To prevent copying of information from nearby candidates.
- (d) To ensure reliability of equipment during the examination.
- (e) To provide adequate contingency planning for equipment or systems failure.
- (f) To provide appropriate site management when introducing computers to the site.

The discussion of additional security and control considerations in a computer environment identified by respondent member bodies is integrated into the relevant sections.

## 4. DEVELOPING THE EXAMINATION

### 4.1. Overview

A number of decisions face examiners as an examination is developed. This paper does not outline all of the decisions associated with alternative testing models, nor does it provide all of the theories that underlie the different alternatives. However, this paper does identify the major models that are used by respondent member bodies, and addresses the nature of the decisions that are considered when choosing between those different models.

The critical considerations in developing examinations are whether they are reliable, valid, equitable, transparent, and sufficient. The following describes these five assessment principles in greater detail.

Assessment Principle	Explanation
<b>Validity</b>	Validity describes whether an assessment activity measures what it was intended to measure.
<b>Reliability</b>	Reliability describes whether an assessment activity consistently produces the same result, given the same set of circumstances.
<b>Equity</b>	Equity describes whether an assessment activity is fair and without bias.
<b>Transparency</b>	Transparency occurs when details of an assessment activity, such as competence areas to be assessed and timing of the activity, are disclosed publicly.
<b>Sufficiency</b>	Sufficiency describes whether an assessment activity has a balance of depth and breadth, knowledge and application and, where appropriate, integration of material from different areas applied to a range of situations and contexts.

Assessments need to be acceptable to stakeholders and the public interest. At the same time, the assessment needs to be resource-efficient. As a result, there is a balance that needs to be struck between meeting the assessment principles and achieving credibility, and cost effectiveness.

The construction of the assessment will depend on factors specific to each member body, including:

- The remoteness and spread of geographical locations where aspiring professional accountants are based;
- Available educational and other resources of the IFAC member body;
- The number and backgrounds of aspiring professional accountants being assessed; and
- The availability of learning and development opportunities provided by employers.

In addition, the factors relevant in determining an appropriate level of professional competence to be achieved by professional accountants may include, but are not limited to:

- The complexity and variety of tasks undertaken by professional accountants;

- The expectations of stakeholders (such as the public, employers, and regulators) relating to the nature and extent of professional competence;
- Specialized knowledge required by professional accountants working in particular industries;
- The level of professional judgment required to undertake an assignment or complete a task;
- The varied roles of professional accountants, such as the preparer of financial statements, tax advisor, or management accountant; and
- The complexity of the working environment.

Thus, careful consideration needs to be given to a number of operational issues when constructing and developing an examination to ensure that assessment principles are satisfied. These include:

- The testing objectives;
- Knowledge-based vs. competency-based assessment;
- Choice of question types;
- The scope of the examination;
- Design options; and
- Coverage on the examination.

Each of these issues is considered below.

#### 4.2. Testing Objectives

Examination should be structured to ensure that candidates are provided with the opportunity to demonstrate that they:

- Have achieved the learning outcomes for each subject as specified within the curriculum;
- Can apply technical knowledge in an analytical and practical manner;
- Can extract from various subjects the knowledge required to solve many-sided or complex problems;
- Can solve a particular problem by distinguishing the relevant from the irrelevant data;
- Can, in multi-problem situations, identify the problems and rank them in the order in which they need to be addressed;
- Appreciate that there can be alternative solutions and understand the role of judgment in dealing with them;
- Can integrate diverse areas of knowledge and skills;
- Can communicate effectively with users by formulating realistic recommendations in a concise and logical fashion; and
- Can identify ethical dilemmas.

Respondent member bodies need to identify clearly the specific examination objectives before developing examination questions. Decisions regarding the type of question, the level of direction in the question,

whether the examiners would consider an essay-style question vs. an objective-style question, and whether the examination is open book or closed book, are all based on the testing objectives.

#### 4.3. Knowledge-Based vs. Competence-Based Assessment

Knowledge-based assessment models focus on whether a candidate has obtained the professional knowledge required to perform the required tasks as a professional accountant. Variations of this assessment model range from (a) a direct test of knowledge through restatement of memorized facts, to (b) testing the application of knowledge in complex but usually theoretical question settings. Knowledge-based assessment dominated in the profession until the mid-1990s.

Competence-based assessments focus on whether candidates can demonstrate specified competences. For an aspiring professional accountant, these are the competences required to perform the role of a professional accountant as captured in the IESs. When an individual demonstrates they can perform required tasks to the required standard, competence is deemed to have been achieved (i.e., the individual is competent). Competence may be assessed by a variety of means, including workplace performance, workplace simulations, and written and oral tests of various types.

Assessments have evolved over the last twenty years from predominantly knowledge-based testing models to the newer competency-based models. Professional accounting bodies around the world, including member bodies in Canada, Australia, New Zealand, Ireland, the UK, South Africa, and the United States, have adopted a competency-based approach to qualification, which has often resulted in changes in the nature of their assessment. These changes were made after defining the scope and the objectives of the examination.

Competency-based curriculums are usually advocated because the body of knowledge in the accounting profession is changing so rapidly. Although knowledge requirements will change with time, the core set of competences will have longer currency.

#### 4.4. Choice of Question Types

The nature of the assessment will vary depending on the overall design of the member body's qualification process, the specific testing objectives, and the defined scope of competence. Depending on the specific objectives set for the assessment, a variety of question types are available for use, including multiple-choice, single-subject short answer, multi-subject, integrated cases, comprehensive cases, and workplace simulations. Regardless of the type and mix of questions, the assessment should test basic theoretical knowledge as well as the practical application of knowledge.

The choice of type of question is a separate decision from whether to use a knowledge-based or competence-based model. However, the choice of assessment model and testing objectives may influence the question types used. For example, assessing competence typically relies on the testing to be more of a simulation of a real work environment. This often results in the use of cases rather than multiple-choice questions. Cases that simulate real work environments allow an assessment of whether competence has been achieved, that is, whether students are proficient at a level and scope defined by the examiner based on evidence that their performance meets a prescribed standard.

There is a debate as to whether one particular question type is better suited to testing either knowledge or higher-order thinking skills. Multiple-choice questions are generally believed to be best suited to testing knowledge, whereas cases allow for the testing of higher-order thinking skills like professional judgment and integration. This may be more of a reflection of how member bodies typically use the two types of questions on their examinations. A properly designed multiple-choice question can assess decision-



making processes of various cognitive complexity and difficulty levels. However, greater expertise in question design is required to design “analysis”-type multiple-choice questions. The choice of type is often driven by factors such as cost and reliability.

In general, questions can be grouped into the following two types.

- **Fixed-choice questions:** These require students to select the correct response from several alternatives or supply a word or short phrase to answer a question. They include multiple-choice, true/false, matching, and completion questions. They are most appropriate when there is a large group to test, the examiner may want to reuse the examination, and there is a need to efficiently obtain reliable examination scores (e.g., nondisclosed examination). It relies on obtaining or developing well-designed questions.
- **Open-ended questions:** These require students to write and present an original answer. They include short-answer responses, essays, problem solving, and performance tasks.

Refer to Appendix 4 for more details on the question types.

#### 4.5. Scope of the Examination

##### 4.5.1. Link to Syllabus or Competency Map

To ensure that the examination remains valid and relevant to the profession, the examination must cover the following key elements of a defined scope:

- The scope of what will be examined is based on the integration and application of technical competence, professional skills, and professional values, ethics, and attitudes, which are required to demonstrate professional competence. IES 2, IES 3, and IES 4 identify the learning outcomes for competence areas required by an aspiring professional accountant.
- Examination(s) are expected to formally assess whether aspiring professional accountants have achieved the appropriate level of professional competence to perform a role as a professional accountant. Each competence area identified in IESs 2, 3, and 4 has been assigned a level of proficiency that aspiring professional accountants are expected to achieve by the end of IPD. The level of proficiency signals the context in which the relevant learning outcomes are expected to be demonstrated. The detailed description of learning outcomes and competences of a professional accounting education program is typically set out in a syllabus, learning outcome table, or a competency map. This outline is used as a blueprint to guide all examination development activities.

Various techniques are used to assist in defining the relevant competences and associated performance criterion. Member bodies often rely on periodic surveys or investigations to determine the tasks usually performed by new entrants into the profession. These surveys should be undertaken before the examination is developed, and they should be repeated within a certain time frame to incorporate changes in the profession. An example of the standards of learning outcomes or competences, as defined in a learning outcome table or competence map, can be found in Appendix 3.

##### 4.5.2. Limits on Scope

The scope of what will be examined sets the limits of the assessment. The scope of the examination is informed by the work done to specify the learning outcomes, competence areas, and their proficiency levels. IES 2, 3 and 4 specifies competence areas, minimum levels of proficiency for those competence areas and learning outcomes for each competence area. However, member bodies may choose to

broaden the scope of their assessment to: include additional competence areas; increase the level of proficiency for some competence areas; or develop additional learning outcomes that are not specified in the IESs. This may occur when a member body prepares aspiring professional accountants to work within a particular industry sector (for example, the public sector) or for a particular role (for example, a management accountant).

#### 4.6. Design Options

##### 4.6.1. Disclosed or Non-Disclosed

Disclosure of an examination refers to whether or not the member body publishes or releases the examination to the public after it has been administered. If the examination is published, then it is a disclosed examination. If, instead, the body requires examinations to be kept confidential, then the examination is non-disclosed.

A non-disclosed examination allows questions to be reused. Reusing questions can provide information to assess the reliability and validity of the examination, because the outcome of the use of the question is more predictable. However, the decision to reuse a question may depend on the size of the bank of questions, its security, the style of question(s) being used on the examination, etc. For example, member bodies that use objective format questions may choose not to disclose these questions because there is a need to maintain large question banks. The cost of maintaining a large bank of questions is often a factor in the decision.

In the case of a disclosed examination, candidates may benefit from seeing previous years' examinations as a learning tool. One of the challenges, though, is the need to develop new questions every year, which can be time-consuming and expensive. The fact that the questions are new and less heavily tested through prior use can impact the ability to gain sufficient information to assess the reliability of the examination questions. In addition, the inability to reuse questions makes the comparability of examinations from year to year more difficult.

##### 4.6.2. Access to Reference Material and Other Aids (i.e., open vs. Closed Book Examination)

Access to material is considered in the design of the examination because it affects the extent of knowledge and competence that can be assessed. Those constructing the examination determine what information to provide and how best to provide it in light of the access to resource information. They determine how access to reference material affects the ability to test the competence or skills they are trying to assess (as established by the scope). For example, candidates may be provided with access to the accounting and auditing standards as part of the evaluation. The examiner may decide that direct tests of knowledge are not appropriate in this case because students can simply copy the answer directly from the standards. However, if assessing competence in research skills is the objective, providing access to the standards may allow for a more valid assessment of that competence by enabling the design of questions that "force" the student to research all or a portion of the standard.

Some examinations are open book, and allow candidates to bring whatever access material they wish, including textbooks, into the examination. Often, this decision has more to do with reducing candidates' stress level than the actual use of these reference tools. In general, candidates have little time on most of the professional examinations designed by member bodies to look through a lot of reference material. The tools to which candidates will have access and the likely impact on the candidates' responses are major considerations.

The impact of other aids, such as the access to calculators (vs. computer access to an Excel spreadsheet), is also considered in the design of the quantitative analysis part of the examination.

#### 4.6.3. Time Limits

Most examinations have set time limits for completion. However a set time is not a necessary requirement. A time limit may or may not create a time constraint, depending on the time allowance provided. Those constructing the examination must decide whether to set a time limit and assess the impact of doing so. One of the skills that is tested by imposing a time limit is the student's ability to prioritize problems and issues (and arguably to work under pressure).

#### 4.6.4. Examination Delivery

The form of delivery may have an impact on the testing objectives. For example, if the examination is delivered by computer, there is an opportunity to preload information in an Excel spreadsheet to reduce the time required by candidates to rewrite/re-input the data, but the examination no longer tests the candidate's ability to pull the information together, organize it, etc.

### 4.7. Examination Coverage

#### 4.7.1. Amount

The areas or sections of the Competency Map or Syllabus to be covered on an assessment are determined by the member body. IES 6 states that an IFAC member body will formally assess whether aspiring professional accountants have achieved an appropriate level of professional competence by the end of IPD. The assessment needs to ensure that there exists an ability to perform a role to a defined standard. It is not practicable to assess the entire range of competences at any single session. IFAC member bodies are expected to draw on the outcomes of a range of assessment activities that are undertaken during IPD. It is expected that the range of assessment activities will have a high level of sufficiency.

Some material may have been covered before an assessment, and assessors are entitled to assume that this material is known and understood. In other cases, the assessment of some of the competencies may have been assessed during the practical experience period. The coverage that is necessary for a particular assessment also reflects the overall design of the professional accounting education program that leads to the accounting qualification.

#### 4.7.2. Integration

The degree of integration to be built into the examination is a key consideration in the construction of an examination. Some respondent member body examinations are designed to test multiple Syllabus or Competency Map areas in a single question, while others test area by area. Case questions generally require a higher degree of integration, and allow the integration not only of technical knowledge, but also professional skills, professional values, ethics, and attitudes and general business knowledge.

#### 4.7.3. Psychometric Considerations

To determine the test efficiency, some respondent member bodies use psychometric indicators to document and quantify the examination's validity and reliability. (Psychometrics considers mental measurement, and psychometric instruments are measurement devices.)

Psychometrics can be used to understand the performance of the entire population and individuals, as well as to predict behavior and provide support for future actions by the member body. Psychometric

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

analyses allow developers to revise and improve their examinations over repeated administrations, thereby increasing their validity and reliability.

## 5. MANAGING THE DEVELOPMENT OF THE EXAMINATION

### 5.1. Overview

A quality development process incorporates the appointment of competent and independent authors, clear examination development guidelines, review, and approval.

This section addresses the principles and practices for the selection of authors and reviewers of the examination process, as well as the directions given to authors and the operation of the process for approving the examination.

### 5.2. Selection of Authors/Reviewers

The quality of the examination relies largely on the selection of authors and reviewers with the ability to achieve the assessment objectives of the professional program. Respondent member bodies have comprehensive selection processes in place for examination authors and reviewers.

Examinations boards, comprising authors and reviewers of examination questions, generally:

- are formed at least six months before question finalization;
- are endorsed by the responsible examination/subject committee;
- have membership that is regularly rotated to reduce the risk of “question predictability.” The Board members are required to sign confidentiality agreements and authors must understand the necessity of avoiding even the appearance of impropriety. To do this, board members are required to affirm that they are not engaged, and will not engage during the period of their writing and review work on the examination, in preparing candidates to take the examination. In addition, if they become involved in any situation that may be perceived by others as a conflict with the goals of the examination program, they agree to remove themselves from the Board. They also confirm question originality and assignment of intellectual property rights to the member body (A sample of such a confidentiality statement is shown in Appendix 5); and
- use examination author selection criteria that include consideration of technical competence and experience, good writing ability, familiarity with the content/material being examined, and an ability to create original questions. Acceptance of the author role and delivery schedule is also a key requirement. Additional author selection criteria may include membership in the member body, academic assessment writing experience, and an understanding of the member body’s examination specifications. Familiarity with the characteristics of good examination questions is also desirable.

Recruiting and maintaining a pool of suitable authors and reviewers requires ongoing effort. The professional body may choose to hold structured question-writing workshops for those who have expressed interest in becoming an examination-question author.

The format of such a workshop begins with a review of the examination specifications. Authors receive instruction in question writing techniques (refer to Appendix 6 for an example of a guide to writing Multiple-Choice Questions). Following this, practice is provided in writing questions on specified topic areas in a particular specialization area. If undertaken as a group activity, it allows authors to share their questions and it allows new authors to be exposed to the skills of existing, high-performing authors. In this way, the member body is able to evaluate the capabilities of potential authors and to train selected authors.

As an alternative to developing an in-house pool of examination authors, some respondent member bodies elect to outsource this role to universities/academics. In such cases, it is important

- that the topics to be examined are clearly specified by the member body; and
- to avoid any conflict of interest, only universities or academics who are not directly involved in the delivery of the professional program or related courses are commissioned.

### 5.3. Directions to Authors

On appointment, examination authors are provided with a detailed scope outlining what is required from the question/s, specifying the number of requirements, the type of each requirement and the number of marks available. Authors are also given a set of examination-author instructions or guidelines outlining the criteria for acceptable question formats/styles, delivery deadlines, and remuneration rate.

Author instructions from respondent member bodies include a reminder to use only questions not previously used in an examination, text, or other instructional materials. Authors are also instructed to avoid, to the extent possible, the need for lengthy or tedious calculations. Other important considerations include (a) ensuring the plausibility of case question scenarios, (b) avoiding references to real persons, places, or businesses, and (c) avoiding gender bias or stereotyping in scenarios. Authors are instructed to consider the length of the examination to ensure that the well-prepared candidate can complete the examination in the time allowed. Authors are also instructed to use clear, directive words to state specifically what candidates are required to produce in their answers.

