Platform Technologies – 5%
Domain Scope
1. Comparison of various operating systems available, including their respective characteristics, advantages and disadvantages
2. Selection, deployment, integration and administration of platforms or components to support the organization's IT infrastructure
3. Fundamentals of hardware and software and how they integrate to form the essential components of IT systems.

Domain Competencies
A. Describe how the historical development of hardware and operating system computing platforms produced the computing systems we have today. *(Computing systems)*
B. Show how to choose among operating system options, and install at least an operating system on a computer device. *(Operating systems)*
C. Justify the need for power and heat budgets within an IT environment, and document the factors needed when considering power and heat in a computing system. *(Computing infrastructure)*
D. Produce a block diagram, including interconnections, of the main parts of a computer, and illustrate methods used on a computer for storing and retrieving data. *(Architecture and organization)*

Platform Technologies Subdomains
01 Perspectives and impact
(Level 1 minimal degree of engagement)
Competencies:
   a. Describe how the historical development of hardware and operating system computing platforms produced the computing operating systems we have today.

02 Operating Systems
(Level 3 large degree of engagement)
Competencies:
   a. Describe how the components and functions of an operating system work together to provide a computing platform.
   b. Demonstrate the ability to use both Windows and Unix-class systems.
   c. Describe how the similarities and differences between Windows and Unix-class systems provide different advantages for these computing platforms.
   d. Demonstrate the main benefits of using scripts to perform operating systems tasks by automating a computing task.

03 Computing infrastructures
(Level 2 medium degree of engagement)
Competencies:
   a. Analyze the power requirements for a computer system.
   b. Justify the need for power and heat budgets within an IT environment.
   c. Describe how the various types of servers meet different organizational requirements.
   d. Justify the need for hardware and software integration.

04 Architecture and organization
(Level 1 minimal degree of engagement)
Competencies:
   a. Describe how numbers and characters are represented in a computer.
   b. Produce a block diagram, including interconnections, of the main parts of a computer.
   c. Describe how a computer stores and retrieves information to and from memory and hard drives.
   d. Produce a definition for each of these terms: bus, handshaking, serial, parallel, data rate.

05 Application execution environment
(Level 1 minimal degree of engagement)
Competencies:
   a. Design a simple finite state machine with at least six states and four conditional branches, then build and troubleshoot it.
   b. Compare the performance of two different computers with two different operating systems.
   c. Illustrate the advantages and disadvantages of the five main hardware implementation options.

Note: Level L1 (L1) used within a subdomain indicates a minimal degree of engagement associated with the learning proficiency of the fundamentals of the subdomain.

Levels 2 (L2) and 3 (L3) used within a subdomain indicate medium and large degrees of learning engagement associated with the application and transferring of learning to complex problems and situations.