

Competency in IT required for the entry level CA-IT derives from knowledge and experience. The level of knowledge required varies according to topic, for example, you may be required to understand operating systems platforms, but you will not be expected to analyze usage or to advise on changes to the operating systems deployed.

There are three levels of knowledge that increase in complexity and depth: (1) Core, (2) Metric, and (3) Advisory:

Core represents the knowledge appropriate to understand, identify, and describe the underlying component(s)

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Metric uses the core knowledge to assess, determine, analyze, and measure a real-world Situation

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Advisory takes the metric knowledge to advise and conclude with sponsors and stakeholders.

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1) Enterprise Architecture and Strategic Information System Planning

1a) Enterprise or business strategy and vision

- i) Understand the business focus of the entity
- ii) Understand the position of the entity within its industry
- iii) Understand the operational dynamics that influence the business
- iv) Understand the business processes as they relate to the strategic plan
- v) Understand the internal and external business drivers that impact Information Technology
- vi) Understand enterprise architecture - the relationship between business strategy and IT strategy
- vii) Understand the need for executive leadership and effective IT communications strategy
- viii) Understand existing and potential IT and business risks associated with IT

1b) Current IT environment

- i) Determine the current status of the entity's use of IT to support its business processes – Enterprise architecture and IT infrastructure (*see section 2*)
- ii) Assess IT risk and opportunity
- iii) Assess stakeholder attitude

1c) Future IT environment

- i) Assess external environment
- ii) Assess major IT trends and their potential business impacts
- iii) Assess the future status of the entity's system
- iv) Assess the future IT strategy in the context of the entity's business strategy

1d) IT strategic plan

- i) Assess IT management's goals and objectives
- ii) Assess overall feasibility and scope
- iii) Identify business constraints and priorities
- iv) Assess action plans and timelines
- v) Identify the elements of transition
- vi) Determine process for creating and executing the IT strategic plan
- vii) Determine critical success factors
- viii) Determine appropriate measurements for the IT strategy
- ix) Assess the alignment of the IT and business strategies (Enterprise Architecture)
- x) Conclude by obtaining sponsor and stakeholder approval

2) Information Technology Architecture and Infrastructure

2a) IT architecture and infrastructure

- i) Describe information technology architecture – the information and computer technology components of an enterprise architecture.
- ii) Describe the components of IT Infrastructure
- iii) Understand various computer hardware platforms
- iv) Understand operating systems platforms
- v) Understand enterprise and other software applications
- vi) Understand data management and storage
- vii) Understand networking/telecommunications standards and platforms
- viii) Understand internet standards and platforms
- ix) Understand consulting and systems integration services
- x) Understand emerging and enabling technologies
- xi) Understand the strategic role of business intelligence and knowledge management

2b)Current capabilities

- i) Analyze IT infrastructure
- ii) Assess computer hardware platforms capabilities
- iii) Assess software platforms and applications capabilities
- iv) Assess data management and storage capabilities
- v) Assess networking/telecommunications/internet platform capabilities
- vi) Assess consulting and system integration services
- vii) Assess internal IT procedures and IT personal
- viii) Assess data, information and knowledge management capabilities
- ix) Assess IT infrastructure alignment with business strategy

2c) Entity practices

- i) Assess organizational structure
- ii) Assess job functions and descriptions
- iii) Assess system reliability (*section 6*)
- iv) Assess training and development
- vi) Assess sourcing of IT infrastructure services and components
- vii) Assess I T Governance (*section 7*)

3) Business Process Enablement

3a) Stakeholders and requirements

- i) Identify key business system stakeholders and their information requirements
- ii) Assess their business system functionality and performance requirements

3b) The entity's business

- i) Understand business models
- ii) Assess the effectiveness of the entity's business processes

3c) Business processes - risks and opportunities

- i) Assess business processes in the context of an enterprises architecture's support of business strategy
- ii) Identify and assess barriers and enablers
- iii) Advise approaches to barriers and enablers
- iv) Assess procedures to manage changes to business processes

3d) Impact of IT on the entity's business models and processes

- i) Assess the business impact of evolving and emerging information technologies.
- ii) Assess the feasibility of existing legacy systems modifications /integration to accommodate new business process adoption or modification

3e) Business processes

- i) Assess business process
- ii) Advise management on appropriate solutions

4) System Development, Acquisition, Implementation, and Project Management

4a) Technology enabled business opportunities

- i) Identify high level business requirements
- ii) Assess internal IT skill capacity
- iii) Assess preliminary solution search
- iv) Assess business and IT risk and the business case
- v) Advise management on appropriate solutions

