ISTQB Exam Information - Public

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Acknowledgements 1

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2 General

Purpose 2.1

Student Bounts, com This document contains publicly-available information about ISTQB Exams (Foundation, Advanced and Expert), including details on their structure, passing scores, question types, etc.

2.2 **Document Responsibility**

The ISTQB Examination Working Group is responsible for this document.

2.3 **Revision History**

Date	Name	Comment
22/06/2011	Patrícia Alves, Stuart Reid	Compile Public Version
01/11/12	Debra Friedenberg	Updates for new 2012 AL exam structure
10/11/2012	Debra Friedenberg	Comments from EWG incorporated
03/02/2013	Debra Friedenberg	Updates for new Modularized EL exam structure
10/02/13	Debra Friedenberg	EWG Feedback incorporated. Version for GA vote.

Glossary 3

Commonly used terms:

Term	Definition
CTFL	Certified Tester Foundation Level.
CTAL	Certified Tester Advanced Level.
CTEL	Certified Tester Expert Level.

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	SE
ISTQB Public Exam Version 2013-1.0	A specific statement of what can be expected from a person who achieves Certification in a particular subject area, (e.g., an Advanced Test Manager), and will outline the benefits for companies who are considering the development of specific testi
	· · · · · · · · · · · · · · · · · · ·
Business Outcome	A specific statement of what can be expected from a person who achieves Certification in a particular subject area, (e.g., an Advanced Test Manager), and will outline the benefits for companies who are considering the development of specific testi skills at this level.
Educational or Learning aims	The ISTQB educational aims describe the long term goals for the learners. They are defined for the scheme as a whole as well as for each level within the scheme.
Learning Objective	Learning objectives describe the gain on cognitive competence to be achieved in relation to given content.
Exam question	An individual component of the examination which is used to assess the knowledge of a candidate's understanding of the syllabus material and achievement of Learning Objectives. Synonym used in other ISTQB documents and the ISTQB procest glossary: Exam item
Examination /Exam	An assessment intended to measure a candidate's (test-taker's) knowledge, skill, and competence related to an ISTQB syllabus.
	(ISO 17024: Mechanism that is part of the evaluation, which measures a candidate's competence by one or more means sucl as written, oral, practical and observational. (Procedure))
Essay question	A type of exam question which requires the candidate to conside a scenario or problem statement and respond with a detailed written response; used in the assessment of Expert Level certifications only.
MC question (MC) or Multiple Choice question	A type of exam question which consists of a problem and a list of suggested solutions (options). Both single-answer and multiple-answer (Pick-N) versions of this question type may be used in ISTQB exams. Synonym used in other ISTQB documents and the ISTQB procest glossary: MC item
Scenario	A detailed description of a situation which includes necessary background information for a series of examination questions.

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4 Exam Structure and Rules

4.1 Generic Exam Rules

- Examinations will be based on the relevant, approved syllabus.
- Answers to exam questions may require the use of material based on more than one section of the syllabus being examined. Advanced and Expert level exam questions may require the knowledge of lower examination levels.
- All learning objectives in the syllabus are examinable.

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4.2 The Foundation Level Exam Rules

4.2.1 The Foundation Level examination

- 4.2.1.1 The Foundation Level examinations shall be based on the Foundation Level syllabus. Answers to examination questions may require the use of material from more than one section of this syllabus.
- 4.2.1.2 All learning objectives (on cognitive level K1 to K4) in the syllabus are examinable.

4.2.2 General Foundation Level Exam Structure

- 4.2.2.1 The examination shall comprise 40 multiple-choice questions.
- 4.2.2.2 The number of points available in an examination is 40.
- 4.2.2.3 Each correctly answered question is worth one point.
- 4.2.2.4 The time allowed for the examination is 60 minutes, if given in the candidate's native language. If the candidate's native language is not the examination language, the time allowed is 75 minutes.

4.2.3 Passing Score

4.2.3.1 A score of at least 65% (26 or more points) is required to pass.

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4.3 The Advanced Level Exam Rules

4.3.1 The Advanced Level examinations

- 4.3.1.1 The Advanced Level examinations shall be based on the Advanced Level syllabus. Answers to examination questions may require the use of material from more than one section of this syllabus. The exam questions may require the knowledge of Foundation examination level.
- 4.3.1.2 All learning objectives (on cognitive levels K1 to K4) in the syllabus are examinable.

