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International Software Testing Qualifications Board



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Expert Level Working Party: 2008 - 2014

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Revision History

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Draft 0.4	2009/07/08	Draft, additional findings
Draft 0.5	2009/08/13	Draft, input from Erik
Draft 0.6	2009/11/09	Draft; update chapter 4.3, added example (Maud and Debbie)
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Draft 0.8	2010/05/19	Additional content and review comments
Draft 0.81	2010/06/04	Standardization of terms (Structure & Rules)
Draft 0.9	2010/06/09	Rework and complete document after Bad Homburg meeting
Draft 0.10	2010/07/01	Sample question now in a separate document. Section 5.3 modified.
Draft 0.10.1	2010/07/04	Spelling, grammar, dates, table of contents, exam document reference, and version numbering all corrected.
Draft 0.10.2	2010/07/22	Changes made at Exam Working Group meeting in Kuala Lumpur and taking into consideration all feedback received to date
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Draft 2.0	2013/02/02	Initial changes to support the modularized exam structures based on the EWG webinar and discussions with the ELWG.. Also combines the General and Specific EL exam structures into one document.
Draft 2.01	2013/02/07	Incorporated EWG comments
Version 2.0 for GA Motion	2013/02/10	Updated using information from EL Overview v1.1 document. Submitted for Toronto GA
Version 2.0 for GA Motion	2013/02/21	Minor typographical corrections. For final GA submittal.
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Version 2.22	2013/10/09	Added drafts (skeletons/placeholders) of appendices C (specific rules for EL-TA) and aligned BO abbreviations of Appendix A with EL overview document (no content change)
Version 2.3	2014/03/12	Finished appendix C (EL-TA-E)
Version 2.31	2014/04/27	Typo fixes
Version 2.32	2014/05/24	Techedit fix LO 1.1.2->1.2.1 to reflect same change in ELTA-E syllabus
Version 2.321	2014/07/23	Version for release

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Acknowledgements

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This document was formally released by the General Assembly of ISTQB® on 29 June 2014.

1. Introduction

1.1 Purpose

This document describes both the general structure and rules of Expert Level examinations as well as the individual exam structures for each of individual syllabus modules and their parts.

1.2 Validity and applicability

All Expert Level examinations shall comply with the rules in this document regardless of language and media.

The Expert Level Modularized Exam Structure and Rules apply to all individual modules and their parts at the Expert Level.

An Expert Level syllabus may not be officially released to the public unless the Expert Level Exam Structure and Rules (this document), Expert Level Overview, and sample exams for the relevant Expert Level modules have been approved for release by the ISTQB General Assembly (GA). For additional rules regarding syllabus release see “ISTQB – Syllabus Release Process and Rules” document.

1.3 Document development and responsibility

This document was developed by a joint team consisting of members of the ISTQB Expert Level and ISTQB Examination Working Groups.

The ISTQB Examination Working Group is responsible for the production and maintenance versions (i.e. after release) of the document.

2. The Expert Level Exam – General Structure and Rules

2.1 Introduction and background

The Expert Level Overview [ISTQB-EL-OVIEW] document provides a general overview of the Expert Level, including the examination.

Each Expert Level topic (e.g. Test Process Improvement, Test Manager, Security, Test Automation) constitutes a separate syllabus module, which may comprise one or more parts.

2.2 Structure of the exam

A certification scheme at Expert Level must meet the expectations and perceptions of its stakeholders and has to be seen to be truly “expert”. This is the principal factor considered in establishing the structure of the exam, which consists of two sections:

- Multiple-choice question component
- Essay question component.

Note that the K-levels referred to in this document are described in the Expert Level Overview document [ISTQB-EL-OVIEW].

Multiple-Choice question (MC) component

Experience from the Foundation and Advanced Examinations has shown that learning objectives (LO) at K-Levels up to and including K4 can be examined with multiple-choice questions.

A number of stakeholder factors also favor the definition of a multiple-choice question component in the exam:

- Ease of use for exam participants who do not have English as their native language
- Reduced effort and complexity for marking papers
- Quick notification of results to candidates

Essay question component

At Expert Level there is more emphasis placed on the higher level LOs, in particular at levels K5 “evaluate” and K6 “create.” All ISTQB Expert Level syllabi and the ISTQB Question Writing Rules and Recommendations document [ISTQB-QWRR] contain an explanation of these levels. LOs at these levels do not lend themselves well to examination by multiple-choice questions.

