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PURPOSE OF THE CGEIT ITEM DEVELOPMENT GUIDE
The purpose of the CGEIT Item Development Guide (Guide) is to provide assistance to item writers in their efforts to develop items for the CGEIT exam. This Guide explains the structure of CGEIT exam questions and will assist item writers in becoming more skilled in writing items.

As you read through this Guide, please pay particular attention to the item writing principles. Applying these principles will greatly enhance the chances of your items being accepted.

CGEIT EXAM STRUCTURE
The purpose of developing the CGEIT Job Practice is to identify the tasks performed and knowledge required by professionals involved with the governance of an enterprise’s information technology (IT). This job practice serves as the blueprint for the CGEIT exam. Questions must be written to test a candidate’s knowledge of this content as defined by the CGEIT Job Practice (see Appendix A, “CGEIT Job Practice”).

WRITING QUALITY ITEMS
The first thing to consider when writing an item is its target audience, or the CGEIT exam candidate. An item must be developed to test the knowledge of an IT professional with 5 years of IT governance experience and one (1) year experience in Domain 1 influencing overall organizational structure, policy, and processes.

The CGEIT Certification Committee describes a qualifying CGEIT as having the ability to:

- Develop frameworks, policy, and the enterprise plan (does not simply execute them)
- Demonstrate awareness of how IT governance fits within the enterprise
- Align IT with corporate governance
- Integrate solutions
- Understand how an enterprise gains value through the use of IT
- Use IT in governing the business direction
- Report on a model (doesn’t simply contribute to the model)
- Recognize the concept of business alignment
- Identify critical risk through use of risk management strategies

As critical as it is for an item writer to understand the qualifications of the CGEIT candidate, it is equally critical for an item writer to remember that IT governance is a global profession. Individual perceptions and experiences might not reflect the more global position or circumstance. Since the examination and CGEIT items will be developed for the international community, this will require you, the item writer, to be flexible when determining a globally accepted practice.
MULTIPLE-CHOICE ITEMS

The CGEIT exam will consist of a variety of multiple-choice items. The multiple-choice item is the most commonly used type of test question in certification exams.

Multiple-choice items consist of a stem and four possible options.

*Item Stem:*
The item stem is the introductory statement or question that describes a situation or circumstance related to the knowledge being assessed. Item stems can be written in the form of an incomplete statement as well as in question form.

*Item Choices:*
The options complete the introductory statement or answer the question and consist of one correct answer (key) and three incorrect answers or distractors.

*Key:*
The key must reflect current practice. In some cases the key will be the only correct choice, while in other cases the key will be deemed to be the BEST choice when considered against the other choices provided.

*Distractors:*
Distractors are the incorrect choices but should be plausible or possible correct answers to candidates who are inexperienced or not knowledgeable enough to choose the key.

STEPS TO WRITING ITEMS

STEP 1 Select a topic within the CGEIT Job Practice. Items should be written to test knowledge necessary to perform a specific task. Items should focus on a single topic or knowledge statement. Items written from a knowledge statement will most likely result in higher quality, experience-based questions. Refer to Appendix A “CGEIT Job Practice” for a list of the task and related knowledge statements.

Once a topic is chosen, follow the steps listed below. While writing your item, please refer to the Item Writing Principles for further guidance and review your item using the Item Development Checklist found in Appendix B.

STEP 2 Write the item stem and keyable answer (Answer A).

STEP 3 Develop plausible distractors. The distractors should not be made-up words or phrases. Distractors should appear to be correct choices to an inexperienced professional. The development of quality distractors is usually the most difficult task for an item writer. If you have difficulty with this part of item development, it may be helpful to consult with
your colleagues. Also think about what an inexperienced IT professional might think the correct answer would be. These incorrect experiences make for the best distractors.

STEP 4 Include a thorough explanation of why the keyable answer is correct as well as why each distractor is not a correct choice. It is not acceptable to simply state that the distractors are “incorrect.”

STEP 5 Include any and all reference sources. Refer to the ISACA web site for some applicable references – http://www.isaca.org/knowledge-center.

STEP 6 Review the item using the Item Development Checklist found in Appendix B.