4.3.2 Passing Score

4.3.2.1 A score of at least 65% is required to pass.

4.3.3 2012 Advanced Level Exam Structure*

- 4.3.3.1 Each examination module (i.e. Test Manager, Test Analyst and Technical Test Analyst) shall comprise a set of multiple choice questions, as indicated in the table below:
- 4.3.3.2 The exam questions will be distributed 'roughly' in line with the Learning Objectives of each chapter.
- 4.3.3.3 The time allowed for each examination is indicated in the table below. If the candidate's native language is not the examination language, an additional 25% is allowed:

Module	Number of questions	Exam Length (in minutes)	Exam Length + 25% (in minutes)	Total possible points	Points required to achieve a passing score
Advanced Test Manager	65	180	225	115	75
Advanced Test Analyst	60	180	225	120	78
Advanced Technical Test Analyst	45	120	150	80	52

^{*} Please note that until October 2013, the 2007 Advanced Level Exam may still be available. Check the www.istqb.org exam FAQ for details, or contact your local board for more information.

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- Student Bounty Com 4.3.3.4 The points available for a question should reflect the difficulty of the question. A K question is allocated 1 point, while a K3 question may score 1, 2 or 3 points, and K4 questions may score either 2 or 3 points.
- 4.3.3.5 In general K2 questions are expected to take 2 minutes to answer, while K3 and K4 questions are expected to take 3 and 4 minutes, respectively.

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4.4 The Expert Level Exam Rules

4.4.1 Expert Level Exam General Structure

4.4.1.1 Exam structure consists of two sections:

- Multiple-choice component
- Essay question component.

4.4.1.2 Exam duration

The following durations apply to all Expert Level exams:

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

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 guidelines. If, for example, a candidate completes the MC exam component in 35 minutes, they will have 100 minutes for completion of the essay component.

4.4.1.3 Pass mark

Candidates must score 75% or above overall to pass the exam.

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4.4.1.4 Multiple-Choice Exam Component

Rules:

- Student Bounty Com 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.
- MC3: The allocation of the different K levels of LOs in the syllabus should be reflected by 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.

4.4.1.5 Essay Exam Component

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

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

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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, as outlined in the Expert Level Exam Structure and Rules document
- EE5: There shall be no mandatory time limit assigned to a question. The durations given above are guidelines. 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.

4.4.2 Exam-Specific Structures

The following structures apply to the individual Expert Level exams, which are based on the individual Expert Level syllabus parts:

Module	Number of MC questions	Maximum MC Points	Number of Essay questions	Maximum Essay points	Total possible points	Points required to achieve a
						passing score
Expert Level Impr	oving the Test	Process				
Part 1: Assessing Test Processes	25	35	2 out of 3	50 points (per essay)	135	102
Part 2: Implementing Test Process Improvement	25	35	2 out of 3	50 points (per essay)	135	102
Expert Level Test	Manager					
Part 1: Strategic Test Management	14	35	2 out of 3	50 points (per essay)	135	102
Part 2: Operational Test Management	14	35	2 out of 3	50 points (per essay)	135	102

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ISTQB Public Exam Information Version 2013-1.0 Part 3: Managing 16 35 2 out of 3 50 points 135 102					-	2	il.
Part 3: Managing 16 35 2 out of 3 50 points 135 102			rmation			Softw	al 7%
the Test Team (per essay)	Part 3: Managing the Test Team	16	35	2 out of 3	•	135	102 T.COM

5 **Question Writing Recommendations – General**

5.1 **General Rules for All Question Types**

- The ability to answer one question shall not be dependent on the answer from another question.
- Questions shall not require specialized domain-specific knowledge unless included in the syllabus.

5.2 **Rules and Recommendations for Multiple Choice Questions**

5.2.1 **Basic concepts**

The ISTQB allows three different types of multiple choice questions – Type A, Pick-N and Roman. Each is discussed in detail below.

A multiple choice question consists of two parts:

Stem - contains a question phrase and sufficient information to select the correct response option(s). A problem statement or a scenario may enhance the stem.

Response Options – for Type A and Roman guestions, there shall be one correct response option, while for Pick-N questions there may be either 2 or 3 correct response options. Incorrect or clearly inferior response options are known as distracters.

5.2.2 Usage

Multiple choice questions are used to assess Knowledge levels K1 through K4.

5.2.3 **Multiple Choice Question Structure**

5.2.3.1 Type A

Type A multiple choice questions include a stem and a single correct option. A limited amount of information is presented in the stem, and a set of 4 response options are presented to the candidate.

Type A Example:

Level: K1

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What does a tester do during "Static testing"?