Setting essay question exams for Expert Level also addresses the high “level of difficulty” expectations for the Expert Level.

Exam structures for coverage of K-Levels

Rules:

ST1: Multiple Choice questions may only include K2, K3 and K4 LOs

ST2: K5 and K6 LOs may only be examined by the essay question exam component

2.3 Scope of exams

Rules:

- SC1: Expert Level examinations will be based on the relevant, approved syllabus parts. Therefore, if a syllabus comprises multiple parts, a candidate will be required to pass multiple examinations in order to achieve full certification on that expert level topic.
- SC2: If a new version of the syllabus or syllabus part is issued, the ISTQB will agree and publish timescales on the introduction of exams for the new version and on the phasing out of exams for the old version.
- SC3: Answers to exam questions may require the use of material based on more than one section of the syllabus being examined.
- SC4: There shall be no direct overlap between questions in the multiple-choice component and the essay component.
- SC5: It is not permitted to set exam questions which are based on material from more than one Expert Level syllabus but they may assume knowledge from the Foundation and applicable Advanced Level syllabi and from the Glossary.

2.4 Examinable Learning Objectives

Rules:

- EL1: K1 LOs are implicit to all Expert Level modules.
- EL2: K2 LOs may be explicitly stated where this benefits understanding for Training Providers, writers of exam questions, accreditation authorities or those taking an Expert Level exam.
- EL3: If a particular topic covered at Expert Level has already been covered at Foundation or Advanced Level, it must be examined at the same or higher cognitive level (“K-level”). For example, if a topic is covered in the Advanced Level syllabus at K3, then Expert Level may only develop this topic further with LOs at K3-level or above.

2.5 Exam duration

The following durations apply:

	Duration (minutes)
Multiple-choice component	45 *
Essay component: (reading and answering)	90 *
Total exam duration:	135
Extension for non-native speakers (25%)	34

*Exam Structure and Rules for Specific EL exam structures may indicate a different allocation between multiple choice and essay. The total duration must remain 135 minutes (so that they align to MC1, as defined in Section 2.7).

Rules:

- DU1: The total exam duration is fixed.
- DU2: It is not mandatory for exam participants to answer exam sections in a particular order.

DU3: There is no mandatory time limit assigned to each section of the exam. The durations given above for the MC and essay components are nominal. If, for example, a candidate completes the MC exam component in 35 minutes, they will have 100 minutes for completion of the essay component.

2.6 Passing Score

Candidates must score 65% or above overall to pass the exam.

2.7 Multiple-Choice exam component

Rules:

- MC1: The marks for MC questions should not exceed 36% of the total marks for the exam but MC questions should be at least 24% of the total marks for the exam.
- MC2: MC questions must be made up of K2, K3 and K4 level questions, and have K-Levels that align to the relevant Expert Level syllabus part.
- MC3: The allocation of the different K levels of LOs in the syllabus should be reflected in the coverage of the LOs in the exam.

Recommendations:

Each MC question is expected to be associated with at least one LO.

The points available for a question should reflect the difficulty of the question. A K2 question is to be allocated 1 point. In general, a K3 question should be allocated 2 points and a K4 question should be allocated 3 points. However, K3 questions may be set at 1, 2, or 3 points, and K4 questions may be set at 2 or 3 points at the discretion of the question author. A more difficult question may require the examinee to have a deeper or more nuanced understanding of the material. A less difficult question may be one where the answer is more straightforward

In general, K2 questions are expected to take 1 minute to read and answer. K3 questions are expected to take 3 minutes and K4 questions are expected to take 4 minutes. The exam setter should keep in mind that this is only a guideline for an average time, and that it is likely that some questions will take longer and others will take less time for examinees to complete.

2.8 Essay exam component

The following parameters apply to the essay section of the exam:

- An exam contains three essay questions.
- Each essay question can consist of one to several questions/tasks.
- Two of the three essay questions must be answered.
- Each essay question is nominally allocated 45 minutes.
- No extra credit is given for answering the third essay question.