After the questions are drafted, authors are asked to review them carefully from the point of view of the candidate to see if the questions contain ambiguities, unstated assumptions, or incomplete data. Part of this process is the need to consider the appropriateness of the marking value assigned to the questions in terms of their difficulty and length, and the relative importance of the topic in the syllabus. Consideration is given to whether the level of competence expected in the question corresponds to the level of competence being assessed by the examination. It is not unusual among the respondent member bodies to provide authors with past examination papers (refer to Appendix 7 for an Example of Examination Author Guidelines).

### 5.4. Examination Approval process

The final approval of the examination evaluates how well the proposed examination tests the knowledge, skills, and competencies outlined in the related syllabus.

Final examination approval for many respondent member bodies involves at least some members of the member body who have a formal responsibility for achieving the objectives of the professional entry program. These members may be from the Examinations Board, the Education Board, or a subcommittee appointed for that purpose. Alternatively, the examination is reviewed in depth by one or more members of the Examinations Board and formally approved by its chair.

Specific matters considered in such an evaluation include the topics covered in relation to the syllabus and the difficulty of the questions in relation to the objective of the examination (entry into the profession or progression to the next level in the qualification process). The Examinations Board also considers the extent, if any, to which the same or very similar questions were used in previous examinations, and ensures that the length of the question and time needed to respond corresponds to the time given for the examination.

Other matters for review include the clarity of the questions and related instructions and the additional assurances needed when the examination paper is translated into multiple languages (Refer to Appendix 8 for an example). The Examinations Board is also responsible for assessing the potential for acceptable answers other than those contemplated by the author. Finally, it considers the weighting and distribution of marks in relation to the topics covered by the questions and the level of difficulty of the questions.

Respondent member bodies generally include some form of the following four stages in the examination approval process:

Technical review of examination questions to ensure that (a) the questions are in accordance with the current examination syllabus, (b) are set to the required standard, and (c) equate with the standards of other bodies in the profession. The questions are reviewed to ensure that they are clear and intelligible from the candidate's perspective, and that the time allowed for the examination is appropriate for the well-prepared candidate;

- Desktop editing of examination papers to ensure that the in-house style guide has led to an appropriate visual layout, as well as editing for correct spelling and grammar and clear and unambiguous language;
- Trial-sit or pretesting of the examination under simulated conditions by a group such as one or more of the following: (a) a small group of markers, recent graduates, and/or members of the examination committee; (b) a group consisting of an academic, a recent graduate, and a lecturer in the program; or (c) a group of four people, consisting of two people who recently passed the module, one member familiar with the module, and one academic; and
- If used, trial sitters sign an affidavit of confidentiality and provide feedback on time taken, difficulty, clarity, and content of the examination. Trial-sit examinations are often marked against the preliminary marking guide, and reports are made on its length, difficulty, clarity, and coverage (refer to Appendix 9 for examples of an examination trial-sit template).

## 6. ENSURING THE SECURITY OF THE EXAMINATION BEFORE THE EXAMINATION DATE

### 6.1. Overview

Because security is so important to the integrity of the examination, it must be maintained during the entire examination development and administration process, starting before the examination date. For some member bodies, examination security is not under their control, because the development and conduct of the examination is undertaken by an external body, such as a government body. For most, however, it is an issue that can be addressed by the member body. In this section, the following issues are discussed based on information provided by the respondent member bodies:

- Security and confidentiality of the examination paper.
- Contingency plans for overcoming security breaches or disasters.
- Printing and distribution of hardcopy examinations.
- Electronic distribution of the examination.
- Control of stationery and other supplies.

### 6.2. Security and Confidentiality

All staff working on examinations do so in a restricted area of the office to avoid accidental disclosure of confidential matters to coworkers or people passing through the office. They also routinely clear any confidential materials from their desks, shred all hardcopies of discarded questions, and use encryption software on their computer.

If authors work independently from of a structured question-writing workshop, they are told of the importance of keeping their work materials in a secure place, such as a locked drawer or, preferably, a safe. Their computers can be equipped with encrypted software and examination files are password-protected. Any transfer of material between the author and the member body is done via courier and clearly marked “confidential,” or via email with encrypted and password-protected files. Authors also are told to avoid discussing their work with colleagues, friends and, obviously, candidates.

After questions are submitted by authors, they are kept in a secure place, such as a safe, with very limited access. Computer files and access to specific questions are secured by password. Further, computer files are sometimes named so as to obscure the contents of the file. For example, a computer file of questions concerning building contractors should not be called “BLDGCON,” which may reveal the nature of the file; rather it would be better to code or number the file in a way, for example, “FL3168,” which has meaning only to the question developer. Ideally, questions stored on computer would be encrypted so that the questions cannot be read without the appropriate authority, i.e., access to the decryption keys.

### 6.3. Contingency Plan

Contingency plans are developed to deal with contingencies such as:

- A leak in security is discovered before the examination is written. One option, depending on the seriousness of the leak, is to cancel the examination. The preferred practice would be to ensure that there is a reserve examination available to replace the compromised one, for example, the examination developed for the next regular examination session.



- A leak in security is discovered after the examination is written. This is handled case-by-case. An evaluation of the extent of the leak assists in determining the exposure to a loss of integrity and/or credibility in the examination process. Careful evaluation and comparison of the answers on individual examinations as well as statistical analyses may assist in this evaluation. Potentially, the member body may void the examination of one or more candidates and/or require a re-examination. In the worst case, the examination as a whole or at a particular writing center might be declared invalid.
- A natural or man-made disaster, such as flooding or a bomb threat, makes it impossible for candidates to arrive at a particular writing center at the appointed time or on the appointed day. If the delay is “for a short period of time,” the original examination may proceed. Otherwise, affected candidates could be asked to write the examination at the next regular sitting or be provided with a replacement examination at the earliest feasible date.

#### 6.4. Printing and Distribution of Hardcopy Examination

The large investment made in the controlled development of the examination can be lost if proper procedures are not followed to ensure its security after development. A security breach before the examination date may make the examination unusable.

Careful proofreading just before printing provides the member body with one last control step to ensure no typing errors or omissions. Some respondent member bodies take extra precautions by using professional proofreaders or senior examination staff to perform this task, in addition to clerical personnel.

If the examination is printed on the premises of the member body, access to the printing area is tightly controlled, and a staff member of the examinations department is generally present throughout the process to ensure that unauthorized access is not provided and that no examination papers are removed during the printing phase. The risk of unauthorized personnel being in the printing area can be reduced if the printing is done outside of regular office hours.

If the printing is done offsite, inquiries are made about the reputation of the printing firm for guarding confidential material, and an investigation is performed to ensure that the printing firm can and will provide the required security throughout the printing process. A periodic review of the firm’s security measures is made to ensure that all master copies are returned and that all overruns, misprints, or errors are either returned or destroyed. It may be desirable to provide additional security by having committee members or staff present at the printing, particularly when a new printer is being used. Visits during the printing process can also be planned as part of the review of the firm’s security measures.

Printed examinations are securely packaged into wrapped bundles, stored in a locked location, preferably a fireproof vault, and the whereabouts of all bundles is monitored at all times. Whether the examinations are wrapped at the printer or in the offices of the member body, transport to the examination writing centers make it possible to trace the whereabouts of the shipments at all times. Usually, courier service is used, although an armored car carrier to deliver examinations to the designated receiver adds more security. If a courier service is used, a copy of the shipping notice is faxed to the designated receiver indicating the quantities of items that have been shipped and the date and method of shipment. The shipment date is just sufficiently in advance of the examination date to ensure availability on the day of the examination but not much more. The writing center supervisor can be assigned responsibility for the examinations with responsibility for storing them in a secure place.

Confirmation is obtained that the examinations sent by the member body are received by the designated receiver. The designated receiver inspects for damaged copies, counts the copies, and confirms receipt. Any problems with the shipment are immediately identified and communicated to the member body. Different methods can be used to receive confirmation, including a telephone call or a preprinted acknowledgment form that is faxed or emailed back to the member body.

#### 6.5. Electronic Distribution of the Examination

The same security considerations for distribution/delivery apply to examinations delivered in an electronic format, whether the distribution/delivery is subcontracted to a third party vendor or performed in-house by the member body. The security of examinations in electronic format is accomplished through a combination of software security and physical security. Encryption is the most effective security tool to protect the examination during electronic distribution. Software security, for example passwords, is also used to limit access to the examination to authorized users. Physical security measures are employed at the writing centers to prevent theft of hardware containing data related to the examination.

#### 6.6. Control of Stationery and Other Supplies

Security procedures are also established by respondent member bodies to guard against unauthorized written materials being brought into the writing center, and to ensure that candidates use only the answer sheets, booklets, and USB keys provided by the member body. The stationery to be used by candidates is often used to enhance control. For example, envelopes can be pre-numbered and/or have special two-part labels, one part of which contains the name of the candidate and which is removed before the marking commences, since anonymity is essential in the marking process.

Since stationery is controlled, it is important to ensure that an adequate, but not excessive, supply is sent to the examination writing centers. This might be 110% of the amount required based on the number of candidates enrolled at the center. Center supervisors are trained to be alert to the possibility of loss or theft. All unused stationery is returned to the member body for safe storage and/or disposal.

Where the answers to case and essay questions are handwritten, stationery is generally booklets or foolscap. Preprinted answer sheets are typically used for true/false and multiple-choice questions. The candidates usually insert their control number (not their names) on each booklet or page of foolscap used and on each answer sheet. Some respondent member bodies use custom-designed stationery as an added control against cheating. It is also possible to use different colored answer paper for different examinations as an added control. When the answers are recorded on USB keys, candidates write their control number on the key.

Answers (handwritten or USB keys) are typically put into envelopes by the candidates before being collected by the supervisors. Envelope numbers can be given to each center and accounted for. It is also possible to use envelopes with a tear-off slip that is given to the candidates as proof that the sealed envelope has been handed to the supervisor.

## 7. APPROVAL OF CANDIDATES

### 7.1. Overview

To further ensure the integrity of the examination process, many respondent member bodies employ control measures before the date of the examination to ensure that the examination will be undertaken (a) only by eligible candidates, and (b) under conditions that are fair to the candidate, e.g., anonymity is protected and special needs are accommodated. These control measures are in addition to the specific security measures at the writing center on the day of the examination. (Refer to Section 8.5 for security measures relating to eligible and legitimate candidates on the day of the examination).

In this section, the following issues are discussed based on information provided by the respondent member bodies:

- Applications to undertake the examination;
- Approval to undertake the examination;
- Communication of examination instructions to candidates;
- Protection of a candidate's anonymity; and
- Accommodations for a candidate with special needs.

### 7.2. Applications to Undertake the Examination

Application forms are designed and made available well before each examination date. Some respondent member bodies find it useful to make available, as part of the application form, acknowledgement cards that the candidate completes and submits together with the application. This acknowledgement card can then be sent back to the candidate to confirm receipt of the application. Where applications to sit an examination are completed online, an automatic email acknowledgment can be set up.

### 7.3. Approval to Undertake the Examination

Forms indicating approval to sit the examination are prepared after a candidate's eligibility has been verified. These approval forms (sometimes called admission forms or confirmations), which are sent to all eligible candidates, include the location of the relevant writing center. Candidates are allowed to sit the examination only at the designated center to ensure that the correct number of supplies is sent to the center, and so that seating plans can be prepared ahead of time. Detailed instructions to candidates are also being sent at this time, as outlined in Section 7.4.

Appendix 10 provides a sample template for confirming examination attendance.

### 7.4. Examination instructions for candidates

Candidates assessed as eligible to sit examinations are provided access to examination rules/instructions well in advance of the examination date. Candidate examination instructions are often included in confirmation communication as well as copies provided in handbooks, websites, and learner management systems.

Candidate examination instructions include the following essential information:

- Rules regarding the eligibility of candidates to sit the examination;
- Title of the examination;

- Timing and duration of the examination;
- Timing rules regarding entry to and exit from the examination center;
- Permissible examination aids: pens, pencils, erasers, calculators, reference materials, laptops;
- Form of required identification;
- Specific description of what may not be taken into the examination center;
- Specific description of what may not be taken from the room: examination questions, answer sheets or booklets, working papers, notes and scratch sheets, blank examination paper;
- Definition of misconduct and related penalties;
- Information regarding notification of results;
- Special consideration/appeals process;
- Supplementary examination opportunities, if any; and
- Other policies of interest, such as:
  - special accommodations/provisions;
  - handling unavoidable interruptions or emergency situations on examination day;
  - response when situations prevent candidates from attending an examination; and
  - use of laptop/secure software to complete an online examination.

Appendix 11 provides a detailed outline on candidate examination instructions and information.

Appendix 12 provides an example of examination rules.

#### 7.5. Anonymity

Protecting the anonymity of a candidate is a fundamental principle in ensuring the integrity of the examination process. No candidate's response should be identifiable, nor should that candidate's name be identified on examination answer papers. The principle of anonymity is critical to a fair, objective, and unbiased marking process.

Some respondent member bodies begin to address this issue as early as the time of approval of candidates. To ensure anonymity, a member body may assign identification numbers to eligible candidates on their admission forms or through the use of labels on the examination envelopes (labels provided to the candidate upon approval). Another approach is to assign code numbers to the candidate answer papers, obscuring the candidate's name, so that even the candidates themselves will not know their code numbers. An alternative to assigning special numbers is to use candidates' student member numbers. Whatever method is used, the record of identification numbers assigned to individual candidates is kept secure and confidential, and names are not matched to papers until the marks have been approved. (See section 10).

Candidate identification processes must also comply with local privacy legislation.

#### 7.6. Candidates with Special Needs

Accommodation of candidate special needs is an issue of fairness for examination providers. Broadly defined, candidates with special needs are those with any impairment to the learning of competencies or

the demonstration of competencies. Some disabilities are physical or sensory. These are usually visible and easily recognized. More complex issues arise when the disability is caused by a known or assumed neurological dysfunction.

Respondent member bodies typically offer the following kinds of provisions for candidates with special needs:

For hearing impairment: Written instructions are prepared, and supervisors may signal time remaining in the examination, e.g., by switching lights off and on;

For visual impairment: Examination papers are printed in larger font, special lighting is provided, additional time or assistance with reading the examination is provided, or a scribe is provided to write the answers in the examination booklet on behalf of the candidate;

Mobility-impaired candidates sit the examination at venues that have easy access, and they may also be given additional time.

Further information on accommodations for special needs candidates can be found in the IFAC Education Paper, *Accommodation of Candidates with Disabilities*, October 2003.

Candidates experiencing illness before an examination may also be granted special concessions during the examination, such as extra time or more breaks. As with accommodations for special needs, many respondent member bodies include practices for granting concessions for illness. These practices address how often candidates are permitted to withdraw on the grounds of illness, what proof of illness is required, and when in relation to the examination date the medical or other proof needs to be provided. For example, candidates withdrawing due to illness might need to notify the member body within one week of the examination and submit a doctor's certificate within 14 days of the examination date.

Appendix 13 provides a template of an application to complete an examination under special conditions.

Appendix 14 provides a template of an application for special consideration due to medical illness that impacted on examination performance.

## 8. THE EXAMINATION WRITING CENTER

### 8.1. Overview

The selection and operation of the examination writing center is a critical part of the examinations process. A range of issues are considered, not only to control the integrity of the process, but to convey confidence in it and to ensure the smooth operation of the examination.

In this section, the following issues are discussed based on information provided by the respondent member bodies:

- Selecting the writing center;
- Storing the materials;
- Duties of the writing center supervisors;
- Security issues during the examination;
- Announcements;
- Emergency procedures;
- Dealing with suspected errors on the examination;
- Misconduct during the examination;
- Illness of candidates;
- Collection of the examinations; and
- Return of materials from the writing center.

Many respondent member bodies have prepared an examination writing center manual that outlines all information concerning the administrative procedures that should be adhered to by those responsible for activities at the center including dealing with many of the issues in this section.

### 8.2. Selecting the Writing Center

Writing centers are selected to provide equitable and reasonable comfort to all candidates and to ensure the security and integrity of the examination process. Centers are selected on the advice of staff of the member body and/or members, who look for certain criteria to be met, such as whether the center:

- is reasonably accessible by motor vehicle or public transportation, with ample parking within walking distance of the facility;
- provides a comfortable, well-ventilated environment;
- is well lit;
- meets local fire department standards, with easily accessible emergency exits;
- allows for sufficient space between candidates (typically 25 square feet per candidate; 2 candidates on the same side, or at opposite ends of, a table 2 feet wide and 6 to 8 feet in length; individual tables 3 feet x 3 feet; tables are generally at least 4 feet away from the table in front or back, and 2 feet from the tables beside it) [Note that 1 foot = 0.3048 meter.];

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

- is free from distracting noises (management of the sites should be specifically asked about scheduled or possible events that might provide such distractions);
- is equipped with an easily accessible and secure area for storing examination materials;
- is equipped with a work area for use by the supervisors;
- is equipped with a clock positioned where all candidates can see it;
- facilitates control of access to and from the room; and
- has adequate restrooms allowing access to and from the washrooms to be supervised.