STEP 7 Have a peer or colleague review and critique the item.

GENERAL ITEM WRITING PRINCIPLES

DOs:

1. Write the stem in the positive tone. Negatively written items (using words such as NOT, LEAST, EXCEPT, etc. in the stem) will be automatically returned to the item writer for rewrite.
2. Test only one testing concept or knowledge statement per item. Knowledge statements were developed for this purpose. For a listing of knowledge statements, refer to Appendix A, “CGEIT Job Practice.”
3. Ensure the stem and all choices are compatible with each other. For example, if your stem reads, “Which of the following controls will BEST…,” then all choices must be controls.
4. Keep the stem and choices as short as possible by avoiding the use of unnecessary text or jargon. Do not attempt to teach the candidate a concept or theory by providing too much information before asking the question. Remember, this is an exam, not a classroom.
5. Include common words or phrases in the item stem rather than in the beginning of the key and distractors.
6. Write all options the same approximate length and format. A good test taker with very little knowledge or experience in IT will select the choice that is either the shortest or the longest in length and will most likely choose the correct answer.
7. Write choices that are grammatically consistent with the item stem and maintain a parallel grammatical format. For example, if the key begins with a verb ending with “ing,” then all distractors must begin with a verb ending with “ing.”
8. Use only professionally acceptable or technical terminology in the item stem and choices.
DON’Ts:

1. Avoid using a key word or phrase from the item stem in the item key. Experienced test takers will look for these types of clues to identify the key.
2. The use of words such as “frequently,” “often,” “common,” or “rarely” introduce subjectivity into the item and will not be accepted. If an item is subjective, it can be argued that more than one option is keyable. Subjectivity is one of the most common reasons why items are returned to the item writer and not tested on exams.
3. The use of terms such as “always,” “never,” or “all” are not acceptable since very little is absolute and thus it makes it easier for candidates to eliminate distracters containing these words.
4. Terms such as “least,” “not,” or “except” used in the stem are negative and require a candidate to choose an incorrect or least preferred choice, rather than a correct or preferred choice. Negatively phrased test questions do not test well and will not be accepted.
5. Avoid the use of gender pronouns such as he, she, his, or her.
6. Avoid multiple components within each choice, or including portions of one choice in another. These are considered to be “multiple, multiple” choices and do not test well. Each choice should stand on its own.
7. Items with choices “all of the above” or “none of the above” will be returned to the item writer. Good test takers know that these types of options are very rarely correct and do not make good distractors.
8. Items testing knowledge regarding vendor specific products will be returned to the item writer as ISACA does not endorse any vendor products.
9. Items will not be accepted if they list specific standards, frameworks, manuals, (i.e., COBIT, ISO, ITIL, etc.) by name. It is, however, perfectly acceptable and encouraged to test the knowledge of concepts associated with these best practices.
10. Avoid “True/False” questions such as “Which of the following is true?”
11. Avoid testing subjective concepts such as the following:
   a. Specific international or local laws and regulations.
   b. Specific information regarding cultural or industry issues that do not apply globally and across all industries.
   c. Specific roles and responsibilities within your organization.

Remember that the CGEIT exam is administered globally and across all industries. The concepts tested must be accepted and recognized practice world-wide and in all industries.
ITEM CONSTRUCTION EXAMPLES

Please note that the item examples appearing in this Guide have been taken from other exam study sources and are included here only as examples of exam item format (not content) to help you construct your CGEIT items.

Items can either be direct questions, incomplete statements or scenario questions.

Direct question:

**Stem:** Which of the following should be included in an IT strategic plan?

**Choices:**

A. Analysis of future business objectives
B. Specifications for planned hardware purchases
C. Target dates for development projects
D. Annual budgetary targets for the IT department

Note that the stem is in the form of a question.

Incomplete statement:

**Stem:** IT governance helps to ensure that an organization aligns its IT strategy with:

**Choices:**

A. enterprise objectives.
B. IT objectives.
C. audit objectives.
D. control objectives.

Note that the responses for this item start with a lowercase letter and are followed by a period, as the responses serve to complete the sentence started in the stem.