Rules:

- EE1: Essay questions must be scenario-based.
- EE2: Scenarios may be defined which apply to more than one essay question.
- EE3: Each essay question shall cover at least 2 relevant Business Outcomes.

- EE4: Essay questions must be distributed according to the coverage of the Business Outcomes and K5 and K6 Learning Objectives for a given syllabus part. The required distribution for each specific syllabus part is provided in the relevant specific Expert Level exam structure, located in this document's appendices.
- EE5: There shall be no mandatory time limit assigned to a question. The duration given above is nominal. If, for example, a candidate completes an essay question in five minutes less than the nominal time, they will have five minutes more for completion of the other questions.
- EE6: Each essay must have a defined scoring guideline.

3. General Marking Process of Essay Exam Component

3.1 Process

To ensure that marking of the essay component of exam papers is fair, the following process shall be applied:

- The scoring guideline which has been created for each essay shall be used by the examiners.
- Each candidate paper shall be marked by two examiners.
- Examiners may be selected from experts identified by the National Boards or from the ISTQB Central List of Local Expert Level Examiners. It is the responsibility of the National Boards to come to an agreement for the provision of marking services with the Examiners they use.
- The National Board distributes the papers to Examiners for marking and receives the scores from them. The National Board is responsible for ensuring candidate confidentiality (i.e., the Examiner shall not know the name of the candidate).
- The two Examiners must reach agreement on the overall mark for the paper.
- If the two Examiners do not agree, the National Board escalates to a third Examiner who evaluates the scoring performed by the two Examiners and makes a judgment.
- The National Board may escalate as per the ISTQB escalation process.

4. Rules and Recommendations for Expert Level Examiners

4.1 Becoming an examiner

Rules:

- BM1: The following initial criteria apply to anyone who wishes to mark questions:
- They must be experts in the subject which they are marking
 - They must be competent to mark exam papers in the relevant language (i.e., mother tongue or over ten years of working in the language in the relevant subject).
- BM2: The following people are excluded from marking exams:
- Training Providers of the particular Expert Syllabus
- BM3: Examiners must have signed an NDA with their National Board.
- BM4: National Boards may use their own Examiners
- BM5: National Boards may recommend that Examiners be on the ISTQB Central List of Local Expert Level Examiners. (The intention of this rule is to permit National Boards that do not have examiners to still run exams in their country.)

Recommendations:

Examiners should have the relevant ISTQB Certification at Expert Level.

The ISTQB Secretariat is responsible for adding the Examiners' name to the ISTQB Central List of Local Expert Level Examiners which gives the following details:

- Name
- Contact information
- Expert Level Module(s) covered as Examiner
- Language(s)
- Recommended by <National Board> and Date

4.2 Recommendations for writing examination questions

Please refer to the ISTQB Question Writing Rules and Recommendations v1.0 document [ISTQB – QWRR] for guidance on how to write both multiple choice and essay questions.

5. References

5.1 ISTQB references

<u>Identifier</u>	<u>Reference</u>
[ISTQB-CEP]	ISTQB Certified Tester Expert Level, Certification Extension Process, Version 1.0, June, 17 th 2008. Available from [ISTQB-Web]
[ISTQB-EL-OVIEW]	ISTQB Expert Level Overview, Version 1.1, 12 April 2013
[ISTQB-FL-EXAM]	ISTQB - Foundation Level Exam Structure & Rules, Version 2010-1,
[ISTQB-EG-MC-TYPES]	ISTQB - Examination Guide: MC-Item Writing Version 2010-1
[ISTQB-QWRR]	ISTQB – Question Writing Rules and Recommendations v1.0
[ISTQB-AL-EXAM]	ISTQB - Advanced Level Exam Structure & Rules v2012
[[ISTQB-Web]	Web site of the International Software Testing Qualifications Board. Refer to this website for the latest ISTQB Glossary and syllabi
[ISTQB-Glossary]	ISTQB Glossary of terms used in Software Testing, Version 2.2, available from [ISTQB-Web]

5.2 Books

<u>Identifier</u>	<u>Reference</u>
[ANDERSON 01]	A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives, Anderson, L. W., & Krathwohl, D. R. (Eds.), 2001, Addison Wesley Longman
[REINER 03]	Preparing Effective Essay Questions, Christian M. Reiner et al., 2003, New Forums Press