Centers where candidates use computers should meet certain additional criteria, such as:

- establishing candidates' seating in such a way so that no candidate can easily observe the computer screens of neighboring candidates;
- being equipped with sufficient power requirements for computers, with detailed specifications to be confirmed with the writing center's facilities to ensure that adequate power is supplied; and
- allowing access by the supervisor or a facility representative to the circuit breakers for the room in the event that a breaker is tripped and needs to be reset during the examination.

"Centers of one" are allowed by some respondent member bodies. In such cases the member body usually relies on trusted examination monitors to supervise a single candidate in their own home or office or at another agreed-upon location.

Sometimes, all candidates are able to write their examination at one common center. More often multiple writing centers are selected based on the geographic dispersion of candidates with a minimum number required for any one center. The decision as to one common center or multiple centers is based on:

- the availability of writing centers that meet the criteria;
- the availability of trained staff;
- the number of candidates;
- the cost of establishing and operating multiple writing centers;
- security concerns;
- technical, e.g., computer, support; and
- geographical dispersion of candidates.

### 8.3. Storage of Materials

Immediately after verification of receipt, examination materials are stored in a secure location. Ideally, they are stored in trunks or other sturdy containers that can be locked and then placed in a vault or a windowless fireproof room to which only the writing center supervisor and a very few other designated people have access. It should not be possible to open the storage room with a master key.

### 8.4. Writing Center Supervisors

The chief supervisor with overall responsibility for the writing center and all other supervisors (sometimes called invigilators, proctors, or monitors) who assist him or her are carefully selected and given clear directions as to what is expected of them, since a breach in one center, particularly if it occurs before the

scheduled examination date, will threaten the security of the entire system. The supervisors assigned to a specific writing center do not have any close family relationship to any candidate writing at that site, nor should there be any other issues that might give rise to potential conflicts of interest.

To monitor candidates properly during the examination, sufficient supervisors are provided to ensure that no candidate can, without detection, refer to notes or other materials, copy examination questions or answers for later removal from the examination room, look at another candidate's answer paper or computer screen, or remove any examination-related materials from the examination room.

The ideal number of supervisors depends largely on the physical characteristics of the examination room, the overall examination site, and the number of candidates per room. In general, there are no more than 25–30 candidates for each supervisor, with a minimum of 2 supervisors to allow for the possibility of sudden illness of a supervisor or another emergency. Other factors may require the ratio to be higher, such as the need to provide extra supervisors to accompany people from the examination room or to allow supervisors to take periodic breaks.

In some cases, the chief supervisor of the writing center may select the other supervisors who will assist him or her. Different sources of supervisors can be used, such as the member body's staff, retired school teachers, and members of the member body.

Candidates are under a lot of stress at examination time, so the selected supervisors possess discretion, understanding, maturity, and tact, are punctual, and have good references.

In centers where candidates use the computer, at a minimum one IT supervisor attends the writing center throughout the entire examination startup, writing, and response collection periods. IT supervisors also attend a training session to familiarize themselves with troubleshooting issues. IT proctors are selected based on their knowledge of and comfort with performing IT procedures.

#### 8.4.1. Duties of the Chief Supervisor of the Writing Center

The chief supervisor of the writing center is responsible for the overall conduct of the examination at a particular site, including responsibility for

- maintaining the security of the examination;
- ensuring the safety of the candidates;
- training and supervising the supervisors;
- overseeing the reconciliation of examination materials submitted by candidates to the number of candidates in attendance; and
- assuring that all materials are properly prepared for transmission to the organization.

The chief supervisor of the writing center communicates the necessary responsibilities to all the supervisors assisting in the administrative procedures at the writing center. For consistency across the writing centers, the member body prepares a list of duties and responsibilities for use in this instructional process.

The duties of chief supervisors of writing centers and those supervisors who assist them are detailed in a manual.

The following paragraphs illustrate the key aspects to be considered in giving instructions to the chief supervisors of the writing centers to help them to perform their duties consistently.



#### 8.4.2. Duties of Other Supervisors

Duties of other supervisors consist of

- assisting in the identifying, admitting, and seating of candidates;
- distributing examination materials;
- observing candidates during the examination;
- controlling entry into and exit from the examination room;
- collecting, accounting for, and securing all examination materials; and
- handling irregularities and emergencies.

Supervisors:

- wear name/identification tags;
- ensure a quiet and comfortable atmosphere for the candidates;
- report any unusual situations to the chief supervisor of the writing center;
- actively patrol the examination room;
- not talk or read during the examination;
- not answer questions about the content of the examination, nor attempt to explain the meaning of a question;
- report in writing any suspicion of cheating: this report should be as detailed as possible and should also be signed by the chief supervisor of the writing center; and
- dress neatly and wear comfortable, quiet shoes.

#### 8.5. Security issues

##### 8.5.1. Identification of Legitimate Candidates

The specific procedures adopted by respondent member bodies to some extent depend on the process used to administer applications to write examinations (see Section 7). For example, if admission cards are issued in advance, these will be part of the identification process upon candidates' entry to the writing center. At a minimum, lists of candidates eligible to sit the examination at a particular center are sent to the chief supervisor of that center and candidates are required to show proper identification. Proper identification typically includes photo ID and an admission form. For ease of reference, the lists of candidates show candidates in alphabetic order or in order of their identification number.

The following procedures are used:

- Candidates are issued, and bring to the center, admission cards bearing a registration number, photo, and signatures;
- Candidates bring personal identification (ID) and an admission letter issued by the member body, and the admission letter is checked against the attendance list;
- Candidates sign against their names on a list of examination center candidates as they enter the room; and

- Candidates are issued admission cards that include their pictures (sent in with the application to write).

#### 8.5.2. Entry/Exit into the Examination Room

Admission into the examination room is restricted to legitimate candidates. Generally, candidates are allowed to enter the room 10–30 minutes before the official start time, and they are allowed late entry only up to the first 30–45 minutes after the examination has commenced. There should be restrictions on leaving as well. Generally, anyone may be allowed to leave during the first hour after commencement. It is also common to not allow anyone to leave in the last 15 minutes of the examination to maintain quiet during that period. Re-entry is not permitted, except for officially excused exits such as restroom visits, for which candidates are accompanied by a supervisor. Candidates may be required to sign out and surrender their test materials before leaving the room, even if they intend to return. To re-enter the room, those candidates may be required to sign in before being reissued their materials. It is also common to allow the materials to be left face down on the desk for temporary absences, to be turned in only if no return is anticipated.

Some respondent member bodies have their examinations written in different time zones on the same day. The start and ending time of the examination in each region is fixed to prevent candidates from communicating between time zones. Candidates are not allowed to leave the room for a certain period of time to prevent them communicating with other candidates in another time zone.

Candidates who do not have the proper identification or documentation are referred to a supervisor assigned the task of attempting to verify their identities and to check the candidate's eligibility against the master list. Generally, candidates without complete documentation are not prevented from attempting the examination (unless, of course, it is evident that the person in question is not the candidate he or she represents himself or herself to be), but a special report is attached to their materials regarding the nature of the irregularity.

#### 8.5.3. Seat Assignments

Ideally, seats are preassigned and not left to the discretion of the supervisors or candidates. This will prevent planned collusion during the examination, and the availability of a seating plan will assist in investigating possible irregularities that may be discovered during the marking process, as indicated by answer sheets that appear identical.

Different strategies can be applied to assign seats, such as:

- assigning desk numbers before the examination and notifying candidates via the examination admission form;
- randomly assigning candidates to desk numbers to seat locations, determined by the chief supervisor; or
- assigning seating locations using candidate numbers. If using this method, it is preferable to number seats from front to back, rather than from side by side, since two related candidates might have received their numbers at the same time. Seats should not be assigned in alphabetical order, because related candidates might end up sitting side-by-side.

#### 8.5.4. Materials Allowed Into the Writing Center

Respondent member bodies decide what items are allowed or not allowed in the examination writing center. The list of allowed and prohibited items is clearly communicated to the candidates before the day

of the examination. Generally, candidates may bring in the examination room only approved items, which may include:

- pens and pencils;
- medications;
- beverages in a plastic container or juice box only;
- tissues;
- quiet snack;
- ordinary earplugs (no headphones or headsets);
- approved laptop computers and peripherals; and
- other admissible aids.

The following items are generally prohibited and not permitted in the examination rooms:

- notes, papers, books, or other study materials in any format or media other than those approved by the member body;
- cell phones or other electronic devices: including PDAs, wireless email devices, iPods, MP3 players, pagers, cameras, radios, recording devices, hand-held computers, programmable watches;
- headphones or headsets; and
- weapons of any kind.

#### 8.5.5. Distribution of the Examinations

To ensure that all candidates are given the same amount of time to answer, consideration is given to the method of distribution and collection of the examination and related supplies and authorized examination aids. In a traditional writing center model, where the examination is handed out in hardcopy and answers are recorded on paper, the answer papers are pre-distributed and placed on the desks before the candidates arrive. The candidates use the time until start time to enter their identification codes on each answer paper. Question papers can also be distributed just before the start time, and are required to be left face down until start time. It is also possible to enclose the question paper in a sealed envelope that can only be opened at the official start time.

If the examination is distributed electronically by a third-party computer vendor, delivery of the examination is controlled by granting access to a centralized database accessible by all writing centers. Access is granted at the same time to all candidates at a particular writing center.

#### 8.6. Announcements

Supervisors are trained in exactly what candidates should be told, how it should be told, and when, so that all candidates receive the same information in the same way, regardless of the center at which they write the examination. Each candidate is able to hear all writing center announcements. The use of a public address system may be necessary to achieve this. Most announcements are made at the beginning of the examination period. Others, such as the time-up announcement, are made at the end. An example of an announcement is provided in Appendix 15.

### 8.7. Emergency Procedures

A host of unplanned events can and will occur, including breaches in security, defective test booklets, fires, power outages, and illness of candidates. All supervisors are made aware of the procedures to follow in emergency situations, and these procedures are documented in a writing center manual for chief supervisors of writing centers. However, several policy issues are considered before detailed procedures can be included in the manual, including the following:

- Who should be responsible for determining the effect of a breach of security at a given writing center on the examinations at that center, for determining whether the breach could affect all centers, and for deciding on the proper course of action?
- Are there circumstances when an interrupted examination should never be resumed, or should that always be a matter of judgment? For example, a member body might reasonably conclude that every effort should be made to resume an interrupted examination, if adequate examination security has been maintained. On the other hand, another member body might have a rule that an interruption occurring when, for example, less than two-thirds of the examination time has elapsed will result in cancellation of the examination; when on the other hand it occurs after that, the examination is not resumed but a special allowance is made in the marking.
- What is the maximum length of any interruption that should be allowed before the examination is cancelled?

Generally, member bodies attempt to deal with emergency situations in a manner that emphasizes maintaining the security of the examination so that the examination does not have to be cancelled, because cancellation would result in significant distress and inconvenience to candidates, as well as significant cost to the member body.

Sample instructions to writing centers supervisors on emergency procedures are shown in Appendix 16.

### 8.8. Suspected Errors on the Examination

Candidates sometimes alert supervisors to what they consider to be errors in the examination. In spite of all care, errors do occur, but usually this is very rare. Supervisors are instructed never to offer a personal opinion on the possible error. Respondent member bodies determine in advance whether it is practicable to announce a correction (or even the existence of a potential error) at the writing center or whether candidates should be told that any potential error in the examination should be reported to a supervisor, and that it will be taken into account at the marking stage.

It may be possible to set up a hotline for reporting possible errors and for giving centralized guidance to all centers, but many member bodies have found that the line is rarely needed. Respondent member bodies with a large number of writing centers have found it impossible to announce any corrections across all the writing centers.

### 8.9. Misconduct during the examination

Respondent member bodies establish a policy on what constitutes misconduct by candidates, and on what actions to take once misconduct is suspected. Examples of misconduct by candidates include communication or passing information to others, using unauthorized materials, disruptive conduct, and writing before or after the official start and stop times.

A policy on dealing with suspected misconduct may need to be discussed with legal counsel. A member body might, for example, require witnesses to the misconduct to prepare a full report and isolate any

candidate who is suspected of misconduct for the remainder of the examination. Another member body may find that isolation during the examination to be contrary to local laws, human rights, or fairness legislation.

Penalties for misconduct are usually reported to the Board responsible for the examination. The Board reviews the situation and administers the penalty based on the specific circumstances. It is important that behaviors that are considered misconduct and the penalties for misconduct are known to the candidates. This can be done in a variety of ways ranging from providing candidates with the examination rules and regulations to providing candidates with a code of conduct that describes appropriate academic conduct, the process for investigating suspected breaches, and the penalties for violations.

Penalties for misconduct vary depending of the nature of the misconduct, including:

- disqualification from the examination if results have not yet been issued;
- invalidation of results if they have been published;
- prohibition from sitting examinations for a specified period; and
- removal from the students' register.

#### 8.10. Illness of Candidates

Ideally, writing centers are equipped with first aid facilities. Details of any medical incidents are reported to the member body in writing by the chief supervisor. Candidates may complain that their illness was improperly handled. One policy for dealing with medical problems states the following:

For apparently minor illness, the supervisor may be instructed to

- remove the candidate from the examination room;
- establish if medical assistance is needed;
- determine if and when the candidate is fit to continue;
- determine if the candidate needs a separate room to continue;
- allow the candidate extra time to compensate for the time lost due to the illness; and
- consider if the interruption to the other candidates was significant enough to require the awarding of additional time.
- For serious illness, the supervisor may be instructed to
- arrange medical assistance for the candidate;
- remove the candidate from the examination room only if it appears safe to do so; and
- advise all candidates immediately that they will be given extra time at the end of the sitting to compensate for the interruption.

#### 8.11. Collection of the Examinations

Special care is taken to ensure that all candidates' answers are collected and accounted for, since the consequences of a purported missing examination are very serious. Candidate who do not wish, for whatever reason, to have his/her examinations marked are made to sign a declaration to that effect. Their answers are still collected, but they are not marked.

In writing centers where answers are recorded on paper or on a USB key, techniques used for collecting of answers include the following:

- Candidates bring them to an assigned supervisor and sign a list, which is deemed proof of complete submission and collection;
- Candidates remain at their desks and supervisors collect the answers; no candidate may leave his/her desk before the answers have been collected; and
- Candidates are given a receipt when they hand in the answers.

In addition, generally, candidates are not allowed to remove anything from the center that they did not bring into it, such as blank paper, scrap paper, and examination questions.

When computers are used by candidates in a writing center, candidates could be asked to upload their response to a secure server as a backup at the end of the examination. Responses saved on the computer are encrypted to prevent candidates from changing their responses.

#### 8.12. Return of Materials from the Writing Center

Immediately after each session, the number of completed examinations is reconciled to the attendance and to the number of question papers received by the center. Preprinted forms are usually used for this purpose. One copy of the reconciliation is returned with the shipment of materials to the member body, but one copy is faxed or emailed to the member body in case the entire shipment is lost. One copy of the list showing actual attendance at the center by name or identification number is also faxed or emailed to the member body. No trash is removed from the examination room until the reconciliation process has been completed.

Generally, completed examinations are shipped back separately from the return of surplus supplies. The answer papers are securely wrapped or locked in a bag and couriered to the member body. Details of the shipment, including date, time, carrier, and identification number, are faxed to the member body.

## 9. MARKING THE EXAMINATION

### 9.1. Overview

When marking the examination, equity and transparency calls for appropriate quality control procedures, security, and timeliness of the marking process (because most member bodies indicate in advance when the results will be available to candidates).

In this section, the following issues relating to marking the examination are discussed based on information provided by the respondent member bodies:

- Administrative arrangements for the marking process;
- Selection of markers;
- Preparation of the marking guide;
- Test marking;
- The “live” marking process;
- Double marking;
- Auditing the marks awarded;
- Re-marking examinations; and
- Reporting the outcomes of the marking.

### 9.2. Administrative Arrangements for the Marking Process

An Examinations Board may be formed to take overall responsibility for the setting and marking of the examination.

Two alternate approaches are taken in marking examination papers. The first approach is to for a team of markers to mark all answers to a particular question across all candidates. This ensures consistency in the marking of the same question across all candidates. The second approach is for individual markers to mark all questions in the batch of examination papers that they are assigned. In this second situation, it is particularly important that processes are put in place to ensure that a consistent approach is taken to marking the same questions across all candidates.