It is wise to draft an item first as a direct question, and then revise it to an incomplete sentence if this offers smoother, less repetitive wording.

SCENARIO QUESTIONS

Writing a “scenario” provides a means of adding context to a particular subject or concept. It consists of writing introductory information (or the scenario) for a set of questions to follow. There are a number of considerations when writing scenario items:

- There should be a set of two-to-five items that pertain to the introductory information.
- The introductory material must be related to a particular field, be relevant and practical, and it must contain all the information necessary for the candidate to draw the correct conclusion – do not force the candidate to make assumptions.
Each item should be independent of the other(s) so that missing one item does not cause missing another item of the set. Care should be taken to ensure that one item does not point to the key of another item.

New information cannot be introduced in any of the associated items. All information necessary to answer the question must be in the scenario or introductory information.

When multiple facts need to be listed or presented in the scenario text, it is best to do so in “bullet” format for clarity and ease of reading.

Scenarios or introductory information could be as little as one paragraph, but should not exceed a half page in length.

The best scenarios are experience-based or written on real-life situations faced on the job. In addition, writing scenarios is an effective way to test the more subjective concepts found within the CGEIT Job Practice. For instance, regulations or roles and responsibilities are good to test within a scenario since the specific requirements of the regulation or the organization’s reporting structure can be explained in the introductory paragraph(s).

A common reason why scenario items are returned is that the questions written are ‘too general” and could be answered without even reading the scenario. Scenario items are also returned when items are written in such a way that answers are found directly within the scenario text, as if it were a reading exercise. Scenario items should force candidates to formulate an answer based on knowledge and experience, and not by “finding” the answer within the text. It is always a good idea to have a peer review and critique a scenario prior to submission.

COMMON CHALLENGES TO WRITING CGEIT ITEMS

Two of the most common reasons why a CGEIT item may be returned are: (1) the item is too subjective or (2) the item is written at an operational (as opposed to governance) level. A challenge in writing CGEIT items is that many knowledge statements are operational in nature. For example: knowledge of benefit calculation techniques, knowledge of quantitative and qualitative risk assessment methods, and knowledge of outcome and performance measurement techniques, to name a few. CGEITs must possess this knowledge, but do not necessarily execute at their level. The following examples will illustrate these points. These questions are not CGEIT pool items and will not appear on an exam. They were developed as sample items for item writing training purposes.

Example 1

Stem: The MAIN reason for implementing performance measurements within an IT department is to:

Choices:
A. verify whether IT strategic objectives have been achieved.
B. determine the contribution of IT to the business.
C. develop skills and competencies of IT human resources.
D. determine the return on investment (ROI) of IT-related projects.

Key: A
This item would be returned as too subjective. Any of the options listed could be the main reason for implementing performance measures depending on the organization. As such, an exam candidate could not be faulted for choosing one of the other options as the key, making this item "multi-keyable." This type of question would need to be altered or have more context written into the stem in order to support only one correct answer. For example, the stem could be re-written as follows:

**New Stem(s):**
“Which of the following is the **MAIN** reason a board would require the development of an IT performance measurement framework? -OR- “The **MAIN** reason for a board requiring the development of an IT performance measurement framework would be to:”

By making reference to “the board” and using “performance measurement framework” instead of general performance measurements, enough context/information is provided to determine the key. A candidate could reasonably draw the conclusion that “A” is the best answer out of the 4 options listed.

**Example 2**

**Stem:** Performing which of the following will **BEST** help an organization determine whether its servers are deployed at an optimal level?

**Choices:**
- A. Utilization monitoring
- B. Benchmark testing
- C. Downtime analysis
- D. Controlled amortization

**Key:** A
This item would be returned because both the question and options are very operational and not testing at the governance level.

**Example 3**

**Stem:** Which of the following is the **BEST** measurement to evaluate an IT help desk’s benefit to the business?

**Choices:**
- A. Average time to resolve support tickets
- B. Total number of tickets raised
- C. Total number of support tickets resolved
- D. Average response time to support tickets

**Key:** A
While the stem itself is addressing a governance-related concept, this item would be returned because the options are too low level and operational in nature. However, the basic concept may be tested by altering the item to create a governance level answer as illustrated below.

