

ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

LEVEL II EXAMINATION - JULY 2023

(202) INFORMATION SYSTEMS IN DIGITAL ENVIRONMENT

• **Instructions to candidates** (Please Read Carefully):

- (1) **Time Allowed:** Reading : 15 minutes.
Writing : 03 hours.

- (2) **All questions should be answered.**

- (3) **Answers should be in the medium applied for, in the booklets provided.**

- (4) **State clearly assumptions made by you, if any.**

- (5) **Action Verb Check List** with definitions is attached. Each question will begin with an **action verb** excluding OTQ's. Candidates should answer the questions based on the **definition** of the verb given in the Action Verb Check List.

- (6) 100 Marks.

20-08-2023

Morning

[08.45 – 12.00]

No. of Pages : 08

No. of Questions : 07

SECTION A

Objective Test Questions (OTQs)

(Total 25 marks)

Question 01

Select the most correct answer for question No. 1.1 to 1.10. Write the number of the selected answer in your answer booklet with the number assigned to the question.

- 1.1** When considering functions performed by an Information System (IS), which one of the following is correct?

- (1) IS always utilises Artificial Intelligence. (2) IS converts information into data.
(3) IS stores information for later use. (4) IS always encrypts data.

- 1.2** Which one of the following includes only operating systems?

- (1) iOS, Android, Unix, and Python.
(2) Windows 11, Unix, Java, and Linux.
(3) Proxy server, Linux, Android, and iOS.
(4) Android, Unix, Linux, and MS Windows.

1.3 Consider the basic features relating to different mobile computing devices given in the following table:

Row Number	Feature	Mobile Computing Device		
		Laptop	Smart Phone	Tablet
(a)	Operating System support	Windows, Linux, Mac OS X	iOS, Android, Windows	iOS, Windows, Linux
(b)	Connectivity	LAN, Wi-Fi, Bluetooth	Wi-Fi, 4G, Bluetooth	Wi-Fi, 4G, Bluetooth
(c)	Average size of the display screen	12 - 15 Inches	Less than 7 Inches	8 - 13 inches

Of the above, the correct feature/s relating to each mobile device is / are:

- (1) (a) only. (2) (b) and (c) only.
 (3) (a) and (c) only. (4) All of the above.

1.4 You are provided the following statements with reference to the Data Base Management System (DBMS):

- (a) MySQL and MS Access are two examples for DBMS.
 (b) A DBMS is a hardware for creating and managing databases.
 (c) A DBMS provides a systematic way to create, retrieve, update and manage data.

Of the above, the correct statement/s is / are:

- (1) (a) only. (2) (a) and (b) only.
 (3) (a) and (c) only. (4) (b) and (c) only.

1.5 Which of the following is an Information System for business activities involving the collection, storing, modifying and retrieval of all transaction data?

- (1) Online Analytical Position System (OLAP).
 (2) Transaction Processing System (TPS).
 (3) Management Information System (MIS).
 (4) Office Automation System (OAS).

1.6 Which one of the following is a measure for a green data centre?

- (1) Virtualization.
- (2) Energy Conservations.
- (3) Eco friendly design.
- (4) All of the above.

1.7 **Supun Perera**, an area manager of a popular supermarket chain is in the need of using an appropriate business intelligence tool for retrieving the types of products sold from each product category within the branches of the Western Province as soon as the sales transactions occur.

Which one of the following tools will be most suitable to achieve this objective?

- (1) Online analytical processing.
- (2) Online data cropping.
- (3) Data wrangling.
- (4) Data manipulation.

1.8 What is the act introduced to prevent the possession and use of unauthorized or counterfeit payment devices and to create offences connected with the possession or use of unauthorized payment devices?

- (1) Computer Crime Act No. 24 of 2007.
- (2) Payment and Settlement Systems Act No.28 of 2005.
- (3) Payment Device Fraud Act No. 30 of 2006.
- (4) Electronic Transaction (Amendment) Act No. 25 of 2017.