4b) System acquisition process for commercially available solutions or service providers

- i) Assess business requirements
- ii) Assess vendor selection process
- iii) Assess product gap analysis

4c) Systems development life cycle (SDLC) methods and associated tools and techniques

- i) Understand alternate SDLC models and the application development environment
- ii) Assess business requirements
- iii) Assess high-level conceptual design and related investment and risks
- iv) Assess system design specification
- v) Advise on optimal development approach
- vi) Understand system modeling tools and techniques

4d) Systems implementation processes and techniques

- i) Assess system implementation plan
- ii) Assess user impacts and adequacy of training
- ii) Assess acceptance testing approach
- iii) Assess data conversion approach
- iv) Assess project benefits, resources (financial and people) consumed, adequacy of acquisition, development and deployment, and opportunities for improvement

4e) IT Project management

- i) Assess the project initiation including an IT project risk assessment
- ii) Understand project management tools and techniques
- iii) Assess the project plan
- iv) Assess service provider activities, benefits and risks
- v) Assess the ongoing execution of the project plan
- vi) Assess controls over the project
- vii) Assess completion of the project

5) Information Systems Management

5a) IT organization

- i) Assess IT policies, procedures and methodologies that support the entity's strategic plan
- ii) Assess IT organization related to system components
- iii) Assess IT human resource policies
- iv) Advise changes to IT organization and policies

5b) IT operations, effectiveness, and efficiency

- i) Understand the infrastructure and its relationship to applications and user requirements
- ii) Assess human resources management
- iii) Assess processes used to maintain organizational efficiencies
- iv) Assess service provider activities, benefits and risks

5c) Asset management

- i) Understand outsource service contracts and licenses and understand compliance issues
- ii) Understand data ownership, security and reliability issues
- iii) Understand intellectual property issues
- iv) Understand international issues related to cross-border transportation and storage of data
- v) Assess service provider documentation
- vi) Assess creation and maintenance of user documentation
- vii) Assess on-going training and end-user support
- viii) Analyze asset life cycle, including routine technology planning and IT asset management processes

5d) Change control and problem management

- i) Understand change control techniques
- ii) Assess problem management

5e) Performance and financial control over IT resources

- i) Identify and assess performance metrics and related monitoring processes
- ii) Assess service level agreements, performance and compliance.
- iii) Assess controls over IT costs

6) System Reliability

6a) Principles of a reliable system

- i) Understand the Security principle and its related risks
- ii) Understand the Availability principle and its related risks
- iii) Understand the Processing Integrity principle and its related risks

6b) Controls that provide for system reliability

- i) Understand the controls that provide for system security
- ii) Understand the controls that provide for system availability
- iii) Understand the controls that provide for system processing integrity

6c) On-line privacy and confidentiality issues

- i) Understand confidentiality and the protection of the privacy of personal information
- ii) Understand intellectual property protection issues
- iii) Understand current legislation

6d) Seal and assurance programs

- i) Understand the value of independent verification of assertions or subject matter
- ii) Understand the work standards that govern assurance programs
- iii) Understand assurance reports and restrictions on seal posting

6e) Reliability of the entity's systems and system reliability criteria

- i) Assess the definition and documentation of the entity's policies, objectives, and standards
- ii) Assess the communication of the entity's defined policies, objectives, and standards to authorized users and personnel responsible for implementing them
- iii) Assess the procedures the entity utilizes to achieve and maintain its objectives in accordance with its established policies and standards and to protect the system against potential risks
- iv) Assess the entity's monitoring activities of the system as well as environmental and technological changes to enable the entity to identify potential impairments to system reliability and to take appropriate action to achieve and maintain compliance with its defined objectives, policies, and standards

7. It Governance and regulations

- i) Assess framework for IT Governance
- ii) Establish risk thresholds for critical information assets and information -dependent functions and objectives
- iii) Establish broad IT program principles and assign senior management accountabilities for IT
- iv) Ensure appropriate IT requirements for strategic partners and vendors.
- v) Protect stakeholders interests dependent on IT
- vi) Comply with external IT requirements (law - e.g. PIPEDA and technology standards)
- vii) Establish requirement for internal and external auditors of the program
- viii) Specify the IT metrics to be regularly reported to the Board
- ix) Assess IT Governance policies and procedures