When trying to test knowledge or concepts which include operational elements, it is best to incorporate the operational component in the stem, and then write governance-level answers. For example, drawing from the item above, the question could be posed as:
New Stem: The PRIMARY governance objective for establishing and monitoring metrics related to IT help desk services is to:

New Choices:
A. evaluate IT help desk’s alignment to business needs.
B. assess IT help desk staff skills and competencies.
C. evaluate user satisfaction with IT help desk support.
D. determine required staffing levels for IT help desk support.

Key: A

This key is written at the governance level and the item is no longer considered “too operational.”
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CGEIT JOB PRACTICE – WHAT IS IT?
The CGEIT Job Practice lists the relevant tasks performed by IT professionals working in IT governance and the knowledge necessary to perform those tasks. These tasks and knowledge will be the basis for CGEIT exam questions. The goal of the CGEIT exam is to present experience-based questions testing knowledge necessary to perform a task. The CGEIT Job Practice can be found in Appendix A. Remember, it is important to focus on only one knowledge statement or testing concept when writing questions.

RUBRICING
All items must be assigned a rubric. The rubric indicates which CGEIT task and knowledge statement within each domain the item most closely refers to. Each rubric consists of a 2 to 3-digit task statement number AND a 2 to 3-digit knowledge statement number. The rubrics are indicated before each task and knowledge statement in the Job Practice. Please refer to Appendix A—CGEIT Job Practice when assigning a rubric to an item. In the online submission form, rubrics are referred to as “Classifications.” Task statements are “Primary Classifications” and knowledge statements are “Secondary Classifications.”

ITEM SUBMISSION AND REVIEW PROCESS
Items must be submitted using an online, web-based tool called ProExam Write. All items MUST be submitted in English. Items must include a stem, four choices, and rationales for each choice.

All subject matter experts who have completed the Item Writing Application, found at www.isaca.org/itemwriter, will receive periodic emails announcing item writing campaigns. These emails will also contain a link to the automated tool. Documents relating to the campaign such as the specific areas of need, this Guide, and the Job Practice will be available in the “Resources” section of each campaign in ProExamWrite.

An initial review will be performed by an ISACA representative to ensure completeness and compliance with the item writing principles. Items that are judged to be flawed in any significant way will be sent back to the item writer with appropriate and constructive feedback. Items accepted by the ISACA representative will be forwarded to the CGEIT Test Enhancement Subcommittee (TES) to be considered for inclusion in the exam item pool.

Once reviewed by the TES, the item will be accepted or returned. If returned by the TES, the item will be returned to the writer, including appropriate and constructive feedback. If accepted, the item will become the property of ISACA and the item writer will receive honorarium payment along with 2 CPE credit hours. An honorarium of US $100.00 will be awarded for each item accepted within the areas of need. Items accepted outside of the areas of need will be awarded US $50.00.
Appendix A

CGEIT JOB PRACTICE

NOTES:

- Task statements highlighted below tend to be subjective content making them difficult to write globally-accepted questions with only one answer. We encourage item writers to develop scenario questions to test these subjective areas. Scenario questions allow the item writer to include subjective information and specifics in the introductory paragraphs so no assumptions need to be made to answer the question.
- To assist with the assigning of a rubric to an item, the knowledge statements listed in this Job Practice are mapped to corresponding task statements. At the end of each knowledge statement, the task statements which best apply are listed. A given knowledge statement may map to more than one task statement and the focus of the knowledge (testing concept) should be different based upon the specific task for which it is written.

Domain 1: Framework for the Governance of Enterprise IT

Ensure the definition, establishment, and management of a framework for the governance of enterprise IT in alignment with the mission, vision and values of the enterprise.

Task Statements:

1.1 Ensure that a framework for the governance of enterprise IT is established and enables the achievement of enterprise goals and objectives to create stakeholder value, taking into account benefits realization, risk optimization, and resource optimization.