1.9 Of the following, which statement closely describes the meaning of “cyber bullying”?

- (1) An aggressive, intentional act carried out by a group or an individual, using electronic forms of contract against a victim who cannot easily defend herself / himself.
- (2) A process of breaching one’s privacy and confidential information by way of unauthorized intrusion.
- (3) A process of getting extensively attached to the cyber space such that a person gets disconnected from the society.
- (4) Representing oneself as someone else in cyber space by using their personal identifying information to commit crimes.

1.10 Which one of the following is **not** correct with reference to cyber security?

- (1) It covers only safeguarding confidentiality and privacy of data.
- (2) Downloading and installing the latest software is a step to improve cyber security.
- (3) It avoids or reduces any disruption from an attack on data, computers or mobile devices.
- (4) Malware is one of the most common threats countered by cyber security.

(02 marks each, 20 marks)

*State whether each of the following statements from 1.11 to 1.15 is **True** or **False**. Write the answer (True/False) in your answer booklet with the number assigned to the question.*

1.11 Before the advent of information systems, managers did not have to rely on their instinct for decision making.

1.12 An application software is responsible for managing and controlling the hardware of a computer.

1.13 Management Information Systems (MIS) monitor, collect, store, and process data generated from all business transactions.

1.14 Ransomware, spyware and adware can be considered as intentional and malicious information security threats to information systems.

1.15 The abbreviation MOOC stands for: Massive Online Operating Communities.

(01 mark each, 05 marks)

(Total 25marks)

End of Section A

SECTION B

(Total 50 marks)

Question 02

(a) In today's competitive business world, Information Systems are essential for organizational success.

You are required to:

Explain two (02) characteristics of quality information. (03 marks)

(b) **Explain** two (02) ways how Information Systems and Information Technology help to improve an organization's responsiveness to new developments in the market. (03 marks)

- (c) **Identify** a suitable software application that can be used for personal information management in each for the following instances:
- (i) Calendar management.
 - (ii) Task management and reminders.
 - (iii) Location tracking.
 - (iv) Cloud-based storage of information. (01 mark each, 04 marks)
- (Total 10 marks)

Question 03

- (a) **Cool Drinks**, a newly established beverage distribution agency is considering increasing its productivity by using modern mobile apps and other applications.

You are required to:

List three(03) general purpose software applications that can be used to improve the productivity of **Cool Drinks** with an example for each. (03 marks)

- (b) A Database Management System (DBMS) consists of several functions which ensure the integrity and consistency of the data stored.

You are required to:

(i) **Explain** two(02) factors that should be considered by an organization before selecting an appropriate database to streamline their data management process. (04 marks)

(ii) **State** three(03) disadvantages of DBMS. (03 marks)

(Total 10 marks)

Question 04

Proper planning helps an organization to set realistic objectives and assign stipulated time for those goals to be met. Enterprise Resource Planning (ERP) Systems are becoming essential for today's businesses because of its unique features.

You are required to:

- (a) **Differentiate** between tactical planning and strategic planning within an organization. (04 marks)

(b) **State** three(03) activities of operational management level. (03 marks)

(c) **List** two(02) advantages and one(01) disadvantage of using ERP systems. (03 marks)

(Total 10 marks)

Question 05

While the use of social media is becoming increasingly popular, certain social media platforms can be specifically identified as more suitable for personal or professional use. Also with the continued popularity of social media and internet-based applications, the need of building eco-friendly data centers has increased. However, computer crimes and cyber-crimes introduce numerous risks in the digital world with the rapid growth of social media usage.