5.3 Trademarks

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6. Appendix A: Expert Improving the Test Process Exam Structures

The Expert Improving the Test Process syllabus comprises two individual parts. Each of these parts requires a separate examination, the specific structures of which are outlined below:

6.1 Assessing Test Processes (Part 1)

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	25 questions	45 minutes	Exactly 35 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 135 points
Points required to achieve a passing score: 88			

Multiple Choice Component

Learning Objective	Number of Questions per LO	
LO 4.4.1 (K2)	1	<p>In addition to the mandatory questions specified by individual LO (11) you must also include FOURTEEN questions based on the twelve sets of selectable LOs. (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 25 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 35 points.</p>
LO 6.3.4 (K2)	1	
LO 3.3.8 (K3)	2	
LO 3.3.9 (K3)	2	
LO 4.2.5 (K3)	1	
LO 4.2.7 (K4)	1	
LO 4.3.2 (K3)	1	
LO 4.3.3 (K3)	1	
LO 6.2.2 (K4)	1	
LO 2.1.1 (K2)* LO 2.1.2 (K2)* LO 2.2.1 (K2)* LO 2.3.1 (K2)* LO 2.3.2 (K2)*	Selectable LOs: pick TWO out of FIVE	

LO 2.4.1 (K2)* LO 2.4.2 (K2)* LO 2.4.3 (K2)*	Selectable LOs: pick ONE out of THREE			
LO 2.5.1 (K2)* LO 2.5.2 (K2)*	Selectable LOs: pick ONE out of TWO			
LO 2.5.3 (K2)* LO 2.5.4 (K2)* LO 2.5.5 (K2)*	Selectable LOs: pick TWO out of THREE			
LO 3.1.1 (K2)* LO 3.1.2 (K2)* LO 3.1.3 (K2)* LO 3.1.4 (K2)*	Selectable LOs: pick ONE out of FOUR			
LO 3.2.1 (K2)* LO 3.2.2 (K2)* LO 3.3.1 (K2)* LO 3.3.2 (K2)* LO 3.3.3 (K2)*	Selectable LOs: pick ONE out of FIVE			
LO 3.3.4 (K2)* LO 3.3.5 (K2)* LO 3.3.6 (K2)*	Selectable LOs: pick ONE out of THREE			
LO 3.4.1 (K2)* LO 3.4.2 (K2)* LO 3.4.3 (K2)* LO 3.4.4 (K2)* LO 3.4.5 (K2)*	Selectable LOs: pick ONE out of FIVE			
LO 3.4.6 (K2)* LO 5.1.1 (K2)*	Selectable LOs: pick ONE out of TWO			
LO 4.2.1 (K2)* LO 4.2.2 (K2)* LO 4.2.3 (K2)* LO 4.2.4 (K2)*	Selectable LOs: pick ONE out of FOUR			
LO 4.3.1 (K2)* LO 4.3.4 (K2)* LO 4.3.5 (K2)*	Selectable LOs: pick ONE out of THREE			
LO 6.2.1 (K2)* LO 6.3.1 (K2)*	Selectable LOs: pick ONE out of TWO			
EL ITP Part 1 MC TOTAL			45 minutes	25 questions total

Essay Question Component

Business Outcome	LO Coverage		
TP 1.1	<p>The following K5 and K6 LOs are covered in Part 1:</p> <p>2.1.3 (K6) 3.3.7 (K5) 3.3.10 (K5) 4.2.6 (K5) 4.4.2 (K5) 5.1.2 (K5) 6.2.3 (K6) 6.3.2 (K6) 6.3.3 (K6) 6.3.5 (K5)</p>	<p>Each examination must include THREE essay questions. Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all required BOs must be covered across the set of three essay questions:</p> <ul style="list-style-type: none"> • TP 1.1 • TP 2 • TP 3 • TP 5 <p>In addition, attention should be paid to the following high-priority LOs. It is recommended to include each of them as part of essay questions:</p> <ul style="list-style-type: none"> • 6.3.3 • 6.3.5 <p>The total number of points for the Essay Question component should be set to exactly 100 points.</p>	
TP 2			
TP 3			
TP 5			
EL ITP Part 1 Essay Question TOTAL		90 minutes	2 (out of 3) essay questions