1.2 Identify the requirements and objectives for the framework for the governance of enterprise IT incorporating input from enablers such as principles, policies and frameworks; processes; organizational structures; culture, ethics and behavior; information; services, infrastructure and applications; people, skills and competencies.

1.3 Ensure that the framework for the governance of enterprise IT addresses applicable internal and external requirements (for example, principles, policies and standards, laws, regulations, service capabilities and contracts).

1.4 Ensure that strategic planning processes are incorporated into the framework for the governance of enterprise IT.

1.5 Ensure the incorporation of enterprise architecture (EA) into the framework for the governance of enterprise IT in order to optimize IT-enabled business solutions.

1.6 Ensure that the framework for the governance of enterprise IT incorporates comprehensive and repeatable processes and activities.

1.7 Ensure that the roles, responsibilities and accountabilities for information systems and IT processes are established.
1.8 Ensure issues related to the framework for the governance of enterprise IT are reviewed, monitored, reported and remediated.

1.9 Ensure that organizational structures are in place to enable effective planning and implementation of IT-enabled business investments.

1.10 Ensure the establishment of a communication channel to reinforce the value of the governance of enterprise IT and transparency of IT costs, benefits and risk throughout the enterprise.

1.11 Ensure that the framework for the governance of enterprise IT is periodically assessed, including the identification of improvement opportunities.

Knowledge Related to Domain 1: Framework for the Governance of Enterprise IT

Knowledge of:

k1.1 components of a framework for the governance of enterprise IT (T 1.1, 1.2, 1.3)

k1.2 IT governance industry practices, standards and frameworks (for example, COBIT, Information Technology Infrastructure Library [ITIL], International Organization for Standardization [ISO] 20000, ISO 38500) (T 1.1)

k1.3 business drivers related to IT governance (for example, legal, regulatory and contractual requirements) (T 1.1, 1.2, 1.3)

k1.4 IT governance enablers (for example, principles, policies and frameworks; processes; organizational structures; culture, ethics and behavior; information; services, infrastructure and applications; people, skills and competencies) (T 1.2)

k1.5 techniques used to identify IT strategy (for example, SWOT, BCG Matrix) (T 1.3, 1.4)

k1.6 components, principles, and concepts related to enterprise architecture (EA) (T 1.5)

k1.7 Organizational structures and their roles and responsibilities (for example, enterprise investment committee, program management office, IT strategy committee, IT architecture review board, IT risk management committee) (T 1.9)

k1.8 methods to manage organizational, process and cultural change (T 1.1, 1.9, 1.6, 1.7)

k1.9 models and methods to establish accountability for information requirements, data and system ownership; and IT processes (T 1.9, 1.7)

k1.10 IT governance monitoring processes/mechanisms (for example, balanced scorecard (BSC) (T 1.8)

k1.11 IT governance reporting processes/mechanisms (T 1.8, 1.9, 1.10)

k1.12 communication and promotion techniques (T 1.9)
k1.13 assurance methodologies and techniques (T 1.3)

k1.14 continuous improvement techniques and processes (T 1.11)
Domain 2: Strategic Management

Ensure that IT enables and supports the achievement of enterprise objectives through the integration and alignment of IT strategic plans with enterprise strategic plans.

Task Statements:

2.1 Evaluate, direct and monitor IT strategic planning processes to ensure alignment with enterprise goals.

2.2 Ensure that appropriate policies and procedures are in place to support IT and enterprise strategic alignment.

2.3 Ensure that the IT strategic planning processes and related outputs are adequately documented and communicated.

2.4 Ensure that enterprise architecture (EA) is integrated into the IT strategic planning process.

2.5 Ensure prioritization of IT initiatives to achieve enterprise objectives.

2.6 Ensure that IT objectives cascade into clear roles, responsibilities and actions of IT personnel.

Knowledge Related to Domain 2: Strategic Management

Knowledge of:

k2.1 an enterprise’s strategic plan and how it relates to IT (T 2.1)

k2.2 strategic planning processes and techniques (T 2.1)

k2.3 impact of changes in business strategy on IT strategy (T 2.1)

k2.4 barriers to the achievement of strategic alignment (T 2.1, 2.6)

k2.5 policies and procedures necessary to support IT and business strategic alignment (T 2.2)

k2.6 methods to document and communicate IT strategic planning processes (for example, IT dashboard/balanced scorecard, key indicators) (T 2.3)

k2.7 components, principles and frameworks of enterprise architecture (EA) (T 2.4)

k2.8 current and future technologies (T 2.4)

k2.9 prioritization processes related to IT initiatives (T 2.5)

k2.10 scope, objectives and benefits of IT investment programs (T 2.5)

k2.11 IT roles and responsibilities and methods to cascade business and IT objectives to IT personnel (T 2.6)
Domain 3: Benefits Realization