Whichever approach is taken, it is common for makers to work in teams and for their work to be supervised by a Team Leader. Some professional bodies refer to the Marking Team as a Marking Panel, which is headed by a Panel Leader. Others will refer to the team leader as the Examiner, Moderator, or Auditor. Several marking teams may be formed to undertake the marking process.

The responsibilities of a Team Leader will vary, but may include the following.

- Conduct a preliminary discussion with the team members to confirm the solutions and marking guide, including test marking, to ensure that a consistent and fair standard are applied before commencing the live marking of the question;
- As the marking proceeds, coordinate the marking process, including discussion of unusual answers;
- Coordinate the audit of a sample of the examinations in each bundle to ensure consistency throughout the marking;

- Ensure that all marks are recorded correctly; and
- Coordinate the examiners' comments for the particular question.

Where an examination paper contains multiple-choice questions, candidates will usually provide their responses on computer-readable forms, and the marks will be scored by computer. No manual marking processes are needed.

### 9.3. Selection of Markers

A Marking Team may consist of a mix of experienced and inexperienced markers. The members of a team may include markers with a mix of backgrounds, such as academics, members in public practice, and members in commerce or government. This mix helps to ensure fairness in the marking process. Markers should be knowledgeable about matters covered by the examination, and preference is often given to appointing markers who are members of the professional body.

Some respondent member bodies appoint as markers academics who are active in delivering some component of the professional program of the member body. They may be lecturers or authors of course materials or leaders of examination preparation sessions. However, in other bodies there is concern that conflicts of interest arise if markers have had any involvement in delivering the examinable content to candidates.

Many respondent member bodies require markers to sign confidentiality agreements. A limit may be placed on the number of examinations that can be marked by a single marker. This is to prevent fatigue. The number of examinations will depend on the complexity of the questions, but could be up to 500 examinations.

Markers are trained to achieve consistency of marking. This may include formal training over several days, or the test marking process (see Section 9.5) may provide sufficient training.

### 9.4. Preparing the Marking Guide

A marking guide is prepared for each question in the examination paper. This is often prepared by the author of the question. However, the guide also is reviewed by members of the Examinations Board or Marking Team. This review is an important step in the quality control process, because it provides an independent evaluation of the fairness of the author's expectations of the candidates.

The marking guide includes a solution for each question and a marking grid for each question. The marking grid will explain the marks to be given for each component of the question. An example of a marking grid is provided in Appendix 17.

In many cases, particularly when the examination includes case studies or essay questions, the marking guide may not be finalized until after the test marking. This is because candidates will sometimes provide valid solutions that were not previously identified by the author of the question or the marking team.

The authority to approve the final marking guide is generally given to the highest level, such as the Examinations Board or its Chair.

Where there are case studies, essays, or written reports, the marking guide may not just focus on the accuracy of the technical content of the answer. Some respondent member bodies also require markers to award discretionary marks for presentation, style, and approach. In this case, descriptors may be provided to guide markers in assigning these marks. Appendix 18 has some examples of some descriptors that apply to these forms of assessment.



Some respondent member bodies may base their assessment of candidates on a competency approach. Under this approach, candidates do not pass or fail questions based on assigned marks. They are assessed against the requirements of a “passing profile” that is developed for each competence area. These areas of competency are based on the professional body’s Competency Map.

#### 9.5. Test Marking

Before live marking can commence, test marking should be undertaken. Test marking serves several purposes. It can provide the basis for the discussion of the marking guide among the marking team to help ensure consistency between the assessments of the markers; it familiarizes the markers with the marking guide and confirms that the marking guide is as complete and accurate as possible.

Test marking calls for each marker to assess a random sample of examinations. The outcomes of the marking will be discussed among the markers, and further re-marking may occur until there is consensus on the appropriate way to mark the particular questions. It is important to achieve uniformity in approach to marking across the marking team before the commencement of the live marking. After the live marking commences, no further changes to the marking guide or assessment should be made. However, if errors or issues that necessitate a change arise after marking commences, then all examinations need to be re-marked.

#### 9.6. The “Live” Marking Process

In the “live” marking of examination paper, there needs to be consistency in the processes (a) to ensure that no candidates are disadvantaged, and (b) to facilitate the later processes of checking and audit of marks.

Where candidates complete written responses to questions, those completed examinations are usually organized into standard-sized bundles of 20 to 50 to facilitate marking. Each bundle should be marked clearly with a front sheet indicating the batch number (e.g., B13), the numbers of the range of examinations include in the bundle (e.g., examinations numbered 1250 to 1300), the name of the examination paper (e.g., Financial Reporting I), and the date of the examination. If a marking team is to be responsible for marking the entire bundle, then the front sheet should also identify the specific marking team responsible for that bundle. The front sheet will also indicate which questions in the examination have been marked. A Batch Control Sheet is used to record when a batch has been taken for marking and when it is completed. Markers must sign the control sheet when they take and return a bundle.

To ensure that all questions have been marked, some respondent member bodies employ clerical staff to check all marked examinations to ensure that all the pages have in fact been marked. Markers should initial or use some other system (e.g., a diagonal line across on each page) to indicate that each page has been assessed. The addition of marks for each examination also needs to be independently verified.

Many respondent member bodies do not allow markers to record any marks or write any annotations on the examinations. This is to facilitate independent second marking. Other bodies allow no marks to be written on the examinations themselves. In either situation, certain marking protocols are to be followed as part of the quality control process. Some examples are provided in Appendix 19.

#### 9.7. Double Marking

Some respondent member bodies provide further assurance of the consistency of marking by marking every examination twice and investigating any significant differences. It is particularly important that the first markers not record their marks on the examinations themselves, to ensure that the second

independent marker is not be influenced by the decisions of the first marker. Double marking entails examinations being marked by two different markers, who record all comments and marks on separate sheets of paper, rather than on the actual examination paper. Where there are case studies and essays, double marking is particularly important due to the subjective nature of the marking.

The decision on whether to double mark all examinations may be based on the number of examinations to be marked, the availability of qualified markers, and the additional cost of the exercise. Some member bodies may double mark only a sample of each examination bundle. Other bodies will only second mark examinations where the final result is just below the pass grade, i.e., a borderline result (see section 9.9 on re-marking of examinations).

Rules need to be developed for arriving at a final mark in cases where the second mark varies with the original mark. This may include making no change to the original mark, taking the highest mark, or averaging the two marks. The choice may depend on the extent of the variance. If the variance is greater than a certain threshold, the examination, together with the comments of the two markers, may be sent to a third marker who will make a final decision. Alternatively, the markers may need to meet to come to a common view.

#### 9.8. Auditing the Marks Awarded

Throughout the marking process, examinations need to be audited to ensure that the marks have been awarded according to the marking guide. This may be in addition to double marking. Some respondent member bodies use senior markers to audit at least 10% of each bundle of 50 examinations. Others use supervisors to perform random tests on marked examinations. Still others rely very heavily on statistical reports prepared for each batch of marked examinations. Such statistics might consist of:

- a comparison of each batch to the test batch;
- reports on the distribution of marks;
- productivity reports; and
- a comparison of the marks awarded for a particular question by one marker to those awarded by other markers for the same question.

Aside from the fact that consistency and fairness to candidates can be improved by the use of exception reports and audits, the need to be prepared for the possibility of candidate complaints makes due care in the marking process especially important.

#### 9.9. Re-marking of Examinations

Examinations may be re-marked as part of the audit process. Also, if inconsistencies are discovered in the marking of certain questions during the audit, all examinations should be reviewed and re-marked to take into account that inconsistency. It is common to re-mark all borderline examinations or all failures. However, some bodies only re-mark borderline examinations that are just below the pass marks, whereas others re-mark examination just above and just below the pass mark. If there is a discrepancy, the examination is marked by a third marker or is adjudicated by the marking supervisor or another senior-level person.

#### 9.10. Reporting the Outcomes of the Marking

After marks are finalized, the Examinations Board will usually prepare an examination report that provides an overall assessment of the candidates' performance. A detailed report will be used for internal reporting

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

purposes of the member body, and a more concise version will be sent to a range of external stakeholders, including current and future candidates.

The report will include (a) a discussion of areas where candidates performed well and areas where performance fell below the expected standard, (b) commentary on both technical content and non-technical content, and (c) a comparison of the percentage of candidates who passed compared to prior examination periods.

## 10. APPROVAL OF MARKS, RELEASE OF RESULTS AND APPEALS

### 10.1. Overview

There is a wide variance in respondent member body approaches to determining the passing standard, the information that is made available to candidates about their marks, and the appeals that may be made by candidates who fail.

No matter what method is chosen to set the passing standard and provide candidates information on their results and the appeals process, respondent member bodies ensure that the process is applied equitably across all candidates within a given year and from year to year. The objective is to develop a fair measure of each candidate's performance.

In this section the following issues are discussed based on information provided by the respondent member bodies:

- Determining the passing standard;
- Approval of the results of the marking process;
- Notification procedures;
- Appeals;
- Performance appraisal reviews;
- Publication of results, examinations, and solutions; and
- Permanent records and retention policy.

### 10.2. Determination of the Passing Standard

The passing standard for a particular member body's examinations is normally a policy decision made by the highest authority of the member body, such as its Education Board, although some delegate this to the Examinations Board. For some respondent member bodies, the authority is provided through an order of a government ministry. The passing standard used is commonly a percentage of marks available. This percentage is often 50% but can go as high as 75%.

This policy decision is made only after careful consideration of all important factors, such as the objective of the examination (especially when it is one in a series of examinations) and the levels of competence required for entry into the profession. For this reason, the passing standard, once set, ordinarily is not changed frequently, and certainly is not changed without a significant rationale.

Appendix 20 contains an example used in a competency-based examination where individual marks are not awarded by simulation/question. Rather, an indicator of overall performance is determined to indicate the level of competency.

### 10.3. Approval of the Results of Marking Process

A formal process is developed to grant final approval of the results of the marking process. Generally, this approval is given by the Education Board after a review of relevant reports and statistical data on current and past examinations. The process usually includes the following three steps:

Review of information provided to the Education Board such as:

- comments received from universities relating to the examination;

- comments by markers and reviewers responsible for a specific question;
- actual marks awarded to each candidate per question (raw score);
- highest scores (raw score) awarded per question;
- lowest scores (raw score) awarded per question;
- average scores (raw score) awarded per question;
- number and percentage of candidates that passed (raw score) per question;
- number and percentage of candidates that failed (raw score) per question;
- distribution of raw scores per question;
- background information on the student population that may have an impact on the results; and
- statistical analysis of results.

Review by the Education Board of the report prepared by the individual responsible for each simulation/question.

In some cases, the process may involve the reading of candidates' responses by members of the Education Board.

An example of a formal process can be found in Appendix 21.

In approving the results of the marking process, respondent member bodies consider:

- original expectations in relation to actual results and the reasons for major variances;
- comparison with previous years' results, on the assumption that the population of candidates stays relatively constant from year to year;
- difficulties experienced in applying the marking guide;
- difficulties experienced by candidates because of apparently excessive length of the examination; and
- comments of markers and educators on the examination.

In spite of the rigor of the examination development, marking guide development, and marking processes, certain factors may adversely impact the marks awarded, so that competent candidates may score less than the passing standard, including:

- time constraints in any of the questions;
- ambiguities in the wording of any of the questions or requirements;
- inappropriate requirements, for example, the examination may contain aspects that were not relevant to the syllabus, or not appropriate given the level of professional competence that it is reasonable to expect candidates to demonstrate;
- inconsistencies in translation into other languages; and
- questions set at too high a level of difficulty.

Such factors could decrease the achievable scores for all candidates writing the examination, thereby affecting their ability to achieve the initial passing standard. Otherwise competent candidates may fail the

examination due to factors beyond their control. In such cases, an across-the-board adjustment to the initial passing standard may be necessary. The final results awarded to candidates after taking the adjudicated adjustment into account will better represent the candidates' true competence.

#### 10.4. Notification Procedures

In general, after the results have been approved, individual results are communicated to candidates. Privacy laws that may apply are considered before determining which method of notification is best suited to particular circumstances. Examples of notification procedures are as follows:

- Forms are produced and distributed to candidates by registered mail;
- Results can be accessed by the candidate via an automated telephone service by using an individual pass code to access results;
- Publication can be made in national newspaper using candidate numbers, not names; and
- At the choice of candidates, they can be informed of their examination results by first class post, by viewing their results through a secure area of the member body website (which contains their personal information), and if they opt in, by email or by SMS.

The level of detail provided on examination results to candidates can take various forms and is a matter of Board policy. Respondent member body alternatives include a single pass/fail grade for the examination as a whole, an overall mark on the examination as a whole, and marks for individual examination questions. Decile rankings by questions or examinations are often provided.

After the results of the examination are made known to the candidates, aggregated statistical reports on performance may be produced, for example, by geographic area or educational background.

#### 10.5. Appeals

The nature of an appeal procedure is shaped by the philosophy of the member body and the culture in which it operates. In all cases, it needs to be reviewed with the organization's legal counsel to make sure that the procedure complies with applicable laws and legal traditions. Practice varies from not allowing appeals to a full re-mark of the candidate's answers. Some possible variations follow:

- Some respondent member bodies do not allow candidates to appeal their results. These member bodies are usually those who will review candidates' answers when they fall within a predefined range of the passing standard;
- Some respondent member bodies allow appeals only where candidates feels that their performance was adversely affected by exceptional personal circumstances, such as temporary illness or the death of a close relative. These types of appeals are not submitted after the results are released, and are accompanied by medical or other appropriate evidence, such as a doctor's certificate or death certificate;
- Some respondent member bodies will not consider re-marking the candidates' answers, but will allow verification (a) that all of the proper manual and computer processing has taken place in the compilation, adjudication, and publication of the individual result, (b) that no part of the candidates' answers was left unmarked, and (c) that the totaling of the marks awarded was done properly; and
- Other member bodies allow candidates, up to a certain date after the release of the marks, to request a re-mark, for a fee, and, for an additional fee they can request a report with specific comments about their performance on each question.

#### 10.6. Performance Appraisal Review

Some respondent member bodies provide a performance appraisal review (PAR) to failing candidates, either for a fee or for free. The objective of such a review is to assist failing candidates to assess their performance and identify areas for study in preparation for another attempt at the examination. PARs can be as simple as a preprinted form provided to the candidate, with reviewer's comments by specific subject/competence area and an assessment of professional skills demonstrated. Or they can be as detailed as an in-depth report on the performance of the candidate in their examination and, in particular, the reasons for failure, produced by a marker involved in the examination and reviewed and approved by a senior member of the member body involved in the examination process. PARs can also be distributed directly to a candidate or discussed in an interview with an approved marker/supervisor.

#### 10.7. Publication of Results, Examinations, and Solutions

Most respondent member bodies report the overall results of the examination to the public via their journals and/or the press. Individual results are generally not disclosed to the public except to the extent prize winners are publicly announced (if privacy laws allow such disclosures). In certain instances, if the employers have received releases from candidates, they can request results for their candidates.

Many respondent member bodies make public their examinations and a suggested solution. The practice ranges from providing this information on the member body's website, free of charge, to selling the material in printed form, with additional information such as overall candidates' performance and comments on whether candidates handled certain parts well or poorly.

#### Permanent records and retention policy

The candidates' answer papers are generally deemed to be the property of the member body and are typically not returned to them. This, of course, is subject to local law. They must, if not returned, be securely stored. The time of storage varies from 2 ½ months to 2 years. The length of the period of storage should be discussed with the member body's legal counsel, because it will likely be a function of the allowable time for appeal of results. After storage is no longer necessary, the answers should be securely disposed of, such as by burning or shredding, to avoid them being available to unauthorized persons.

## APPENDIX 1. **EXAMINATION BOARD MEMBER CONFIDENTIALITY STATEMENT**

### **TO: EXAMINATION BOARD**

I understand that the integrity of the Examination must be of continuing concern to everyone involved with it, and in particular that it is of the utmost importance that no candidate receives an unfair advantage.

I also understand that only the Chair, Examination Board has authority to release any materials or information relating to the Examination, the Examination marking guides or procedures.

Accordingly, I undertake and agree as follows:

1. I will not reveal or discuss any such materials or information prior to it being published by the Board in documents which are available to all candidates.
2. I will comply fully with all security measures prescribed by the Board.
3. I will immediately advise the Chair of the Board of any breach or failure of these security measures which I become aware of.
4. I will avoid potential conflicts of interest except with the prior concurrence of the Chair of the Board.
5. I will immediately advise the Chair of the Board of any circumstances, including any relationship which I may have with a candidate, which might impair my objectivity or involve a conflict of interest or the appearance of one.

Dated: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_



## APPENDIX 2. CONTRACT SIGNED BY CANDIDATES

### Example 1

#### Policy Statement and Agreement Regarding Exam Confidentiality

I hereby agree that I will maintain the confidentiality of the Examination. In addition, I agree that I will not:

- (a) Divulge the nature or content of any Examination question or answer under any circumstances
- (b) Engage in any unauthorized communication during testing
- (c) Remove or attempt to remove any Examination materials, notes, or any other items from the examination room

I further agree to report to the Member Body any Examination question disclosures, or solicitations for disclosure of which I become aware.