6.2 Implementing Test Process Improvement (Part 2)

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	25 questions	45 minutes	Exactly 35 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 135 points
Points required to achieve a passing score: 88			

Multiple Choice Component

Learning Objective	Number of Questions per LO	
LO 6.1.1 (K2)	1	<p>In addition to the mandatory questions specified by individual LO (23) you must also include TWO questions based on the two sets of selectable LOs. (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 25 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 35 points.</p>
LO 6.4.2 (K4)	2	
LO 6.4.3 (K2)	1	
LO 6.4.4 (K2)	1	
LO 6.5.2 (K4)	1	
LO 7.1.1 (K2)	1	
LO 7.1.2 (K4)	1	
LO 7.1.3 (K2)	1	
LO 7.2.1 (K2)	1	
LO 7.3.3 (K3)	2	
LO 7.3.4 (K3)	1	
LO 8.2.1 (K2)	1	
LO 8.3.1 (K2)	1	
LO 8.3.2 (K4)	1	
LO 9.1.1 (K2)	1	
LO 9.2.1 (K2)	1	
LO 10.1.1 (K2)	1	
LO 10.1.2 (K2)	2	
LO 10.1.3 (K2)	1	
LO 10.1.4 (K2)	1	
LO 6.4.1 (K2)* LO 6.5.1 (K2)* LO 6.6.1 (K2)*	Selectable LOs: pick ONE out of THREE	
LO 7.3.1 (K2)* LO 7.3.5 (K2)* LO 7.3.6 (K2)*	Selectable LOs: pick ONE out of THREE	
EL ITP Part 2 MC TOTAL		
		25 questions total

Essay Question Component

Business Outcome	LO Coverage	
TP 1.2	<p>The following K5 and K6 LOs are covered in Part 2:</p> <p>6.1.2 (K6) 6.4.5 (K6) 7.1.4 (K6) 7.3.2 (K5) 8.2.2 (K6) 8.3.3 (K5) 9.1.2 (K5) 9.1.3 (K5) 9.2.2 (K6)</p>	<p>Each examination must include THREE essay questions. Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all required BOs must be covered across the set of three essay questions:</p> <ul style="list-style-type: none"> • TP 1.2 • TP 6 • TP 7 • TP 8 • TP 9 • TP 10 <p>You may also wish to include TP 4, as it is also covered in the syllabus part. However, as it is a required BO for Part 1's essay exam, it is not required for Part 2.</p> <p>In addition, attention should be paid to the following high-priority LO. It is recommended to include this LO as part of essay questions:</p> <ul style="list-style-type: none"> • 6.4.5 <p>The total number of points for the Essay Question component should be set to exactly 100 points.</p>
TP 4		
TP 6		
TP 7		
TP 8		
TP 9		
TP 10		
EL ITP Part 2 Essay Question TOTAL		

7. Appendix B: Expert Test Manager Exam Structures

The Expert Test Manager syllabus comprises three individual parts. Each of these parts requires a separate examination, the specific structures of which are outlined below:

7.1 Strategic Test Management (Part 1)

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	14 questions	45 minutes	Exactly 35 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 135 points
Points required to achieve a passing score: 88			

Multiple Choice Component

Learning Objective	Number of Questions per LO	
LO 2.2.1 (K4)	2	<p>In addition to the mandatory questions specified by individual LO (13), you must also write a question for ONE of the selectable LOs (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 14 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 35 points.</p>
LO 2.2.3 (K3)	2	
LO 2.3.1 (K4)	2	
LO 2.3.2 (K4)	2	
LO 5.7.2 (K4)	1	
LO 6.4.1 (K4)	2	
LO 8.2.2 (K2)	2	
LO 4.6.1 (K2)* LO 5.7.1 (K2)*	Selectable LOs: pick ONE out of TWO	
EL TM Part 1 MC TOTAL		<p>45 minutes</p> <p>14 questions total</p>