- A. Reviews requirements and compares them with the design. (correct option)
- B. Runs the tests on the exact same setup each time.
- C. Executes test to check that the hardware has been set up correctly.
- D. Runs the same tests multiple times, and checks that the results are statistically meaningful.

5.2.3.2 Roman Type

Within the stem of Roman type questions, the candidate is presented with several statements, each preceded by a Roman numeral. The candidate must then select the correct combination of statements from the choices provided in the set of 4 response options.

Roman Type Example:

Level: K2

When should regression testing normally be performed?

- i. Every week
- ii. After the software has changed
- iii. On the same day each year
- iv. When the environment has changed
- v. Before the code has been written
 - A. ii & iv are true, i, iii & v are false (correct option)
 - B. i & ii are true, iii, iv & v are false
 - C. ii, iii & iv are true, i & v are false
 - D. ii is true, i, iii, iv & v are false

5.2.3.3 Pick-N Type

For a Pick-N type question, the candidate is presented with a list of options from which to choose, and instructions on how many items to select (either 2 or 3) from the list. If 2 options are to be selected, there must be at least 5 items in the Pick list. If 3 options are to be selected, there must be at least 7 items in the Pick list.

Pick-N Type Example:

Level: K2

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Student Bounts, com Given the following list of test design techniques, which TWO would be categorized a white box?

- Α Boundary value analysis
- В Decision table testing
- С **Decision testing**
- D State transition testing
- Ε Statement testing
- F Equivalence partitioning

Correct options are C & E.

Pick-N Type questions are marked as indicated below:

Questions where two correct answers shall be chosen (pick two):

Value of question (points)	Number of correct answers entered (from two)	Points scored
1	1	0
1	2	1
2	1	0
2	2	2
3	1	1
3	2	3

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Questions where three correct answers shall be chosen (pick three):

Value of question (points)	Number of correct answers entered (from three)	Points scored
1	1	0
1	2	0
1	3	1
2	1	0
2	2	1
2	3	2
3	1	0
3	2	1
3	3	3

5.3 Rules and Recommendations for Scenarios

5.3.1 Basic concepts

A scenario is a detailed description of a problem or situation, which includes sufficient background information to answer one or more exam questions. In general a scenario is written to provide context for a group of questions, with the scenario appearing before those questions.

5.3.2 **Usage**

Scenarios can be used to support any ISTQB question type, and must be used as problem statements for Essay questions.

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5.3.3 **Scenario Structure**

Student Bounty.com The structure of the scenario is described in Table 1 below. Each of the elements should be considered when constructing the scenario and its associated questions:

Table 1 Structure of the Scenario

Elements of a Scenario	Description
Environment/Background Information	→ Description of the organizational environment (Organization; System)
	→ Information on the economic situation (Competitors; Regulations,)
	→ Information on the people involved in the situation, including their roles or functions, knowledge, communication style and behavior.
	→ Constraints such as schedule, time budget, methods, techniques
	→ Any other supplementary information that is required for a complete answer.
Situation	Describes the problem that needs to be solved, or the specific situation, which is to be considered for each task.

Note: The structure of the scenario for MC and Essay questions is the same.

5.3.4 **Scenario Rules**

A scenario shall include all the information needed to understand the tasks / questions associated with it, either directly or by inference. In cases where a scenario is used as background information for multiple questions, additional information may be included as part of the individual questions' stems.

5.3.5 **Example Scenario**

Scenario Description: (K4 question):

A major retail company has a purchasing system supporting a number of distributed purchasing centers.

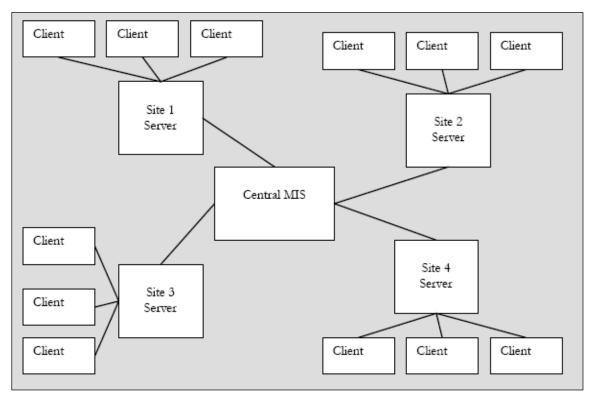
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Student Bounty.com The purchasing system consists of 4 site servers and a central server. The Central Mix server consolidates inventory levels, calculates purchasing demands and generates daily management reports. The site servers upload client data (clients in Figure 1) daily to the Central MIS server using batch processing.