You are required to:

- (a) **Describe** two(02) types of social media that are identified as more suitable for professional use. (04 marks)
 - (b) **Explain** a relevant legal provision that can be used to protect against computer crimes in Sri Lanka. (03 marks)
 - (c) **Identify** three(03) advantages of cloud computing. (03 marks)
- (Total 10 marks)

Question 06

- (a) **Nuwan** owned several patents to produce automotive components but he does not have adequate capital to start commercial manufacturing of those. He plans to invite people who are interested in manufacturing auto parts by raising capital to join him.

You are required to:

Explain the possibility of using crowd-funding by **Nuwan** to raise the capital needed to start up the manufacturing process. (04 marks)

- (b) “The application of robotics has increased over the period within organizations around the world due to several advantages that these technologies carry. As a result, they have become quite popular in all types of manufacturing functions.”

You are required to:

Explain three(03) reasons for using robotics by modern organizations. (06 marks)
(Total 10 marks)

End of Section B

SECTION C

(Total 25 marks)

Question 07

A restaurant chain which has covered all provinces of the island with the state-of-the-art facilities is going to strengthen its information systems with modern features. It offers a wide range of products and plans to promote its products among the youth.

As the next step in the business development plan, the restaurant is going to introduce a mobile app for online ordering with mobile payment options. In addition to the mobile app, an e-commerce website is being developed to provide non-mobile customers with online payment facilities for their orders. Cash-on-delivery option is also available for all mobile app users and web users.

In the next phase of the development plan, a production automation system will be introduced using robotic technology in the restaurant's kitchen. Furthermore, they plan to upgrade the existing information system components with cloud backup facility to meet the above-mentioned requirements.

The restaurant is planning to set up a Communication Management System to connect employees, suppliers and customers with a fully automated Real-time Inventory Management System and Customer Relationship Management System.

You are required to:

- (a) **Explain** three(03) types of Information Systems that can be used by different management levels of the restaurant chain. (06 marks)
- (b) **Explain** two(02) benefits of using mobile payment options by the restaurant chain. (04 marks)
- (c) **Explain** the impact of the above Real-time Inventory Management System and the Customer Relationship Management System on the restaurant chain. (06 marks)
- (d) **Explain** the importance of data visualization for the restaurant chain. (04 marks)
- (e) **State** five(05) benefits received by the restaurant through the operation of its e-commerce website. (05 marks)

(Total 25 marks)

End of Section C

ACTION VERBS CHECK LIST

Level of Competency	Description	Action Verbs	Verb Definitions
Knowledge (1)	Recall Facts and Basic Concepts.	Draw	Produce a picture or diagram.
		Relate	Establish logical or causal connections.
		State	Express details definitely or clearly.
		Identify	Recognize, establish or select after consideration.
		List	Write the connected items.

Level of Competency	Description	Action Verbs	Verb Definitions
Comprehension (2)	Explain & Elucidates Ideas and Information.	Recognize	Show validity or otherwise, using knowledge or contextual experience.
		Interpret	Translate into understandable or familiar terms.
		Describe	Write and communicate the key features.
		Explain	Make a clear description in detail using relevant facts.
		Define	Give the exact nature, scope or meaning.

Level of Competency	Description	Action Verbs	Verb Definitions
Application (3)	Use and Adapt Knowledge in New Situations.	Reconcile	Make consistent / compatible with another.
		Graph	Represent by graphs.
		Assess	Determine the value, nature, ability or quality.
		Solve	Find solutions through calculations and/or explanation.
		Prepare	Make or get ready for a particular purpose.
		Demonstrate	Prove or exhibit with examples.
		Calculate	Ascertain or reckon with mathematical computation.
		Apply	Put to practical use.

Level of Competency	Description	Action Verbs	Verb Definitions
Analysis (4)	Draw Connections Among Ideas and Solve Problems.	Communicate	Share or exchange information.
		Outline	Make a summary of significant features.
		Contrast	Examine to show differences.
		Compare	Examine to discover similarities.
		Discuss	Examine in detail by arguments.
		Differentiate	Constitute a difference that distinguishes something.
		Analyze	Examine in details to find the solution or outcome.