Ensure that IT-enabled investments are managed to deliver optimized business benefits and that benefit realization outcome and performance measures are established, evaluated and progress is reported to key stakeholders.

Task Statements:

3.1 Ensure that IT-enabled investments are managed as a portfolio of investments.

3.2 Ensure that IT-enabled investments are managed through their economic life cycle to achieve business benefit.

3.3 Ensure business ownership and accountability for IT-enabled investments are established.

3.4 Ensure that IT investment management practices align with enterprise investment management practices.

3.5 Ensure that IT-enabled investment portfolios, IT processes and IT services are evaluated and benchmarked to achieve business benefit.

3.6 Ensure that outcome and performance measures are established and evaluated to assess progress towards the achievement of enterprise and IT objectives.

3.7 Ensure that outcome and performance measures are monitored and reported to key stakeholders in a timely manner.

3.8 Ensure that improvement initiatives are identified, prioritized, initiated and managed based on outcome and performance measures.

Knowledge Related to Domain 3: Benefits Realization

Knowledge of:

k3.1 IT investment management processes, including the economic life cycle of investments (T 3.2, 3.4)

k3.2 basic principles of portfolio management (T 3.7, 3.1)

k3.3 benefit calculation techniques (for example, earned value, total cost of ownership, return on investment) (T3.2)

k3.4 process and service measurement techniques (for example, maturity models, benchmarking, key performance indicators [KPIs]) (T 3.5)

k3.5 processes and practices for planning, development, transition, delivery, and support of IT solutions and services (T 3.8, 3.5)

k3.6 continuous improvement concepts and principles (T 3.8, 3.5)
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k3.7  outcome and performance measurement techniques (for example, service metrics, key performance indicators [KPIs]) (T 3.6, 3.7)
k3.8  procedures to manage and report the status of IT investments (T 3.7)
k3.9  cost optimization strategies (for example, outsourcing, adoption of new technologies) (T 3.8)
k3.10 models and methods to establish accountability over IT investments (T3.3)
k3.11 value delivery frameworks (for example, Val IT) (T3.2, 3.4)
k3.12 business case development and evaluation techniques (T 3.6, 3.5)
Domain 4: Risk Optimization

Ensure that an IT risk management framework exists to identify, analyze, mitigate, manage, monitor, and communicate IT-related business risk, and that the framework for IT risk management is in alignment with the enterprise risk management (ERM) framework.

Task Statements:

4.1 Ensure that comprehensive IT risk management processes are established to identify, analyze, mitigate, manage, monitor, and communicate IT risk.

4.2 Ensure that legal and regulatory compliance requirements are addressed through IT risk management.

4.3 Ensure that IT risk management is aligned with the enterprise risk management (ERM) framework.

4.4 Ensure appropriate senior level management sponsorship for IT risk management.

4.5 Ensure that IT risk management policies, procedures and standards are developed and communicated.

4.6 Ensure the identification of key risk indicators (KRIs).

4.7 Ensure timely reporting and proper escalation of risk events and responses to appropriate levels of management.

Knowledge Related to Domain 4: Risk Optimization

Knowledge of:

k4.1 the application of risk management at the strategic, portfolio, program, project and operations levels (T 4.1)

k4.2 risk management frameworks and standards (for example, RISK IT, the Committee of Sponsoring Organizations of the Treadway Commission Enterprise Risk Management—Integrated Framework (2004) [COSO ERM], International Organization for Standardization (ISO) 31000) (T 4.1, 4.3, 4.5)