The number of site servers is expected to triple over the next 5 years as a result of mergers and acquisitions. The existing system architecture cannot handle the existing load and a major upgrade is planned.

A draft test strategy is in place for the system upgrade project. None of the testing team members have experience in using automated tools and the current test case library contains no automated scripts.

The project team is using the V model and the draft test strategy includes 4 levels of testing: component, integration, system and user acceptance testing. Each level has a level test plan.



(Figure 1)

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Question:

Consider the following list of tools:

- a. Incident management tool
- b. Configuration management tool
- c. Code instrumenter
- d. Test driver
- e. Static analyzer

You are a Test Manager responsible for system level testing. Which is the most effective combination of tools for you to use on this project? Select 2 tools.

Correct options are a & b

5.4 Rules and Recommendations for Essay Questions

5.4.1 **Basic concepts**

Student Bounty.com Candidate assessment by Essay question is an integral part of Expert level exams. Essay questions are used to assess a candidate's knowledge of complex learning objectives - where there are potentially a number of reasonable approaches and solutions which can best be presented and discussed in an essay format.

The objective of an Essay question is to assess the candidate's knowledge and understanding of the subject matter related to defined learning objectives; including:

- 1. The candidate's ability to analyze and respond to a realistic situation.
- 2. The candidate's ability to justify the response.

5.4.2 Usage

Essay questions shall be used to assess knowledge levels K5 and K6, and may be used to assess learning objectives at the K4 level.

Essay Question Structure 5.4.3

Table 2 Structure of an Essay question

Elements of an Essay Question	Description	
Scenario	→ A short statement or overview, which the candidate can use to quickly determine the nature of the scenario.	
	→ The detailed scenario (problem statement), describing the realistic situation to be analyzed by the candidate (see Table 1 Structure of the Scenario).	
Question (s) / Tasks and Instructions	→ The question(s) defines the issue or problem that is to be addressed by the candidate. The question shall be directly related to the Learning Objective(s) that are being assessed.	
	→ Each question will generally be comprised of multiple parts each of which shall have its own description.	
	→ The question is often expressed as a task for the candidate to complete.	

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5.4.4 **Example Essay Question**

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Example Essay Q	uestion	
	Description	
Scenario	You are test manager for an automate system used in a railway station. The and outbound trains.	ed train control software
	Major requirements:	
	→ The software system si the operations of incom	
	→ Trains shall be cor according their schedule	•
	→ The software system risks related to safety, integrity.	has been assessed for product quality and data
	Availability:	
	The software system must 99.999% of the time, measure maximum of 43.2 minutes down	ed on a monthly basis (A
	Robustness:	
	There must be no signaling fa critical situations.	ilures that lead to safety
	Reliability:	
	Mean-Time-Between Failure is million signaling operations.	lower than 1 defect / 10
	Test period for acceptance test	ting:
	6 months.	
Question / Task	→ Create a set of test exit criteria fo	or acceptance testing.
including instructions	→ Propose a set of test exit crite sufficient information for the st informed decision as to whether	takeholders to make an

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	ready for release. → For each criterion, include an explanation and justification.	(A.COM
	→ For the proposed set of criteria, provide an explanation and justification as to why set of criteria is sufficient for the stakeholders to make a decision.	
Maximum Score	20 points	•

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Student Bounty.com Learning Objectives/Levels 6 of Appendix **A**: (K-levels)

6.1 Knowledge Level definitions

The following objective-level definitions shall apply to all ISTQB syllabi. Question writers should refer to the keywords below as an aid to creating and reviewing guestions at the appropriate cognitive level.

Level 1: Remember (K1)

The candidate will recognize, remember and recall a term or concept.

Keywords: Acquire, arrange, count, define, describe, draw, duplicate, find, identify, know, label, list, match, memorize, name, order, outline, quote, recall, recite, recognize, record, relate, remember, repeat, reproduce, retrieve, select, sequence, show, state, tell, write

Example

Can recognize the definition of "failure" as:

- "non-delivery of service to an end user or any other stakeholder" or
- "actual deviation of the component or system from its expected delivery, service or result"

Level 2: Understand (K2)

The candidate can select the reasons or explanations for statements related to the topic, and can summarize, differentiate, classify and give examples for facts (e.g., compare terms), testing concepts and test procedures (explaining the sequence of tasks).