Essay Question Component

Business Outcome	LO Coverage		
TM 2	<p>The following K5 and K6 LOs are covered in Part 1:</p> <p>2.2.2 (K6) 2.3.3 (K6) 2.4.1 (K6) 5.7.3 (K6) 8.2.1 (K6) 8.3.1 (K6) 9.3.1 (K6)</p>	<p>Each examination must include THREE essay questions.</p> <p>Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all required BOs must be covered across the set of three essay questions:</p> <ul style="list-style-type: none"> • TM 2 • TM 3 • TM 6 <p>In addition, attention should be paid to the following high-priority LOs. It is recommended to include each of them as part of essay questions:</p> <ul style="list-style-type: none"> • 2.2.2 • 2.3.3 • 2.4.1 <p>The total number of points for the Essay Question component should be set to exactly 100 points.</p>	
TM 3			
TM 6			
EL TM Part 1 Essay Question TOTAL		90 minutes	2 (out of 3) essay questions

7.2 Operational Test Management (Part 2)

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	14 questions	45 minutes	Exactly 35 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 135 points
Points required to achieve a passing score: 88			

Multiple Choice Component

Learning Objective	Number of Questions per LO	
LO 4.2.1 (K3)	1	<p>In addition to the mandatory questions specified by individual LO (12), you must also include questions for TWO out of THREE of the selectable LOs (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 14 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 35 points.</p>
LO 4.3.1 (K4)	1	
LO 4.5.1 (K4)	2	
LO 6.3.1 (K4)	1	
LO 7.2.1 (K4)	2	
LO 7.4.2 (K4)	1	
LO 7.5.2 (K4)	2	
LO 7.6.1 (K2)	1	
LO 8.4.1 (K4)	1	
LO 4.4.1 (K2)* LO 6.2.6 (K2)* LO 9.2.1 (K2)*	Selectable LOs: pick TWO out of THREE	
EL TM Part 2 MC TOTAL		<p>45 minutes</p> <p>14 questions total</p>

Essay Question Component

Business Outcome	LO Coverage	
TM 1	<p>The following K5 and K6 LOs are covered in Part 2:</p> <p>4.7.1 (K6) 6.2.1 (K6) 6.2.2 (K6) 6.2.3 (K5) 6.2.4 (K5) 6.2.5 (K6) 7.3.1 (K6) 7.4.1 (K6) 7.5.1 (K6) 9.4.1 (K6)</p>	<p>Each examination must include THREE essay questions.</p> <p>Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all required BOs must be covered across the set of three essay questions:</p> <ul style="list-style-type: none"> • TM 1 • TM 4 • TM 5 • TM 7 • TM 10 <p>In addition, attention should be paid to the following high-priority LOs. It is recommended to include each of them as part of essay questions:</p> <ul style="list-style-type: none"> • 6.2.3 • 6.2.4 • 7.3.1 <p>The total number of points for the Essay Question component should be set to exactly 100 points.</p>
TM 4		
TM 5		
TM7		
TM 10		
EL TM Part 2 Essay Question TOTAL		<p>90 minutes</p> <p>2 (out of 3) essay questions</p>

7.3 Managing the Test Team (Part 3)

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	16 questions	45 minutes	Exactly 35 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 135 points
Points required to achieve a passing score: 88			

Multiple Choice Component

Learning Objective	Number of Questions per LO		
LO 3.2.3 (K3)	1	<p>In addition to the mandatory questions specified by individual LO (14), you must also include TWO questions based on the two sets of selectable LOs. (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 16 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 35 points.</p>	
LO 3.3.2 (K4)	1		
LO 3.3.3 (K2)	1		
LO 3.4.3 (K2)	1		
LO 3.4.4 (K4)	1		
LO 5.2.1 (K4)	2		
LO 5.4.1 (K3)	2		
LO 5.5.1 (K3)	2		
LO 5.5.2 (K3)	2		
LO 5.6.1 (K2)	1		
LO 3.2.4 (K2)* LO 3.3.1 (K2)* LO 3.3.4 (K2)*	Selectable LOs: pick ONE out of THREE		
LO 3.3.5 (K3)* LO 3.4.2 (K3)* LO 5.2.3 (K3)*	Selectable LOs: pick ONE out of THREE		
EL TM Part 3 MC TOTAL			45 minutes
			16 questions total

