

ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

LEVEL II EXAMINATION - JULY 2021

(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.

24-10-2021

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 Select the correct statement with reference to information:

- (1) Information can be utilized to serve as inputs for producing results.
- (2) Information is not specific in its nature.
- (3) Information is derived from data.
- (4) Information cannot be measured.

1.2 A student is planning to buy an Android OS-based smartphone with a data connection. The following information has been provided in relation to above scenario:

- (a)** Send and receive emails.
- (b)** Watch YouTube videos.
- (c)** Call and message relatives in a foreign country.
- (d)** Book a taxi.

Of the above, select the possible activities that can be performed using the smartphone:

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

1.3 An Accountant is planning to purchase an internet connection for a company. You have given the following internet connection technologies available in the global context:

- (a)** Optical Fibre.
- (b)** Asymmetric Digital Subscriber Line.
- (c)** 6G.
- (d)** 4G LTE.

Of the above, the internet connection technologies that are available in Sri Lanka are:

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

1.4 Sales Management Systems, Budgetary Systems and Human Resource Management Systems are examples for:

- (1) Transaction Processing Systems.
- (2) Decision Support Systems.
- (3) Executive Information Systems.
- (4) Management Information Systems.

1.5 Which one of the following is a requirement for the implementation of Business Expert System?

- (1) Financial Audit Features.
- (2) Artificial Intelligence Techniques.
- (3) Data Encryption.
- (4) Systems connected to Social Media.

1.6 A supermarket has data in relation to transactions carried out by over 1 million customers who used a loyalty card within their supermarket network in Sri Lanka.

The following information is provided in relation to the above scenario:

- | | |
|--------------------------------------|---|
| (a) Data visualisation tools. | (b) Internal auditing platforms. |
| (c) Big data platforms. | (d) Office automation tools. |

Of the above, select the techniques / tools which can be used by the organisation to analyse customers' data:

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

1.7 An employee working from home during the COVID-19 pandemic got an email which appeared to indicate that it was sent by his office asking him to verify his email user name and password. However, he noticed that the senders URL is different from his company's URL. This form of threat is known as:

- | | |
|----------------------|------------------------|
| (1) Backdoor access. | (2) Spyware. |
| (3) Phishing. | (4) Denial of service. |

1.8 A computer program developed in-house for a finance company has been stolen by a former employee and sold it to another company as his own product. Under which of the following laws, can the company prosecute against that former employee?

- (1) Intellectual Property Act No. 36 of 2003.
- (2) Electronic Transactions Act No. 19 of 2006.
- (3) Computer Crimes Act No. 24 of 2007.
- (4) Electronic Transactions (Amendment) Act No. 25 of 2017.

1.9 In the COVID-19 pandemic, many companies decided to use innovative products to reduce the risk of COVID-19 virus transmission during their day to day tasks. "Lanka QR" is a project initiative from the Central Bank of Sri Lanka which is helpful in this purpose. In this aspect, the function performed by "Lanka QR" is:

- (1) To act as a crypto-currency used in Sri Lanka.
- (2) To ensure all QR Codes and QR based transactions are standardized.
- (3) To identify a person's National Identity Card (NIC).
- (4) To record and share the data across multiple data sources.

1.10 “Kickstarter” and “Indiegogo” are examples for:

- (1) Cryptocurrency.
- (2) Encryption algorithms.
- (3) Crowd-funding platforms.
- (4) Payment gateways.

(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 Input, process and output are the fundamental components of an information system.

1.12 The term “CRM” related to information systems is used as an abbreviation to describe “Customer Relationship Matching” systems.

1.13 Data mining is used in the fields of credit card services to detect frauds.

1.14 One advantage of using social media is the inability for one to carry out identity theft on social media.

1.15 Bitcoin is an example for a popular crypto currency. (01 mark each, 05 marks)

(Total 25marks)

_____ *End of Section A* _____

SECTION B

(Total 50 marks)

Question 02

Information technology has become a vital and integral part of every business organization. Growth in information technology and information system impacts on business organizations in different ways.

You are required to:

(a) **Explain** three(03) ways how information technology and information systems have affected to the operations of business organizations. (05 marks)

(b) “Information systems are popular today primarily due to the fact that they can be downloaded free of charge from the Internet”.

State whether you can agree with this statement with a justification for your answer.

(02 marks)

(c) The examination process used of an educational institute includes activities such as student registration, payments for the examinations, issuing of admissions, issuing of results, etc.