Keywords: Abstracting, categorize, classify, classifying, compare, comparing, conclude, construct models, contrast, convert, defend, demonstrate, describe, differentiate, discuss, distinguish, draw, estimate, exemplify, exemplifying, explain, explaining, express, extend, find more information about, generalize, give example(s), identify, illustrate, indicate, infer, inferring, interpret, interpreting, locate, map, paraphrase, predict, put into your own words, recognize, report, represent, restate, review, rewrite, select, summarize, summarizing, tell, translate, visualize

Examples

Explain the reason why tests should be designed as early as possible:

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- To find defects when they are cheaper to remove
- To find the most important defects first

Explain the similarities and differences between integration and system testing:

- Similarities: testing more than one component, and can test non-functional aspects
- Differences: integration testing concentrates on interfaces and interactions whereas system testing concentrates on whole-system aspects, such as end to end processing

Level 3: Apply (K3)

The candidate can select the correct application of a concept or technique and apply it to a given context. K3 is normally applicable to procedural knowledge. There is no creative act involved such as evaluating a software application or creating a model for a given software. When we have a given model and cover the procedural steps to create test cases from the model in the syllabus, then it is K3.

<u>Keywords</u>: Apply, apply a procedure, calculate, change, choose, classify, compute, demonstrate, develop, discover, employ, execute, exhibit, follow a procedure, illustrate, implement, interpret, interview, manipulate, modify, operate, organize, practice, predict, prepare, produce, put into practice, relate, restructure, schedule, select, show, sketch, solve, transfer, translate, use, write

Example

- Can identify boundary values for valid and invalid partitions
- Use the generic procedure for test case creation to derive the test cases from a given state transition diagram in order to cover all transitions

Level 4: Analyze (K4)

The candidate can separate information related to a procedure or technique into its constituent parts for better understanding, and can distinguish between facts and inferences. Typical application is to analyze a document, software or a project situation and propose appropriate actions to solve a problem or accomplish a task.

<u>Keywords</u>: Analyze, appraise, attribute, breakdown, calculate, categorize, characterize, choose, classify, compare, contrast, construct, coordinate, create criticize, debate, deconstruct, deduce, derive, design, detect, diagram, differentiate, discover, discriminate, dissect, distinguish, examine, experiment, find coherence, focus, generate, hypothesize, identify, illustrate, infer, inquire, inspect, integrate, interpret, investigate, judge, model, monitor, organize, outline, parse, plan, point out, probe,

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Student Bounty Com produce, question, relate, research, scrutinize, select, separate, structure, subdivide survey, synthesize, test

Example

- Analyze product risks and propose preventive and corrective mitigation activities
- Describe which portions of an incident report are factual and which are inferred from results

Level 5: Evaluate (K5)

The candidate may make judgments based on criteria and standards. He detects inconsistencies or fallacies within a process or product, determines whether a process or product has internal consistency and detects the effectiveness of a procedure as it is being implemented (e.g., determine if a scientist's conclusions follow from observed data).

Keywords: Appraise, argue, assess, attach, check, choose, compare, conclude, consider, contrast, coordinate, criticize, critique, decide, deduce, defend, describe, detect, discriminate, estimate, evaluate, explain, infer, interpret, judge, justify, measure, monitor, predict, prioritize, prove, rank, rate, relate, select, summarize, support, validate, value

Example

- Judge whether a specific review process has been effectively and efficiently applied in a given situation
- Evaluate the test results and problem reports and propose a recommendation to the stakeholder whether further testing is required
- Evaluate whether a given set of test cases has achieved a coverage level
- Monitor the risk mitigation activities, propose improvements (includes summarizing results)

Level 6: Create (K6)

The candidate puts elements together to form a coherent or functional whole. Typical application is to reorganize elements into a new pattern or structure, devise a procedure for accomplishing some task, or invent a product (e.g., build habitats for a specific purpose).

Keywords: Arrange, assemble, categorize, collect, combine, compare, comply, compose, construct, create, derive, design, develop, devise, discuss, document, explain, formulate, generalize, generate, hypothesize, integrate, invent, make, modify,

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Qualification

Student Bounty.com organize, originate, perform, plan, predict, prepare, produce, propose, rearrange reconstruct, relate, reorganize, report, revise, rewrite, schematize, set up, summarize, support, synthesize, tell, write

Example

- Generate an appropriate risk management process that includes both rigorous and informal elements
- Create the test approach for a project that considers the context of the company's policy, project / product, test objectives, risks and timeline to form a dynamic strategy to balance an analytical strategy
- · Construct a review process from the elements of different review types to form an effective process for the organization

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