I affirm that I have had the opportunity to read the Examination rules and I agree to all terms and conditions.

In addition, I understand that failure to comply with this Policy Statement and Agreement may result in invalidation of my grades, disqualification from future examinations, expulsion from the testing facility and possible civil or criminal penalties.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

### Example 2

In accordance with the rules established by Member Body, you are required to use a pre-determined PC-based laptop computer (the **Computer**) to write the Examination. You will be required to preload and test the lockdown software. The Computer must satisfy the hardware and software requirements described in the User Guide and related documentation which can be found at ..... (collectively, **User Guide**).

#### Summary of the Use of the Lockdown Software

- **Before you write the Examination**, you must review the User Guide, which provides detailed instructions on the use of software. You will be required to install and test the lockdown software on the Computer.
- **During the Examination**, the lockdown software encrypts and saves your responses to a USB key, and to the Computer. It also leaves security files on your laptop. You will be given a new USB key for this purpose each day of the Examination, and you must submit each USB key to the Examination monitors immediately following each daily exam.
- **The day after the final day of the Examination**, you are required to submit the backup encrypted files from your hard drive. You are further required to maintain these files on your hard drive for one month following the last day of the Examination.

### Terms of Use

In order to be eligible to sit the Examination, you must install and use the lockdown software on your Computer and you hereby represent, warrant and agree to the following terms and conditions in connection with such use:

1. That you, and, if other than you, the owner of the Computer to be used to write the Examination and on which the lockdown software shall be installed consents to the installation of the lockdown software on such Computer, and to its use by you prior to, during and following the Examination in the manner contemplated in this agreement, the User Guide and in the rules established by the member body;
2. That you shall install the lockdown software, complete all the required tests, and will confirm that the lockdown software is operating properly on the Computer.
3. That you have fully complied with all requirements in the User Guide;
4. That neither you nor the Computer's owner, will bring any legal proceedings against the member body, the software provider, their respective officers, directors, employees, agents and affiliates, or any other person, fund or entity related to any of the above (collectively the Releasees) with regard to the installation, testing, or use of the lockdown software;
5. That any problems or difficulties that you, the potential Examination candidate, encounter with the Computer will not be grounds for appeal of your Examination results;
6. That you shall not attempt to modify the lockdown software or to circumvent (including, without limitation, by modifying the Computer) any of the process or restrictions in the software and you shall not permit any third party to do any of the foregoing;
7. That the Releasees will have no responsibility with regard to the Computer or its use in connection with the Examination; and
8. That you will submit the required security files within 24 hours of completing the Examination, and shall maintain the files on the Computer for one month following such date.

You agree that your agreement to the foregoing means that you (and the owner of the Computer) are foregoing any claim to damages arising from the installation and use of the lockdown software, and that you will not sue the Releasees (described above) in any court for any such claim. It is very important that you understand that the Releasees are only allowing you to write the Examination based on this promise. Should you attempt to sue the Releasees, this letter would be sufficient ground to have your suit summarily dismissed.

## APPENDIX 3. EXAMPLES OF A LAERNING OUTCOMES TABLE AND A COMPETENCE MAP

TABLE A – LEARNING OUTCOMES FOR PROFESSIONAL VALUES, ETHICS, AND ATTITUDES

Competence Area (Level of Proficiency <sup>1</sup> )		Learning Outcomes
(a) Professional skepticism and professional judgment (Intermediate)	(i)	Apply a questioning mindset critically to assess financial information and other relevant data.
	(ii)	Identify and evaluate reasonable alternatives to reach well-reasoned conclusions based on all relevant facts and circumstances.
(b) Ethical principles (Intermediate)	(i)	Explain the nature of ethics.
	(ii)	Explain the advantages and disadvantages of rules-based and principles-based approaches to ethics.
	(iii)	Identify ethical issues and determine when ethical principles apply.
	(iv)	Analyze alternative courses of action and determine the ethical consequences of these.
	(v)	Apply the fundamental ethical principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior to ethical dilemmas and determine an appropriate approach.
	(vi)	Apply the relevant ethical requirements to professional behavior in compliance with standards <sup>2</sup> .
(c) Commitment to the public interest (Intermediate)	(i)	Explain the role of ethics within the profession and in relation to the concept of social responsibility.
	(ii)	Explain the role of ethics in relation to business and good governance.
	(iii)	Analyze the interrelationship of ethics and law, including the relationship between laws, regulations, and the public interest.
	(iv)	Analyze the consequences of unethical behavior to the individual, the profession, and the public.

<sup>1</sup> The level of proficiency for a competence area identifies the level to be achieved by the end of IPD.

<sup>2</sup> Standards include auditing standards, accounting standards, and other standards related to the work being performed by the professional accountant.

## COMPETENCE MAP<sup>3</sup>

### List of Competences

The Pervasive Qualities and Skills	Level of Proficiency <sup>4</sup>
<b>I.-Ethical Behavior and Professionalism</b>	
I-1 Protects the public interest	A
I-2 Acts competently with honesty and integrity	A
I-3 Carries out work with a desire to exercise due care	A
I-4 Maintains objectivity and independence	A
I-5 Avoids conflict of interest	A
I-6 Protects the confidentiality of information	A
I-7 Maintains and enhances the profession's reputation	A
I-8 Adheres to the rules of professional conduct	A
<b>II.-Personal Attributes</b>	
II-1 Self-manages	A
II-2 Demonstrates leadership and initiative	A
II-3 Maintains and demonstrates competence and recognizes limits	A
II-4 Strives to add value in an innovative manner	A
II-5 Manages change	A
II-6 Treats others in a professional manner	A
<b>III.-Professional Skills</b>	
III-1 Obtains information	
III-2 Examines and interprets information and ideas critically	
III-3 Solves problems and makes decisions	
III-4 Communicates effectively and efficiently	
III-5 Manages and supervises	
III-6 Understands how IT impacts a CA's daily functions and routines	

<sup>3</sup> The Examination Competence Map defines the levels of proficiency candidates must demonstrate at the time of writing the examination. Three distinct and increasingly higher levels of proficiency are identified. Level C requires the lowest proficiency, whereas Level A requires the highest.

<sup>4</sup> Level of Proficiency: the degree of expertise an individual is expected to exhibit in a competency.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

The Pervasive Qualities and Skills	Level of Proficiency <sup>4</sup>
III-7 Considers basic legal concepts	
<b>IV.-Governance, Strategy and Risk Management</b>	
IV-1 Evaluates an entity's governance model	
IV-1.1 Evaluates the entity's governance structure	B
IV-2 Evaluates an entity's strategies	
IV-2.1 Understands the entity's strategic plan and planning processes	B

## APPENDIX 4. TYPES OF QUESTIONS<sup>5</sup>

### Fixed-Choice Questions

- (a) **Multiple Choice:** Multiple-choice questions are composed of one question (stem) with multiple possible answers (choices), including the correct answer and several incorrect answers (distractors). Typically, students select the correct answer by circling the associated number or letter, or filling in the associated circle on the machine-readable response sheet. Students can generally respond to these types of questions quite quickly. As a result, they are often used to test student's knowledge of a broad range of content. Creating these questions can be time consuming because it is often difficult to generate several plausible distractors. However, they can be marked very quickly. Multiple-choice questions are generally considered to have high reliability when properly designed and are well suited to testing large population bases as the cost of building a bank of questions (and of marking) is usually lower than the cost of developing cases.

One type of multiple-choice question can assess terms, facts or principles directly from a reference source. This type of question is characterized as a "memory recall" question. Typically, these require the least amount of thought for the examinee to respond-either they immediately know the answer or they are forced to guess. This type of question is fine for testing simple "book knowledge," but falls short of assessing more complex or higher-level decision making.

A more complex question type places examinees in a real-life situation or circumstance that requires the recognition, selection, ordering or cause of job-related principles or procedures. This type of question is referred to as an "application" question, and can take 2 to 3 times the amount of effort to develop memory recall questions.

The most complex type of questions called "analysis" requires examinees to evaluate information to discern fact from inference or assumption. Analysis questions often contain graphs, charts, or tables of information and require the examinee to extract relevant information from that which is irrelevant or erroneous. This type of questions can take 5 to 10 times the amount of effort to develop recall questions.

- (b) **True/False:** True/false questions: are only composed of a statement. Students respond to the questions by indicating whether the statement is true or false. For example: True/false questions have only two possible answers (Answer: True). Like multiple choice questions, true/false questions:

- Are most often used to assess familiarity with course content and to check for common misconceptions
- Allow students to respond quickly so a large number of such questions can be included in an examination to enable the testing of knowledge across a broad range of areas
- Are easy and quick to grade but time consuming to construct

True/false questions provide students with a 50% chance of guessing the right answer. For this reason, multiple-choice questions are often used instead of true/false questions.

- (c) **Matching:** Students respond to matching questions by pairing each of a set of stems (e.g., definitions) with one of the choices provided on the exam. These questions are often used to

---

<sup>5</sup> Source: Teaching Tips, issued by the Center for Teaching Excellence <http://cte.uwaterloo.ca>

assess recognition and recall and so are most often used where acquisition of detailed knowledge is an important goal. They are generally quick and easy to create and grade, but students require more time to respond to these questions than a similar number of multiple-choice or true/false items.

- (d) **Short Answers:** Short answer questions are typically composed of a brief prompt that demands a written answer that varies in length from one or two words to a few sentences. They are most often used to test basic knowledge of key facts and terms. Short answer questions can also be used to test higher thinking skills, including analysis or evaluation. They are relatively easy to construct. Unlike matching, true/false, and multiple choice questions, short answer questions make it difficult to guess the answer. Short answer questions provide students with more flexibility to explain their understanding and demonstrate creativity than they would have with multiple choice questions; this also means that scoring is relatively laborious and can be quite subjective. Short answer questions provide more structure than essay questions and thus are often easy and faster to mark and often test a broader range of the course content than full essay questions.

### Open-Ended Questions

- (a) **Essay:** Essay questions provide a complex prompt that requires written responses, which can vary in length from a couple of paragraphs to many pages. Like short answer questions, they provide students with an opportunity to explain their understanding and demonstrate creativity, but make it hard for students to arrive at an acceptable answer by bluffing. They can be constructed reasonably quickly and easily but marking these questions can be time-consuming and grader agreement can be difficult, which could affect the validity of the exam. Essay questions differ from short answer questions in that the essay questions are less structured. This openness allows students to demonstrate that they can integrate the course material in creative ways. As a result, essays are a favored approach to test higher levels of cognition including analysis, synthesis and evaluation. However, the requirement that the students provide most of the structure increases the amount of work required to respond effectively. Students often take longer to compose a five paragraph essay than they would take to compose five one paragraph answers to short answer questions. This increased workload limits the number of essay questions that can be included within a single exam and thus can restrict the overall scope of an exam to a few topics or areas.
- (b) **Case study/scenario:** Scenario questions are used in exams as ways for students to show that they can understand and integrate key concepts of the course, apply course theories to a practical context, and demonstrate the ability to analyze and evaluate. Scenario questions often require a longer answer, so they will be allocated more time and more marks. Typically there is no one right answer, but there are concepts that the assessor will be expecting the student to use.

The most important features of the case are (1) a context-based, relevant and relatively realistic scenario; (2) a challenging but not too frustrating problem, task, or situation; (3) a somewhat open-ended problem or situation that requires careful formulation and listing of assumptions; (4) a problem or situation that motivates students to explore, investigate, and study; and (5) a problem that requires addressing the integration of broader aspects, including technical, economic, social, ethical, and environmental.

- (c) **Computational:** Computational questions require that students perform calculations in order to solve for an answer. Computational questions can be used to assess student's memory of solution techniques and their ability to apply those techniques to solve both questions they have attempted

before and questions that stretch their abilities by requiring that they combine and use solution techniques in novel ways. Effective computational questions should be solvable using knowledge of the key concepts and techniques learned.

- (d) **Oral:** Allow students to respond directly to the questions and/or to present prepared statements. These exams can be used to assess understanding by following the guidelines for the composition of short answer questions. Some of the principle advantages to oral exams are that they provide nearly immediate feedback. There are two main drawbacks to oral exams: the amount of time required and the problem of record-keeping. Oral exams typically take at least ten to fifteen minutes per student. As a result, they are rarely used for large numbers. Furthermore, unlike written exams, oral exams don't automatically generate a written record.



## APPENDIX 5. **AUTHORS CONFIDENTIALITY AND CONFLICT OF INTEREST STATEMENT**

This agreement must be signed and returned to the Member Body on acceptance of this appointment.

In undertaking the following piece of work for the Member Body, I (insert name of contributor undertaking the work) agree to:

1. Abide by the timetables with their respective completion dates;
2. Ensure materials meet the quality standards of the Program;
3. Accept payment terms as agreed;
4. Provide the Member Body with full and verifiable details of any materials that are not my original work as early as possible;
5. Notify the Member Body if, for whatever reason, there is the likelihood that timetable deadlines will not be met;
6. Complete the material in conjunction with the requirements outlined to me when I agreed to undertake the above work;
7. Not discuss, show, copy or in any way communicate to any other persons at any time:
  - (a) The content of the material supplied to me;
  - (b) The work undertaken by me (including working notes, drafts, etc.);
  - (c) Details of any communication between myself and the Member Body;
8. Not use any of the materials for any other purpose than those expressly outlined by the Member Body;
9. Ensure that all materials provided are kept strictly confidential and undertake appropriate security arrangements to facilitate this;
10. Return all materials to the Member Body upon completion of the assignment.
11. Will not participate in Examination preparation programs for 12 months subsequent to providing a question to the Member Body.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

## APPENDIX 6. GUIDE TO WRITING MULTIPLE-CHOICE QUESTIONS

### Multiple Choice Questions Defined

A multiple choice question (MCQ) is a question in which students are asked to select one alternative in response to a “question stem.” MCQs typically have three parts: a stem, the correct answer, and several wrong answers called distractors.

### General Considerations and Guidelines

Examiners are encouraged to look closely at the construction of the questions to ensure that they are testing the knowledge or skills intended rather than the application of logic or reading skills. The following guidelines help to eliminate the most common faults in the construction of multiple-choice test questions.

#### *Be clear and concise*

Without sacrificing clarity, be as concise as possible. Preparing good multiple choice questions is a scholarly activity that demands time, clarity of thought, and precision in expression. Your purpose is to measure students' knowledge, reasoning, and ability. The idea is to discriminate levels of understanding, not to trap the unwary. State the problem clearly, simply and as concretely as possible. Avoid vague generalizations and do not include irrelevant information.

#### *Pay special attention to the language used*

The level of the language should be within reach of the students. Use correct grammar throughout and avoid the use of jargon, unless the question is specifically testing terminology.

#### *Be sensitive to cultural and gender issues*

Avoid phrases and figures of speech that could reasonably be construed as discriminating, or which may have a cultural bias. Avoid any references to stereotypes age, race, religion, etc. Avoid the pronouns “he” and “she.” This guideline can be followed by using plurals, i.e., “accountants” . . . they” instead of “the accountant . . . he.”

#### *Watch difficulty levels*

The ideal question will be answered correctly by 60–65% of the tested population. This level of difficulty maximizes discrimination on exams.

#### *Tap higher level cognitive domains*

Rote memorization of facts, laws, and definitions has its place; however, at least 80% of the test should be devoted to higher levels of cognition.

#### *Test for significant learning outcomes*

The questions should be designed to test the learning objectives of the course, and not trivia associated with the subject matter.

*Relating Items to the stem*

Take care not to write distractors that the students can answer without referring to the stem.

*Do not write the test in one day*

Spread the work out over time. Questions demanding high-level thinking take longer to craft.

**Stems**

*Pose a question*

Students must not be forced to read all the responses in order to know what question is being posed.

*Focus on significant or important concepts*

Avoid trivia and unimportant details. Phrase stems as clearly as possible. Confusing questions can generate wrong answers from students who do understand the material.

*Don't be wordy*

The stem should contain most of the wording in order to reduce the reading load. Don't make stems too wordy or unnecessarily complicated. It is important that you don't require your students to read a great deal of material that is not tested. Ideally stems should not exceed 50 words.

*Write independent items*

Avoid testing the same concept or problem-solving method more than once from the same stem. The skills tested must be independent of one another.

*Minimize the use of negatives*

"Which of the following is NOT . . ." is an appropriate stem, but it must not be overused. When you do use this type of stem, you should emphasize the NEGATIVE. All caps and either underlining or boldface is the recommended style. Double negatives (negative stems and negative foils in the same item) must be avoided completely.

*There must be only one correct answer*

The item must have only one, acceptable response. No distractor can be close enough to the correct answer to be arguable. The distractors MUST be mutually exclusive.