Explain how ICT can be applied to improve the effectiveness and efficiency of the examination process. (03 marks)

(Total 10 marks)

Question 03

Due to the COVID-19 pandemic, most of the schools and higher education institutes are conducting online classes. A student is planning to buy a laptop computer to support her online classes.

You are required to:

(a) **List** two(02) types of operating systems that can be found on a new laptop computer bought today. (02 marks)

(b) She is planning to store all her assignment files in the hard drive of the laptop. A friend suggests to use either Google Drive or One Drive.

State two(02) advantages and two(02) disadvantages of using hard drive Vs Google Drive or One Drive. (04 marks)

(c) Assume that the student has a smart phone with 4G internet connection.

Explain how the student can access the internet from the smart phone (*state any assumptions*). (04 marks)

(Total 10 marks)

Question 04

Lanka Garments is a garment manufacturer operating 15 factories in Sri Lanka. The products manufactured in Sri Lanka are bought by **Sarah Clothing Company, USA** and sold online at their website as well as through the traditional stores in US, UK, Japan and Australia. The head office of **Lanka Garments** is in Piliyandala, and they are not allowed to sell their products locally due to the intellectual property agreement entered into with **Sarah Clothing Company, USA**. The material and other accessories used for the production of garments are sourced by **Lanka Garments** from their suppliers in China. The company has a total of 3,300 employees working in the 15 factories.

You are required to:

Explain five(05) types of information systems / modules that might be required by **Lanka Garments** (*the need for each information system should be clearly justified*).

(10 marks)

Question 05

Social Networks are quite popular especially among young and old who have access to smartphones. Social networks allow users to share ideas, digital photos and videos, posts, etc. However, there is a possibility that social network accounts are hacked by others.

You are required to:

- (a) **List** four(04) Social Network platforms currently in use. (04 marks)
 - (b) **Explain** two(02) possible steps that can be taken by users to strengthen their social network accounts against illegal access. (04 marks)
 - (c) **State** two(02) negative impacts of social media and networks on individuals and society. (02 marks)
- (Total 10 marks)

Question 06

- (a) MOOC is a new trend of E-learning and it's a possible pathway to learn, gain knowledge as well as provide a valid certification.

You are required to:

- (i) **Explain** the term MOOC with its two(02) characteristics. (04 marks)
 - (ii) **List** two(02) names of educational sites providing "MOOC" service. (02 marks)
- (b) **Explain** two(02) ways how "FinTech" impacts on organisations. (04 marks)
- (Total 10 marks)

End of Section B

SECTION C

(Total 25 marks)

Question 07

Lanka Health is a group of hospitals that has an excellence history of 20 years in healthcare industry in Sri Lanka. It maintains five hospitals in Colombo, Kandy, Kurunegala, Galle and Anuradhapura respectively. **Lanka Health Labs**, which is under the **Lanka Health Group** conduct diagnostic testing at 10 locations around the country. Their network of 70 collection centres enables samples to be collected efficiently and this has resulted triple the number of tests that are conducted per day (*approximately 15,000 tests per day*).

The aim of **Lanka Health** is to be the leading Health Care provider in South Asia, and they are planning to further expand their services to promote Sri Lanka as a healthy tourism destination. Leading health accreditations such as ISO 15189:2007 – a global certification specific to medical laboratories, ISO 9001:2008 quality management systems certification and ISO 14001:2004 environmental management systems certification have been already awarded for the excellent services provided by **Lanka Health**. Recently, they have been accredited by JCI (Joint Commission International) with the Gold Seal of approval for the quality and patients safety.

Lanka Health's medium term goals are to ensure that their customers are able to have an efficient service related to diagnostic reports and to support their medical consultants with real time records of patients. Further, **Lanka Health** is also aspiring to be a "Green" hospital with zero paper usage.

You are required to:

(a) **Explain** a possible IT strategy that **Lanka Health** can adopt to achieve zero paper usage. (03 marks)

(b) "Real-Time patient records will enable medical consultants to make informed decisions related to patients' health."

Explain a possible IT strategy that the company can adopt to reach this objective. (03 marks)

(c) **Explain** four(04) components of IT Infrastructure that the company might have to invest for the achievement of strategies mentioned in (a) and (b) above. (08 marks)

(d) **Explain** four(04) possible applications which needs to be considered when developing a mobile app for **Lanka Health** (*State any assumptions*). (08 marks)

(e) **List** three(03) key factors to be considered when selecting a database for **Lanka health**. (03 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.