k4.3 the relationship of the risk management approach to legal and regulatory compliance (T 4.2)

k4.4 methods to align IT and enterprise risk management (ERM) (T 4.3)

k4.5 the relationship of the risk management approach to business resiliency (for example, business continuity planning [BCP] and disaster recovery planning [DRP]) (T 4.1)

k4.6 risk, threats, vulnerabilities and opportunities inherent in the use of IT (T 4.1)
k4.7 types of business risk, exposures and threats (for example, external environment, internal fraud, information security) that can be addressed using IT resources (T 4.3)
k4.8 risk appetite and risk tolerance (T 4.3, 4.6)
k4.9 quantitative and qualitative risk assessment methods (T 4.1, 4.3, 4.5)
k4.10 risk mitigation strategies related to IT in the enterprise (T 4.1, 4.2, 4.5)
k4.11 methods to monitor effectiveness of mitigation strategies and/or controls (T4.1)
k4.12 stakeholder analysis and communication techniques (T 4.4)
k4.13 methods to establish key risk indicators (KRI) (T 4.6)
k4.14 methods to manage and report the status of identified risk (T 4.7)
Domain 5: Resource Optimization

*Ensure the optimization of IT resources including information, services, infrastructure and applications, and people, to support the achievement of enterprise objectives.*

**Task Statements:**

5.1 Ensure that processes are in place to identify, acquire and maintain IT resources and capabilities (i.e., information, services, infrastructure and applications, and people).

5.2 Evaluate, direct and monitor sourcing strategies to ensure existing resources are taken into account to optimize IT resource utilization.

5.3 Ensure the integration of IT resource management into the enterprise’s strategic and tactical planning.

5.4 Ensure the alignment of IT resource management processes with the enterprise’s resource management processes.

5.5 Ensure that a resource gap analysis process is in place so that IT is able to meet strategic objectives of the enterprise.

5.6 Ensure that policies exist to guide IT resource sourcing strategies that include service level agreements (SLAs) and changes to sourcing strategies.

5.7 Ensure that policies and processes are in place for the assessment, training and development of staff to address enterprise requirements and personal/professional growth.

**Knowledge Related to Domain 5: Resource Optimization**

**Knowledge of:**

k5.1 IT resource planning methods (T 5.1, 5.3)

k5.2 human resource procurement, assessment, training, and development methodologies (T 5.1, 5.7)

k5.3 processes for acquiring application, information, and infrastructure resources (T 5.1, 5.2, 5.4)

k5.4 outsourcing and offshoring approaches that may be employed to meet the investment program and operation level agreements (OLAs) and service level agreements (SLAs) (T 5.2, 5.6)

k5.5 methods used to record and monitor IT resource utilization and availability (T5.1, 5.2, 5.5)

k5.6 methods used to evaluate and report on IT resource performance (T5.1, 5.2, 5.5)
k5.7 interoperability, standardization and economies of scale (T 5.2)
k5.8 data management and data governance concepts (T 5.1, 5.3)
k5.9 service level management concepts (T5.1, 5.6)
Appendix B

Item Development Checklist

Before submitting an item, you must be able to answer YES to all of the following questions.

1. Does the item test a CGEIT concept at the appropriate experience level of the test candidate?

2. Does the item test only one CGEIT concept?

3. Is the item clear, concise and free of unnecessary or ambiguous terms?

4. Is there enough information in the stem to allow for only one correct answer? A candidate must not be able to interpret a distractor as correct based on assumptions due to a lack of information in the stem!

5. Is there only one possible or best answer in any situation, organization or culture? Many items are returned because there is more than one possible key based on situations not addressed in the stem.

6. Are the stem and all options compatible with each other? For example: “Which of the following controls…?” All options must be controls.

7. Does the item have plausible distractors but only one correct answer?

8. Does the item avoid words or phrases in the key that already appear in the stem?

9. Does the item avoid subjective terms such as “frequently,” “often,” “common”… in the stem and options?

10. Does the item avoid absolute terms such as “all,” “never,” “always”… in the stem and options?

11. Does the item avoid such terms as “least,” “not,” “except”…?