*Avoid giving unintentional clues*

The correct answer may sometimes be deduced by students from unintentional clues linking the stem to the answer. For example a grammatical clue linking the stem to the correct answer when "an" at the end of the stem is the only article acceptable for the answer.

## Distractors

### *Place distractors in numerical or chronological order*

When the distractors are numbers or dates, these should be in order, high to low or low to high. You should not scramble numbers and force the students to search the alternatives to find the answer.

### *Use plausible distractors*

Distractors must be plausible in terms of the question asked. True (but incorrect) statements generally make effective distractors.

If a recognizable key word appears in the correct answer, it should appear in some or all of the distractors as well.

Question will lose much of its measurement value if distractors are too easy to eliminate. If an additional distractor is required, consider either offering a true statement that does not answer the question and/or a jargon-ridden option that is meaningless to someone who understands the concept.

### *Never use “All of the above”*

If a student recognizes two of the alternatives as correct, then logic dictates that “All of the above” is the answer. Similarly, students who recognize one of the alternatives as incorrect will know that “All of the above” can't be the correct answer. Furthermore, if students choose one of the correct answers from an “All of the above” set, they can argue with some justification that they should get credit.

### *Never use “None of the above”*

Instructors most often use “None of the above” when they can't think of a plausible final distractor. Do not use with negatively-stated stems, as the resulting double-negative is confusing. There are a few situations where ‘None of the above’ can be used effectively, but it is better to avoid the problem entirely.

### *Avoid overlapping responses*

You should avoid beginning or ending a set of distractors with identical words or phrases. If all of your distractors begin with the same word or phrase, you should put that portion of the distractor in the stem. There is no advantage in requiring the students to read the same phrase four times; it's merely time-consuming.

## **Multiple-choice questions based on Bloom's Taxonomy<sup>6</sup>**

MCQs are often used (or perceived to be used) to assess lower-level knowledge and comprehension skills such as definitions, dates, and names. Instructors tend to favor “recall” type questions, as they are the easiest to design. Well-designed MCQs, such as MCQs based on short cases, are capable of testing students' ability to apply principles they are learning to different contexts (application); or sort fact from opinion and break information into parts (analysis).

---

<sup>6</sup> Adapted from: bloom's taxonomy—learning domains:

<http://www.businessballs.com/bloomstaxonomyoflearningdomains.htm>, accessed July 2008.

Ideally, MCQs should test the subject matter in two ways to ensure that an examination based entirely on MCQs is a valid measure of the subject matter. These are: (1) by content area; and (2) by the types of cognitive skills that students are expected to demonstrate. These intellectual processes are commonly divided into the categories of knowledge, comprehension, and application.

B S Bloom took the lead in establishing a hierarchy of educational objectives, which is generally referred to as Bloom's Taxonomy. This taxonomy divides cognitive objectives into subdivisions ranging from the simplest behavior to the most complex. The information below highlights the various elements of Bloom's taxonomy of learning and how MCQS can be used to test each of the elements.

## **Knowledge**

### *Definition*

Knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories; however, the knowledge classification requires recall of memorized material. Knowledge is considered the lowest level of learning outcome in all cognitive domains. Many standard examinations strive to keep the number of knowledge items at a minimum. A test at this level can easily become a "Trivial Pursuit"<sup>7</sup> exercise!

### *Learning objectives*

Examples of learning objectives at this level are: know common terms, know specific facts, know methods and procedures, know basic concepts, know principles.

### *Question verbs*

Define, list, state, identify, label, name, who? when? where? what?

## **Comprehension**

### *Definition*

Comprehension is defined as the ability to grasp the meaning of material. Comprehension requires interpreting material. This can involve translating verbal material into equation form, interpreting graphs, predicting trends, etc. This may be shown by translating material from one form to another (words to numbers), by interpreting material (explaining or summarizing), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material, and represent the lowest level of understanding. At this level, knowledge of facts, theories, procedures etc. is assumed, and one tests for understanding of this knowledge.

### *Learning objectives*

Examples of learning objectives at this level are: understand facts and principles, interpret verbal material, interpret charts and graphs, translate verbal material to mathematical formulae, estimate the future consequences implied in data, justify methods and procedures.

### *Question verbs*

Explain, predict, interpret, infer, summarize, convert, translate, give example, account for, paraphrase x?

---

<sup>7</sup> *Trivial Pursuit* is a trademark of Hasbro, Inc.

## **Application**

### *Definition*

Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require a higher level of understanding than those under comprehension. In order to classify a question into this group, ask yourself if prior knowledge of the background to the question is assumed to be both known and understood, and whether one is merely expected to apply this knowledge and understanding. Calculations based on known formulae are good examples.

### *Learning objectives*

Examples of learning objectives at this level are: apply concepts and principles to new situations, apply laws and theories to practical situations, solve mathematical problems, construct graphs and charts, and demonstrate the correct usage of a method or procedure.

### *Question verbs*

How could  $x$  be used to  $y$ ? How would you show, make use of, modify, demonstrate, solve, or apply  $x$  to conditions  $y$ ?

## **Analysis**

### *Definition*

Analysis refers to the ability to break down material into its components so that its organizational structure may be understood. It might require the ability to recognize unspecified assumptions, distinguish between facts and inferences, or evaluate the relevance of data. This may include the identification of parts, analysis of the relationship between parts, and recognition of the organizational principles involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.

### *Learning objectives*

Examples of learning objectives at this level are: recognize unstated assumptions, recognizes logical fallacies in reasoning, distinguish between facts and inferences, evaluate the relevancy of data, and analyze the organizational structure of a work.

### *Question verbs*

Differentiate, compare/contrast, distinguish  $x$  from  $y$ , how does  $x$  affect or relate to  $y$ ? why? how? What piece of  $x$  is missing/needed?

## **Synthesis**

### *Definition*

Synthesis refers to the ability to put parts together to form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structure.

### *Learning objectives*

Examples of learning objectives at this level are: write a well-organized theme, give a well-organized speech, write a creative short story (or poem or music), propose a plan for an experiment, integrate learning from different areas into a plan for solving a problem, or formulate a new scheme for classifying objects (or events, or ideas).

(By definition, synthesis is difficult to assess with multiple-choice questions)

### *Question verbs*

Design, construct, develop, formulate, imagine, create, change, write a short story and label the following elements:

## **Evaluation**

### *Definition*

Evaluation is concerned with the ability to judge the value of material (statement, novel, poem, research report) for a given purpose. The judgments are to be based on definite criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine the criteria or be given them. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all the other categories, plus conscious value judgments based on clearly defined criteria.

These items work very well when more than one response is true, and the student must evaluate the best response based on specified or implied criteria.

### *Learning objectives*

Examples of learning objectives at this level are: judge the logical consistency of written material, judge the adequacy with which conclusions are supported by data, judge the value of a work by the use of internal criteria, or judge the value of a work by use of external standards of excellence.

### *Question verbs*

Justify, appraise, evaluate, judge material according to given criteria. Which option would be better/preferable to the concerned party?

### Checklist

Item	✓
1. Begin writing questions well ahead of the time and allow time for revision.	
2. Match questions to intended outcomes at the proper difficulty level to provide a valid measure of the instructional objectives.	
3. Be sure each question deals with an important aspect of the content area and not with trivia.	
4. Be sure that the problem posed is clear and unambiguous.	
5. Be sure that each question is independent of all other questions (i.e., a hint to an answer should not be unintentionally embedded in another question).	
6. Be sure the question has one correct or best answer on which experts would agree.	
7. Prevent unintended clues to the answer in the statement or question (e.g., grammatical inconsistencies such as “a” or “an” give clues).	
8. Avoid trick questions in an achievement exam. (Don’t waste time testing how well the student can interpret your intentions).	
9. Questions should follow an easy to difficult progression.	
10. Have diagrams and tables above the question using the information, not below.	
11. Reduce frustration for creative students by reducing ambiguities (such as “both a & b” type answers which almost always subject to argument)	
12. Avoid lifting phrases directly from text or lecture. This becomes a simple recall activity for the student.	
13. Try writing the correct answer before writing the distractors. This makes sure you pay enough attention to formulating the one clearly correct answer.	
14. Use four alternatives for each question, three alternatives provide a higher risk that guessing will affect the reliability of the results.	
15. When writing distractors, use the following words/phrases sparingly:	
16. Extreme words like “all,” “always” and “never” (generally a wrong answer).	
17. Vague words or phrases like “usually,” “typically” and “may be” (generally a correct answer).	



## APPENDIX 7. GUIDELINES FOR AUTHORS

### General Instructions

Each author needs to closely review the syllabus prior to nominating the areas on which they would like to set one of the questions. Recent developments and current issues faced in the working environment are discussed and consideration given to the Six Months Rule in respect of Examination material. To ensure that candidates have the opportunity to access appropriate reference material for their Examination preparation candidates are NOT penalized if they respond to Examination questions according to legislation and/or Member Body pronouncements that stood six months prior to the date of the Examination.

The questions should focus on skills rather than the reproduction of theoretical knowledge and candidates' ability to apply their knowledge, and not rewriting standards and text books. Questions with multiple parts should avoid the situation where candidates' responses are dependent upon previous parts. It is anticipated that the questions will be on topical syllabus issues and may vary in approach from year to year.

When setting questions, consideration should also be given when incorporating numbers to ensure that they differ sufficiently, and candidates answers can be easily marked without confusion arising.

Authors may base questions on their work experiences; however, it MUST be the original work of the author and does not represent an actual situation, entity or industry.

### Procedures

The following gives an outline of the steps involved in setting the examination paper for a module.

#### *First meeting*

An introductory meeting is held to acquaint panel members with the overall requirements for setting the examination paper, including the importance of the learning outcomes.

Topics are selected and allocated to each panel member with discussion taking place around the preparation of examination questions with particular emphasis on the length of, and marks to be allocated to, the questions.

At this meeting, panel members are also given verbal instructions on the procedures to be followed to ensure complete confidentiality of the paper as it is being written and the techniques of writing an examination question.

Timetables for proceeding are also discussed and agreed upon.

#### *Prior to second meeting*

After the initial meeting, each member is to set a question as discussed, together with the suggested solution and a brief outline of the objective of the question. It is important that when drafting the individual questions, panel members give consideration to the agreed number of marks allotted to their particular question and to the specific allocation of marks within each part of the question.

The table (refer Table 1) is also to be completed, classifying the question in relation to the module outline and learning outcomes, as well as ensuring that linkages to the focus session content are apparent. In

addition, the panel members should prepare a detailed marking grid (refer Table 2) and suggested mark allocation for discussion at the second meeting.

All material is to be returned to the Module Leader by the agreed date.

All the draft questions (but **not** answers) together with the objectives of the written questions are forwarded to each panel member to enable them to thoroughly review each question prior to the second meeting.

Each panel member is to prepare a point form answer to each question for discussion at the second meeting.

#### *Second meeting*

The second meeting involves detailed review and adaptation of questions and answers as each panel member provides comments/criticisms/suggestions in relation to each question. The author's outline of the answer will be circulated at the meeting.

#### *Prior to third meeting*

Between the second and third meetings, panel members are required to update their questions and suggested solutions in accordance with the discussions that have taken place. Any adjustments are to be forwarded to the Module Leader for circulation to panel members prior to the third meeting.

#### *Third meeting*

The third meeting is an opportunity to address any issues outstanding from the second meeting and finalize the amendments to date with respect to the draft paper, suggested solutions and draft marking grids in preparation for the trial sits.

#### *Prior to fourth meeting*

Once the panel is satisfied with the content and coverage of the examination paper, the following processes take place.

1. Trial sits: The trial sit responses, questionnaires and other comments are circulated to the panel members prior to the fourth meeting. Using their draft marking grids, panel members are to mark these papers and review comments to determine if they believe adjustments to the paper are necessary.
2. Appointment of reviewers, specifically:
  - an independent reviewer (i.e. a manager) who is to review the paper for content, length and degree of difficulty and to provide written comments
  - an experienced academic who is required to look closely at the timing of questions and mark allocations. This particular review is only required when there is not an academic as part of the exam setting panel.

Any written feedback from these reviews will be circulated to the panel members for perusal prior to the fourth meeting.

#### *Fourth meeting*

In attendance at the fourth meeting is the independent reviewer in addition to the full panel. Trial sit comments are discussed, as are the outcomes of the three reviews with the panel addressing any comments the independent reviewer may have at the meeting. Amendments are made to the draft paper as appropriate.

At the fourth meeting, mark allocations are finalized as draft marking grids are considered across the paper as a whole.

#### *Prior to final meeting*

The review process continues with an internal Institute review of the draft paper being carried out at this point.

All comments are circulated to panel members prior to the final meeting.

#### *Final meeting*

The final meeting involves discussing the outcomes of the Institute review, re-editing and clarifying the questions and suggested solutions until the panel is satisfied with the clarity and structure of the final paper.

Each panel member is involved with auditing and reviewing the **entire** paper between meetings. The number of meetings involved depends entirely upon how long it takes to reach a final agreement between the panel members.

**Table 1**

**Topic coverage**

Module: \_\_\_\_\_

Question: \_\_\_\_\_ Part: \_\_\_\_\_

Topic	Learning outcome requirements	Reference to focus sessions

**Table 2**

**Some suggested criteria for assessing the suitability of a draft item**

1. The knowledge/skill being tested should be within the scope of the defined course content and reasonably likely to have been considered by a 'well prepared' candidate. Remember we are offering a generalist program. Many candidates may never have worked in the area being examined.
2. The time needed to read, analyze and process the stimulus material should be proportional to the marks available for the items. Avoid very long and irrelevant or misleading stimulus material.
3. The actual statement of the question/task should be concise and unambiguous.
4. Panel members should be able to agree on what would be a reasonably complete or perfect answer and alternative acceptable responses.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

5. The points required for each complete or perfect answer should be able to be matched to the marks available.
6. The marks allocated to each point in the answer should reflect the relative significance of those points.

**Note:** Avoid questions that link, so that a candidate who cannot answer the first part can still attempt further parts.

7. The total number of marks allocated to a particular question should reflect the overall importance of that topic/concept in the total course.

## APPENDIX 8. MONITORING THE EXAMINATION IN DIFFERENT LANGUAGES

The simulations/questions and marking guides/solutions are worked on in Language A until most of the significant changes are made. Then a professional translation department takes the material and translates it in Language B. Any changes made to the examination from that point on are tracked so that the translators can update the Language B version for changes made to the Language A by the Examination Board/authors.

Usually, translators raise issues with respect to wording of the Language A exam, such as inconsistency in the case facts, need for more clarification on certain points, etc. Once the examination is available in both languages, a bilingual subcommittee of the Examination Board (the Board) does a cold review of the exam in both languages and meets with the translators to discuss areas of concern with respect to the translation, all to ensure they are satisfied that the examination is the same in both languages.

A mix of both language test writers is used.

Once the examination is written, the consistency of the responses between the languages is looked at the test marking session. Each question is staffed with a staff person, a Board member, a Leader and Assistant Leader and markers. The Leader or the Assistant Leader is bilingual. The bilingual member of the team reads a sample of responses in both languages and identifies areas of difference in approach. The bilingual staff and the bilingual team member reread the simulation and ensure that differences in approach cannot be attributed to a translation error. If there is a possibility of a translation error, it is taken into account in the marking.

During live marking, the bilingual team member and Staff member monitor consistency of marking between the languages. In addition swing markers (i.e. bilingual markers) are used as part of the language consistency process. Swing markers mark in both languages and their statistics are compared to the other markers and to the entire team, in both languages. If there are legitimate performance differences between the languages they are confirmed through the use of swing markers. The consistency papers that are marked by the entire team are translated. The bilingual markers are asked to mark in one language or another throughout the center; Staff read responses on a test basis to confirm any language differences that are identified. If differences are ever found to be due to marker inconsistency, the papers marked by that person are remarked. The Leader/staff and Board members interview the swing markers to obtain explanations from them as to differences in approach/performance differences between the two languages.

Any comments on language differences are documented by the team on questionnaires throughout the marking center so that the Board fully aware of language differences and related issues at all times and going into the fair pass decision.

## APPENDIX 9. EXAMINATION TRIAL-SIT TEMPLATE

Time taken to complete each question (approximately)

**Question 1:** \_\_\_\_\_

**Question 2:** \_\_\_\_\_

**Question 3:** \_\_\_\_\_

Any additional comments on the paper, particularly in relation to overall balance and applicability to candidates:

---

---

---

---

---

### Question 1

- (a) Is the question clear and unambiguous?
- (b) Is sufficient information given to answer the question?
- (c) Do you think that the mark allocation is appropriate?
- (d) Is the question fair?
- (e) Is the question too practical or too theoretical?
- (f) General comments

### Question 2

- (a) Is the question clear and unambiguous?
- (b) Is sufficient information given to answer the question?
- (c) Do you think that the mark allocation is appropriate?
- (d) Is the question fair?
- (e) Is the question too practical or too theoretical?
- (f) General comments

### Question 3

- (a) Is the question clear and unambiguous?
- (b) Is sufficient information given to answer the question?
- (c) Do you think that the mark allocation is appropriate?