Essay Question Component

Business Outcome	LO Coverage		
TM 1	<p>The following K5 and K6 LOs are covered in Part 3:</p> <p>3.2.1 (K5) 3.2.2 (K6) 3.3.6 (K5) 3.3.7 (K5) 3.4.1 (K5) 5.2.2 (K6) 5.3.1 (K5) 5.8.1 (K5)</p>	<p>Each examination must include THREE essay questions. Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all required BOs must be covered across the set of three essay questions:</p> <ul style="list-style-type: none"> • TM 1 • TM 5 • TM 8 • TM 9 <p>In addition, attention should be paid to the following high-priority LOs. It is recommended to include each of them as part of essay questions:</p> <ul style="list-style-type: none"> • 5.2.2 • 5.3.1 <p>The total number of points for the Essay Question component should be set to exactly 100 points.</p>	
TM 5			
TM 8			
TM 9			
ELTM Part 3 Essay Question TOTAL		90 minutes	2 (out of 3) essay questions

8. Appendix C: Expert Test Automation Engineering Exam Structure

Overview

The exam will consist of MC and Essay components broken down in the following manner:

Multiple Choice Component	15 questions	45 minutes	Exactly 33 points
Essay Question Component	2 (out of 3) essays	90 minutes	Exactly 100 points (50 points per essay)
TOTAL:		135 minutes	Exactly 133 points
Points required to achieve a passing score: 87			

Multiple Choice Component

Learning Objective	Number of Questions per LO	
ELTA-E-1.1.1 (K2)	1	<p>In addition to the mandatory questions specified by individual LO (8) you must also include SEVEN questions based on the four sets of selectable LOs. (those marked with an asterisk).</p> <p>The total number of questions for the Multiple Choice component should be set to exactly 15 questions.</p> <p>The total number of points for the Multiple Choice component should be set to exactly 33 points (1 point per K2 question, 3 points per K3 and 3 points per K4).</p>
ELTA-E-1.2.1 (K2)	1	
ELTA-E-3.2.1 (K4)	1	
ELTA-E-4.1.1 (K4)	1	
ELTA-E-4.2.1 (K3)	1	
ELTA-E-6.1.1 (K4)	1	
ELTA-E-7.1.1 (K3)	1	
ELTA-E-7.2.1 (K3)	1	
ELTA-E-3.1.1 (K2)* ELTA-E-3.2.2 (K2)* ELTA-E-3.2.3 (K2)* ELTA-E-6.2.1 (K2)* ELTA-E-6.3.1 (K2)* ELTA-E-6.4.1 (K2)*	Selectable LOs: pick THREE out of SIX	

ELTA-E-2.1.1 (K4)* ELTA-E-8.2.1 (K4)* ELTA-E-8.2.2 (K4)*	Selectable LOs: pick TWO out of THREE		
ELTA-E-2.3.1 (K2)* ELTA-E-3.3.2 (K2)* ELTA-E-5.2.1 (K2)* ELTA-E-5.4.1 (K2)*	Selectable LOs: pick ONE out of FOUR		
ELTA-E-3.2.4 (K4)* ELTA-E-5.3.1 (K4)*	Selectable LOs: pick ONE out of TWO		
ELTA-E MC TOTAL		45 minutes	15 questions total

Essay Question Component

Business Outcome	LO Coverage	
TA-E1		
TA-E2		
TA-E3		
TA-E4		
TA-E5		

The following K5 and K6 LOs are covered in ELTA-E:

- ELTA-E-2.2.1. (K6)
- ELTA-E-3.3.1 (K6)
- ELTA-E-4.3.1 (K6)
- ELTA-E-4.4.1 (K5)
- ELTA-E-5.1.1 (K6)
- ELTA-E-6.1.2 (K5)
- ELTA-E-8.1.1 (K6)

Each examination must include THREE essay questions.
 Each essay question must cover a minimum of TWO Business Outcomes taken from the list below, and all following BOs must be covered across the set of three essay questions:

- TA-E2
- TA-E3
- TA-E4
- TA-E5
- TA-E6
- TA-E7

The total number of points for the Essay Question component should be set to **exactly 100 points.**

TA-E6		
TA-E7		
ELTA-E Essay Question TOTAL	90 minutes	2 (out of 3) essay questions