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

- (d) Is the question fair?
- (e) Is the question too practical or too theoretical?
- (f) General comments



## APPENDIX 10. **TEMPLATE FOR CONFIRMING EXAMINATION ATTENDANCE**

### **EXAMINATION ATTENDANCE DOCKET**

Candidate: \_\_\_\_\_

Name: \_\_\_\_\_

Examination session: \_\_\_\_\_

Date issued: \_\_\_\_\_

KEEP THIS DOCKET SAFE AS IT IS TO BE PRODUCED TO GAIN ADMISSION  
TO THE EXAMINATION CENTER

<b>DATE</b>	<b>CENTER</b>	<b>HALL</b>	<b>TIME</b>	<b>DURATION</b>	<b>DESK</b>	<b>PAPER</b>

### **DECLARATION:**

I declare that I have read and understand the examination regulations, instructions and notes set out in this docket.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

## APPENDIX 11. CANDIDATE EXAMINATION INSTRUCTIONS AND INFORMATION

### Instructions for Examination Entry

It is important that you read these instructions carefully before you complete your exam entry. A quick guide to the information you will find in this document:

1. Entering and taking examinations
2. Examination results
3. Examination timetable

You will find exam details in your Student Information File. Also, see our website, which always has the most up-to-date information with FAQs and User guides. If you have any questions about your exam entry that are not covered by this guide, please forward your question to <contact information>

### 1. Entering for Examinations

#### A. Examination sittings

Examinations are held <.....>. You can only sit examinations if you are registered as a student and your account is fully paid up. You will not be allowed to sit for any examinations if you have a case that has been referred to Professional Conduct in connection with a breach of examination rules, which is still under investigation.

#### B. Examination centers

You can sit your exams at any of the examination centers throughout the world. There is a list of exam centers on the website at <.....>.

Please note: exam venue address details are correct at the time of entry. In the unlikely event of a venue change, details will be shown on your admission advice and/or emailed directly to your email address.

If you are absent from one or more examinations at your first sitting due to illness or other indisposition, you will need to provide an official document or certificate (for example, from your doctor) to prove you were unable to sit the exam. This will ensure you then receive credit for any papers that you pass. Your medical document and brief covering letter should be sent by no later than <.....> to the following address: <.....>

If you cannot provide an official document or certificate, all the Strategy papers you have taken will be considered void and you will have to re-take them, even if you have reached the pass mark.

#### C. Pass marks

The pass mark for all papers is 50%.

#### D. Standard entry date

The closing date for standard exam entry is <.....>.

#### E. Paying your fees

You are required to pay online using a credit or debit card. (Visa, MasterCard, American Express are accepted.) or you can pay by check or banker's draft. Please send your payment immediately. Your exam status is provisional until we receive your fees. Payment must be received by <.....>. If payment is

not received by <.....>, we reserve the right to withdraw you from the exam and charge a XX cancellation fee.

F. Late entries and very late entries

We will accept late entries until <.....>. If you enter after the standard deadline of <.....> but before <.....>, you will need to pay a one-off late entry fee of <.....> as well as the standard fee for each exam paper at the time of application. We will consider very late entry to the exams in exceptional circumstances. We will charge you a very late fee of <.....> as well as the standard exam fees if we are able to accommodate you to take the exams. All fees are payable at the time of application.

G. Amendments and cancellations

It is possible to change your exam center and/or your choice of papers. We will accept amendments up to <.....>.

H. Special needs

<Member body> welcomes entries from students with disabilities or special needs and is able to provide additional help or concessions, such as extra exam time, as appropriate to individual needs. If you have a special need, you should enter the exams in the usual way and then notify the Examinations and Assessment Department in writing of your requirements.

All requests for special needs provision must be accompanied by supporting medical or professional documentation. The closing date for applications is <.....>.

## 2. Exam Rules and Regulations

A. Admission Advice

You will need to download your admission advice. The admission advice contains important information such as your candidate number for each exam and specific instructions about the exam venue. Keep it safe, as you will need to take this to the exam center to confirm your entry to the exam supervisor. You should also download the Exam Rules and Regulations, to which a link will be provided when you access your admission advice. You are bound by these rules and regulations.

B. Documents to bring to the exam center

You must bring the following to the exam:

- Your Admission Advice (which you must download from the website prior to the exam)
- Identification containing a photograph and your signature

C. Contravention of exam rules with regard to unfair methods

If you contravene exam rules by, for example cheating, helping another candidate to cheat or by having materials or items with you that could give you an unfair advantage, you will be reported to the Examinations and Assessment Oversight Board. This is likely to result in your exam paper being voided. It may also result in <.member body> taking disciplinary action against you.

The following are deemed to be examples of contravention of exam rules:

- Having any book, notes or documents on you at any time during the exam

- Having any book, notes or documents in a situation which suggests you could have used them during the exam
- Talking to, copying from, or in any way communicating with, another candidate
- Using a mobile phone, including the calculator function
- Leaving the exam room without the permission of an invigilator
- Removing answer books and/or question papers, whether used or blank, from the exam room, during or after the exam

This list is not exhaustive.

D. Illness or indisposition shortly before or during the exams

If you are ill or seriously indisposed, through for example the death of a close relative, and feel this has adversely affected your exam performance, you may write an appeal for special consideration to: <.....>

The appeal letter should clearly indicate the nature of the issue which forms the basis of the appeal and the examination paper(s) concerned. An appeal must also be supported by relevant evidence e.g. medical or death certificate. We must receive your appeal by <.....>.

Your published results will reflect any decisions made by the <.....> and are final.

Appeals will not be accepted after the release date of examination results under any circumstances.

### 3. Exam Results

A. Receiving your results

You can register online to receive your results by email. All students will also receive a result letter by post. Results are released <.....>.

B. Publishing the results for overall exam completions

We publish the names of students who have successfully completed the exams in several newspapers and on the website. If you do not want us to publish your name please update your personal details online on the <.....> website.

C. Exam scripts

Exam scripts are <.member body> property. When you finish your exam script and hand it in for us to mark, you do not have any rights to the script except where copyright is concerned.

D. Administrative review

If, following release of exam results, you feel that an administrative error may have occurred in the marking of your exam you may apply for an administrative review for which <.....> charge is made. This will be refunded if an error is found. Please note that an Administrative Review does not involve the re-marking of your exam script.

Requests for administrative reviews must be received by <.....>. No further correspondence will be accepted after that date.

E. Appeals after the release of results

We do not accept appeals on results on the basis of academic judgment.

## APPENDIX 12. CANDIDATE EXAMINATION RULES

**Examination rules in force at the date of the publication of this document are as follows:**

1. The examination will begin promptly at the hour set for its commencement. Candidates arriving late shall be permitted to enter the examination room up to the first hour of the examination only.
2. Temporary absences from the examination room are only permitted under the supervision of a Writing Center Supervisor.
3. Candidates may not permanently leave the examination room during the first three hours of the examination. Candidates who leave the examination room after the first three hours and before the last half hour of the examination must hand in their examination questions and USB key.
4. Candidates are *not* permitted to ask questions of a Writing Center Supervisor and no explanation whatsoever shall be given by a Writing Center Supervisor as to the meaning or purpose of a question.
5. No books or papers shall be permitted in the examination room, except as permitted by a Writing Center Supervisor, and as noted below:  
<List of permissible reference material>  
  
These reference materials may not be written in (annotated), nor may additional pages be inserted. However, underlining, highlighting, and tabbing of sections are permitted.  
  
The maximum size of tabs that may be used is 1.25 cm by 4 cm. These tabs may be labeled with section numbers and/or titles only. Candidates may highlight and/or underline areas they feel are important, but are not permitted to include notations, marginal notes, nor inserts of any kind.
6. Candidates are responsible to bring to the writing center their personal copies of the documents described above. Spare copies will not be available at the writing centers.
7. Candidates shall have signed the appropriate waiver related to the laptop computer use in the examination writing center.
8. Candidates may not use any device to communicate within or outside the writing center.
9. At their discretion candidates may bring and use small ear plugs at the writing center (headphone type not allowed).
10. While unlikely, in case of an interruption to the supply of power to some or all of the candidates using laptop computers when writing the examination, candidates should ensure they have a battery backup with one hour power supply.
11. Candidates shall record only their identification number on each USB key; no name or other distinguishing mark shall be used in the typed response.
12. Candidates are not permitted to bring any of the following into the examination writing center:
  - Computers, other than those permitted.
  - Computer peripheral devices other than a wired mouse and a numerical keypad.
  - Calculators, except for a silent calculator with single-line or two-line display, incapable of alpha storage and wireless communication.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

- Wireless and electronic storage devices.
  - Communications devices such as cell phones, electronic diaries, etc.
13. Candidates may have their papers refused if they are guilty of any of the following or similar dishonest practices.
- Making use of any books, papers or memoranda other than those reference materials noted above or those provided by a Writing Center Supervisor or invigilator. In the event invigilators suspect a breach of the above rules, any offending reference material will be confiscated. The candidate will be permitted to continue to write the remainder of the paper, and officials will subsequently determine the consequences of the candidate's actions.
  - Speaking or communicating with others under any circumstances whatsoever.
  - Exposing written papers or computer screens to the view of other candidates.

*A plea of accident or forgetfulness shall not be accepted under any circumstances in the case of any breach of the rules.*

## APPENDIX 13. APPLICATION TO COMPLETE AN EXAMINATION UNDER SPECIAL CONSIDERATIONS

### Purpose of this Document

This document is to be submitted by candidates who are applying for special provisions for module assessments. Candidates who have special circumstances affecting their ability to perform in focus sessions and/or examinations may apply for special provisions.

These provisions mirror the candidate's own method of achieving the necessary standard in the workplace. For example:

- Hearing impaired candidates may need special provisions for following focus session discussions.
- Visually impaired candidates may require large-print examination papers.
- Candidates unable to write their responses can dictate to a scribe acceptable to the Institute.

Documentation and reports from your medical practitioner, specialists and your employer are required to support your application, and must be attached to this application form. The documentation required will be specific to each case, but candidates should consider addressing the following issues in their submissions:

- a description of the provisions and strategies used in the workplace to deal with the candidate's disability
- a medical report by a qualified practitioner indicating the disability or illness, the effect this would have on a candidate during examination, and the date of diagnosis (to be within the last 12 months). In some instances a specialist's report may be required
- special provisions that were granted to the candidate during prior university study.

In addition, any candidate with approved special provisions is required to re-submit their application every 18 months for re-assessment.

All information is held in strict confidence.

This application for examination special provisions must be submitted, together with your supporting documentation, to your <insert name of institution> on enrolment. Emergency situations will be considered upon request.

Candidates eligible for special provisions may also request special consideration in their assessment for the module, in addition to their application for special provisions. Such additional requests are appropriate where a candidate's performance in a module has been seriously impaired by other medical and/or other reasons beyond the candidate's control and not linked to the special provisions.

Please fill in your Institute ID number, if known (please use a BLACK pen)

Please complete ALL the sections and return the application to the Institute's office. Please print in BLOCK LETTERS.



DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

**Section 1:** Personal details

Given name/s (in full): \_\_\_\_\_

Family name: \_\_\_\_\_

Preferred name: \_\_\_\_\_

Date of birth: \_\_\_\_\_

Postal address: \_\_\_\_\_

Country, State, Postcode: \_\_\_\_\_

Email: \_\_\_\_\_

Phone/Fax: \_\_\_\_\_

Module: \_\_\_\_\_

**Section 2:** Application for special provisions

I would like to apply to the <insert Institute name> for special provisions in relation to the following item(s):

Exam : \_\_\_\_\_

Supplementary Exam: \_\_\_\_\_

**Section 3:** Detailed reasons for applying for special provisions

1. Provide details of condition.
  
2. Extent of impact on completing assessment item(s).

**Section 4:** The candidate's workplace (to be completed by the candidate and the employer)

Action taken by the candidate to minimize impact in their work environment and how the condition is managed.

Action taken by the employer to minimize impact in the workplace and the ongoing management to support the candidate.

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

**Section 5:** Declaration and privacy statement

Applicant's signature \_\_\_\_\_ Date \_\_\_\_\_

**Section 6:** Medical Details (this section to be completed by the medical practitioner and specialist)

Name of patient: \_\_\_\_\_

Name/Family name: \_\_\_\_\_

Name of medical practitioner: \_\_\_\_\_

Area of specialty: \_\_\_\_\_

Provider's number and stamp: \_\_\_\_\_

Postal address: \_\_\_\_\_

Postcode: \_\_\_\_\_ Phone (practice): \_\_\_\_\_

Country: \_\_\_\_\_ Fax (practice): \_\_\_\_\_

Email (practice): \_\_\_\_\_

Please attach a detailed report on the patient's condition in relation to undertaking academic studies agreed to as a requirement of <insert Program name>. More information is available regarding the Program via our website <insert URL>

Medical practitioner's signature \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX 14. APPLICATION FOR SPECIAL CONSIDERATION DUE TO MEDICAL ILLNESS WHICH IMPACTED ON THE EXAMINATION PERFORMANCE

### Application by Candidate for Special Consideration (medical)

Personal details (to be completed by candidate)

Candidate name: \_\_\_\_\_

ID number: \_\_\_\_\_ Module: \_\_\_\_\_

I would like to apply to the <insert program name> for special consideration in relation to the following assessment item(s):

<insert examination name>

1. Details of condition/circumstances (including date the condition/circumstances became evident, the impact on work, etc.).
2. Extent of impact on performance in the above assessment item(s).
3. Action undertaken in order to minimize impact on performance.
4. How would your approach to this assessment item have been different if this condition/event did not occur? (Your reasons for applying for special consideration.)

This form must be printed out, completed and stamped by your medical practitioner. This form must be mailed or faxed to <insert details>.

If you require extra space you may attach additional sheets of paper.

## Medical Certificate to Support Application for Special Consideration

### Purpose of this Document

This document is to be submitted by candidates when applying for special consideration for assessment tasks on medical grounds.

For special consideration on medical grounds to be granted, <insert Institute name> requires information provided by a medical practitioner or health care provider. This is to enable an assessment of the validity of the candidate's entitlement to be made and to determine if any action should be taken.

To be completed by Medical Practitioner/Health Care Provider:

Name of Patient:

\_\_\_\_\_

Medical Practitioner/Provider's name:

\_\_\_\_\_

Provider number:

\_\_\_\_\_

Address:

\_\_\_\_\_

Provider's stamp:

\_\_\_\_\_

Consultation date:

\_\_\_\_\_

Please indicate how your assessment of the candidate's condition was obtained (please tick):

Information provided by candidate:

Examination of candidate:

Period during which the candidate has been/will be affected:

From:

\_\_\_\_\_

To:

\_\_\_\_\_

Degree to which the candidate has been/will be affected (please tick):

Not at all:

Mildly:

Moderately:

Severely:

Details of condition:

\_\_\_\_\_  
\_\_\_\_\_

Medical Practitioner's signature: \_\_\_\_\_

Date: \_\_\_\_\_

## APPENDIX 15. SAMPLE ANNOUNCEMENTS

### Before the Examination Begins

Please listen carefully to the following instructions:

- Please remove all items, other than those permitted (pens, pencil, computer, etc), from your desk now. Candidates found in possession of unauthorized materials are in breach of the examination regulations.
- Purses and (briefcases, books and other personal belongings not already checked elsewhere) must be placed \_\_\_\_\_.
- If you need to leave your desk for any reason, you will be escorted by an invigilator. If you leave your seat during the examination, place all items face down on your desk.
- The exchange of information with other persons is prohibited, and shall be considered misconduct sufficient to bar you from further participation in the exam.
- Do not open your question paper until I tell you to do so.
- You cannot leave this room until \_\_\_\_\_ after the start of the examination.
- Candidates leaving before the end of the examination may not congregate in the hall.
- No examination materials may be taken from the room.
- You will have (amount of time) to complete the examination. Reminders will be given 30 minutes and 5 minutes before the end of the examination.
- Listen now to the instructions regarding the way in which you prepare your answer papers:
  - Use one side of paper only.
  - Put identification number only on each page—do not use name.
  - Start each question on a separate page.
- When time is called, stop writing and assemble your papers.
- The official time (or clock) for this examination is \_\_\_\_\_.

### At the Start Time

- You may begin. Good luck!

### 30 Minutes before the Scheduled End

- There are now 30 minutes remaining in this session.

### 5 Minutes before the Scheduled End

- There are now 5 minutes remaining. Check that your (candidate identification number) is on all papers.

**At the End of the Scheduled Time**

- Stop writing. (Remain seated while the papers are being collected) or (Proceed to the assigned check out table).

## APPENDIX 16. **SAMPLE INSTRUCTIONS ON EMERGENCY PROCEDURES**

Chief supervisors of writing centers are required to prepare for possible emergencies at the site and are expected to make sound decisions in the event that emergencies actually occur. They are required to report all emergencies to the member body by telephone and, subsequently, in writing.

Prior to the examination, the chief supervisor must

- Consult with building management to determine what emergency procedures are already in effect at the site.
- Obtain emergency telephone numbers (fire and police departments, ambulance, building management, etc.)
- Become thoroughly familiar with the layout of the site, including exits, stairways, and fire alarms.
- Identify the location of emergency equipment (such as fire extinguishers) and first-aid equipment. In any emergency, the safety of candidates and the security of examination materials are of paramount importance. If the candidates are in imminent danger, the security of examination materials becomes secondary, although it still must be maintained if at all possible. However, if there is no immediate threat to candidates, the security of examination materials is the most important consideration. The balance between the two concerns may be difficult to weigh, depending on the nature and timing of the emergency. Some practical suggestions for the handling of emergencies are:
  - If the emergency occurs before the examination, delay the start of the session, providing the problem can be remedied within a reasonably short period of time. For example, if there is a fire or power failure before the examination has started, ascertain that all examination materials are secure, and wait until normal conditions are restored. If the emergency ends before the first scheduled hour of the session has elapsed, start the session late and compensate candidates for the delay by allowing them additional testing time at the end of the session. However, if the emergency extends beyond the first scheduled hour of the session, consult with the member body before taking action.
  - If the emergency affects only one part of the examination area, keep the problem contained. For example, if a candidate becomes ill, obtain help for the candidate and try to get candidates in the immediate vicinity to resume taking the examination as soon as possible. Make certain that the disturbance does not spread to candidates in other parts of the examination room.
  - Stop and resume the examination if there is an interruption that does not threaten the safety of candidates. For example, if there is a power failure while the session is in progress, instruct candidates to remain seated and to maintain complete silence. Make certain that supervisors patrol the candidate area and that they guard any answer materials that have already been turned in. Compensate candidates for the interruption by allowing them additional testing time at the end of the session.
  - In the event that the site must be evacuated, make every effort to preserve the security of examination materials. If the evacuation takes place before candidates have opened their examination question and answer booklets, collect the booklets and lock them in the secure

DEVELOPMENT AND MANAGEMENT OF WRITTEN EXAMINATIONS  
BASED ON THE PRACTICES OF SELECTED IFAC MEMBER BODIES

room or retain personal custody, as appropriate. If the evacuation takes place while the session is in progress, try to ensure that candidates do not communicate with one another when they leave the examination room. If it is impossible to enforce their total silence or if their examination materials have to be left unattended, it is possible that the session will have to be cancelled. To prevent further damage, make certain that any answer papers from previous sessions and any examination materials for future sessions are completely secure.

- Report any breach in the security of examination materials IMMEDIATELY by telephone to the member body and, in writing, within the next 24 hours. For example, if there is evidence that someone has tampered with examination question and answer booklets or if examination questions or answer papers have had to be left unattended or in an unsecured area because of an emergency at the site, report the incident as soon as it occurs. Once the security of examination materials has been compromised, the consequences can be very serious and can affect examination administrations in all jurisdictions.



## APPENDIX 17. MARKING GRID EXAMPLE

### Question No

Description	Mark	Candidates' symbol numbers																		
<b>Part A</b>																				
a) Yes	0.5																			
Related party/director-related entity	0.5																			
No. of shares acquired 4.15(a)	0.5																			
Nature, term & condition of each type of trans. 4.15(c), 4.17(c)	0.5																			
No. of shares held at year end	0.5																			
Types of transaction, loan & pref shares, interest 4.17(a), 4.18(a)	0.5																			
Names of director concerned 4.17(c)	0.5																			
Aggregate amount recognized 4.17(c)(ii)	0.5																			
c) provision for dividend	1.0																			
<b>Total Part A</b>	<b>5.0</b>																			
<b>Part B</b>																				
Control risk high	0.5																			
Increase testing	0.5																			
Substantive testing	0.5																			
Carried out at year end	0.5																			
<b>Total Part B</b>	<b>2.0</b>																			
<b>TOTAL</b>	<b>7.0</b>																			

## APPENDIX 18. DESCRIPTORS

### **Assessment of Non-technical Content**

Presentation and approach marks may be awarded to candidates who demonstrate that they have answered a case study in a professional manner and are split equally into judgment, analysis, presentation and communication which are generally regarded as key elements in a report.

The description of each of these sub headings is:

#### *Judgment*

An appreciation of the significant matters in the case study, reflecting sound commercial judgment and focusing on those matters which are most critical to the needs of the user of the report.

#### *Analysis*

Accurate and succinct analysis of the situation; logical structure of arguments.

#### *Presentation*

Well planned and structured in order to give the right information to the right people in the right order. Good layout of narrative and tables in a form appropriate to the user.

#### *Communication*

Report written in style appropriate to the user. Points made effectively; good vocabulary without verbosity or inappropriate jargon; good grammar and spelling.

## APPENDIX 19. MARKING PROTOCOLS

1. Use red ballpoint pen when marking.
2. Make a notation (a red line through the page) on every page of the script book to indicate that the page has been assessed and no written pages are overlooked. (Often candidates leave blank pages between parts of questions in case they have time to add to their answers).
3. Ensure that script books remain in the same sequence within bundles.
4. Where the member body allows marks to be written on examinations scripts:
  - Show marks awarded in the right hand margin of the answer book script, per item for numerical answers and per mark earning point for discursive answers, in accordance with the marking scheme. Marks awarded must be subtotaled at the end of each part and totaled at the end of each question.
  - A marks total should be clearly indicated by encircling. It is essential to provide a clear indication of marks awarded throughout an answer to provide guidance for any subsequent review of the script.
  - It is not sufficient merely to show a total mark on the front cover of the answer book and/or at the end of each question, without any further annotations within the answers themselves.
  - Note, on the *cover of the answer book*, if a script is incomplete, by denoting 'Inc' against the final mark and pressing the incomplete button on the screen when submitting marks.
  - Ensure that the mark recorded on the front of the answer book for each question corresponds to the marks awarded for the question in the answer book. Then ensure that marks on the front of the script correspond to those submitted electronically.
5. Where no marks are to be written on the script:
  - Record marks for each part of the question only on the marking slip and marking grid, not on the script book.
  - If there is no attempt for a particular part of the question please indicate "N/A" rather than "0," which indicates an attempt that is not worth any marks.
  - Please carefully add the marks for the individual parts, placing the total in the box provided at the bottom of the marking slip. Please check that this total corresponds to the total of the more detailed new marking grid.
6. When marking of the bundle is complete, please sign off the bundle as marked in red on the bundle cover sheet. Return the bundle to the person who will be recording the mark.

## APPENDIX 20. **COMPETENCY-BASED EXAMINATION PASSING PROFILE**

Under a competency-based evaluation model, candidates do not pass or fail individual simulations (business cases representative of the kinds of challenges entry-level professional accountants face) on a mark by mark basis. They are assessed against the requirements of a “passing profile” that is set for each competence area. As such, candidates are evaluated on their performance over the entire evaluation set by competence area rather than simulation by simulation.

One example of such a model is the following three-level assessment model used to evaluate candidates’ performance. The number of levels and the definitions of the levels i.e. in this case, sufficiency, depth and breadth are determined by the Education and Standards Boards based on the expectations of the member body and the specific role and objectives of the examination.

### **Example:**

A three-level assessment model as follows:

- Level 1**     Assesses the overall sufficiency of the candidate’s response;
- Level 2**     Assesses the depth of performance in Assurance (A) and Performance Measurement (PM) (determined by the Board to be two areas of critical importance to the professional accounting body); and
- Level 3**     Assesses the breadth of performance in all the other areas of competency being evaluated.

Evaluation guides used for marking have “primary” and “secondary” indicators.

A **Primary Indicator** answers the question “What would a competent professional accountant do in these circumstances?” If the issues identified in primary indicators are not adequately addressed, the professional accountant could in real life, be placed in professional jeopardy or could place the client in jeopardy

A **Secondary Indicator** answers the question “What other issues could a professional accountant raise?” Although such issues are relevant, it is not essential for a competent professional accountant to address them.

Only the *primary indicators* are used to assess performance at Level 1 and Level 2.

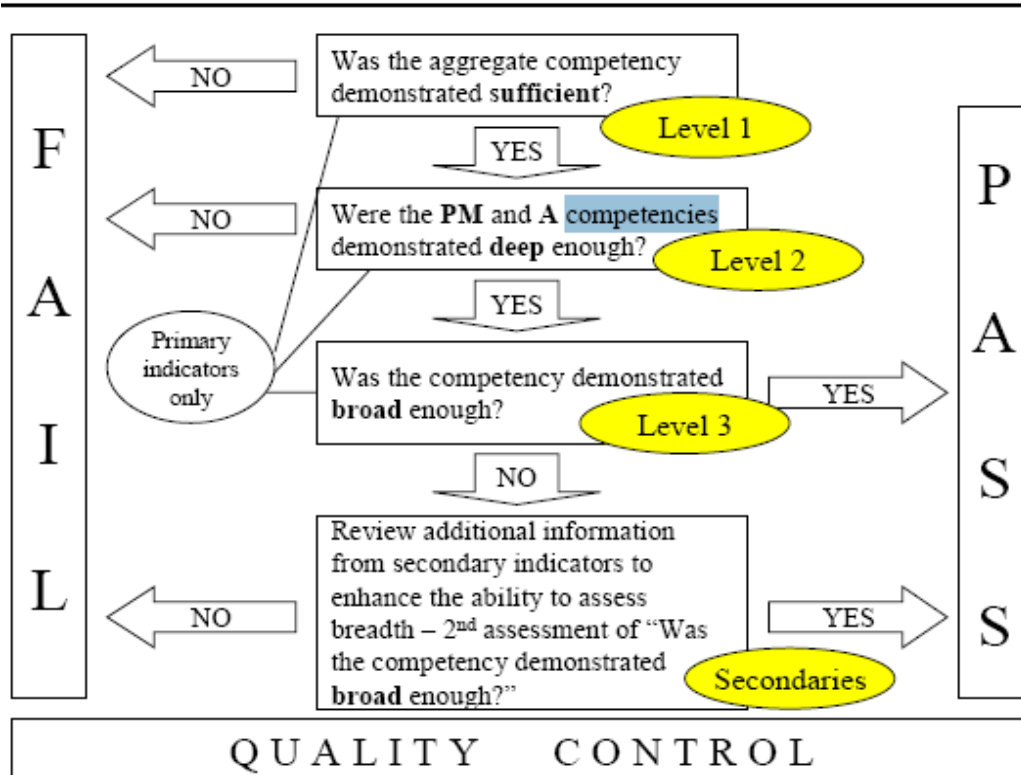
At Level 3, if a candidate fails the examination because of poor performance on the *primary indicators*, the Examinations Board will look at the performance on the *secondary indicators* to see if the candidate has demonstrated sufficient competence in the area being examined to pass. Therefore, both primary and secondary indicators are used to assess Level 3 performance. There are no secondary indicators in Assurance or Performance Measurement.

Note that the *primary indicators* have five levels of expectation (not addressed, nominal competence, reaching competence, competent and highly competent) while the *secondary indicators* only have three (not addressed, nominal competence, competent). The highly competent level is only relevant for determining the honor role, and because candidates must be competent on the “second chance” (*secondary indicators*) to achieve a pass, there is no need for the reaching competence level.

### The Decision Model

The pass/fail decision model used comprises three key decision points, or levels, in reaching the pass/fail decision, as follows:

1. The response must be **sufficient**, i.e., the candidate must demonstrate competence on the primary indicators (Level 1). In assessing sufficiency, the Examinations Board considers the number of times that a candidate achieved “Competent” and/or “Reaching Competence” across all primary indicators.
2. The response must demonstrate **depth** in the areas of Performance Measurement and Assurance (Level 2). In assessing depth the Examinations Board considers the number of times that a candidate achieved “Competent” in each of the Assurance and Financial Reporting primary indicators.
3. The response must demonstrate **breadth** across all areas of the Competency Map, by not having avoided a particular competence area (Level 3). In assessing breadth the board considered the number of times that a candidate achieved “Reaching Competence” across primary indicators in each of the specific competence areas. If a candidate failed to demonstrate breadth on the basis of the primary indicators, the Examinations Board considers the information provided by the secondary indicators for the deficient competence area.



## APPENDIX 21. APPROVAL OF RESULTS

There are three phases to the Examinations Board's approval of the results process:

1. Preliminary Meeting,
2. Reads
3. Approval of Results Meeting.

### OBJECTIVES

**Preliminary Meeting:** Review the performance on a question by question basis and establish a preliminary passing standard. Identify and discuss issues around the components of the passing standards.

**Reads:** Review the failing responses that are "exceptions" and confirm that the application of the passing profile at Level 2 and 3 appears reasonable. Note areas of candidate performance to be commented on in the UFE report.

**Approval of Results Meeting:** Establish and approve the components of the passing standards.

### STAFF INVOLVEMENT

- Prepare the general information packages needed for all three phases
- Prepare special/additional data sheets where requested by the Board Chair
- Explain each of the phases of the process to the Board members
- Guide the Board members, providing historical background information as to why/how the model was developed when necessary

### BOARD INVOLVEMENT

#### Preliminary Meeting

1. The Board member in charge of each center comments briefly on the activities and responds to questions
2. Each Board member reports on the performance of candidates relative to the documented expectations for the simulation, marking issues encountered, etc. Explain where changes were made to the documented expectations from pre-marking to the marking center and the impact on the results
3. As a full Board,
  - reconfirm the difficulty assessments assigned based on the actual marking
  - discuss whether the marking guides are applied differently from last year's (e.g., tighter or looser, requiring more or less judgment by markers)
4. Meet in competency sub-groups to review the impact of the changes to expectations on the effectiveness of the indicators

5. As a full Board discuss any issues resulting from the competency sub-group discussions and then set the preliminary Level 3 and Level 2 standards based on principles of “avoidance” at Level 3 and “showing some depth” at Level 2; consider if any indicators are to be excluded
6. Discuss issues related to Level 1, 2 and 3 standards in preparation for the fair pass meeting e.g. uncontrollable factors, comparability of exams, etc.

### **Reads**

Board members read by competence area to gain comfort over the decisions made at Level 2 and Level 3 and the resulting exceptions among the failing candidate population. Identify specific feedback that can be provided to the failing candidates in the Examination report.

### **Fair Pass Meeting** (1 to 2 weeks after the preliminary fair pass meeting)

- Review the decisions made at the preliminary fair pass meeting and confirm Level 2 and 3 decisions
- Discuss the Level 1 decision factors and review the Level 1 standards to be used
- Reach a consensus decision as to the Level 1 mark
- Reconfirm all decisions after rerunning the Level 1, 2, and 3 information using the final pass rate

## **CHAIR INVOLVEMENT**

### **Preliminary Meeting**

- Guide the Board through the discussion of the simulation by simulation results
- Summarize the significant changes and discuss the impact on the fair pass decision model

### **Reads**

- If there are any unusual situations related to the exam, read the responses affected (if deemed appropriate)

### **Fair Pass Meeting**

Present a recap of the decision process the Board has gone through. Revisit all issues raised in the Preliminary Fair Pass Meeting and present the additional statistical information for the Board members (most of the info is data comparing the current exam to the previous years' exams.)

Assist the Board in analyzing the data provided by explaining the purpose of each data sheet. Where necessary, request additional data sheets from the staff to address “unusual” circumstances that occurred and present that information to the Board.

Assist and guide the Board in reaching a consensus fair pass decision.

International Education Standards, Exposure Drafts, Consultation Papers, and other IAESB publications are published by, and copyright of, IFAC.

The IAESB and IFAC do not accept responsibility for loss caused to any person who acts or refrains from acting in reliance on the material in this publication, whether such loss is caused by negligence or otherwise.

The IAESB logo, 'International Accounting Education Standards Board', 'IAESB', 'International Education Standards', 'IES', the IFAC logo, 'International Federation of Accountants', and 'IFAC' are trademarks and service marks of IFAC.

Copyright © February 2014 by the International Federation of Accountants (IFAC). All rights reserved. Written permission from IFAC is required to reproduce, store or transmit, or to make other similar uses of, this document, except as permitted by law. Contact [permissions@ifac.org](mailto:permissions@ifac.org).

ISBN: 978-1-60815-175-2

Published by:







**International Accounting  
Education  
Standards Board™**

529 Fifth Avenue, 6th Floor, New York, NY 10017  
T + 1 (212) 286-9344 F +1 (212) 286-9570  
[www.iaesb.org](http://www.iaesb.org)