ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA
LEVEL II EXAMINATION - JANUARY 2021
(202) INFORMATION SYSTEMS IN DIGITAL ENVIRONMENT

21-03-2021
Morning
[08.45 – 12.00]

No. of Pages   : 08
No. of Questions : 07

- **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.*

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   Consider the following elements:

(a) Input.   **(b)** Output.

(c) Process.   **(d)** Feedback.

Of the above, the correct elements of an information system are:

(1) **(a)** and **(b)** only.   (2) **(b)** and **(d)** only.

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

1.2 **Amal,** a student, is using services such as Dropbox, One Drive, Google Drive, etc. The following statements are given in relation to **Amal**:

(a) He can store unlimited amount of data.

(b) He can access the file by multiple devices, if those are connected to the Internet.

(c) He can share the files easily with another person.

(d) He can access the files using a web browser on a computer connected to the Internet.

Of the above, the correct statements are:

(1) **(b)** and **(c)** only. (2) **(a), (b)** and **(c)** only.

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

1.3 Consider the following factors with reference to a database:

(a) Structure of the Data. **(b)** Size of the Data to be stored.

(c) Speed of the Data (Internet) Connection. **(d)** Security of Data.

Of the above, the key factors to be considered when designing a database are:

(1) **(b)** and **(c)** only. (2) **(a), (b)** and **(c)** only.

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

1.4 "This type of information system monitors, collects, stores and processes data generated from all business transactions. Typical examples include Electronic Point of Sale Systems and Airline Reservation Systems."

Which one of the following category of information systems closely matches the above description?

(1) Transaction Processing System. (2) Decision Support System.

(3) Executive Information System. (4) Management Information System.

1.5 Which of the following is **not** a factor that should be considered when selecting an IT infrastructure or an information system?

(1) Usability. (2) Security.

(3) Integration. (4) Complexity.

1.6 Of the following, select the scenario where the data available is **not** sufficient for using data mining:

(1) Data pertaining to transactions of the stock market over a period of one year.

(2) Data pertaining to the marks obtained by the best student of an Examination.

(3) Data pertaining to inward foreign remittances of a Commercial Bank during the last month.

(4) Data pertaining to transactions carried out at a supermarket chain during a week.

1.7 Instagram is an example for which of the following category of Internet based service?

(1) Social Network.

(2) Social Media.

(3) Micro Payments.

(4) Affiliate Marketing.

1.8 A finance company has noted that an illegal financial transaction has taken place in its ERP system. After an internal investigation, the company has found out that one of its employees has illegally accessed the system using the login belonging to the accountant of the company. Under which of the following laws can they prosecute the 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 The following examples are given for driving forces of 4th Industrial Revolution:

(a) Emerging Technologies.

(b) Cyber-Physical Systems.

(c) Data Analytics.

(d) Databases.

The correct examples for driving forces of 4th Industrial Revolution are:

(1) **(a), (b)** and **(c)** only.

(2) **(a)** and **(b)** only.

(3) **(b)** and **(d)** only.

(4) **(b)** and **(c)** only.

1.10 "This is a type of distributed ledger technology, and is behind a large variety of crypto currencies".

Which of the following closely matches the above explanation?

(1) Blockchain.   (2) Bitcoin.   (3) Litecoin.   (4) Paypal.

(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 Setting up an Expert System can enable a company to speed up transaction time.

1.12 The maximum download speed of a broadband 4G Internet connection in Sri Lanka is in the range of 1-100 Mbps.

1.13 Mobile marketing is a M-commerce application.

1.14 Malware is an information security threat.

1.15 Infographics are a type of graphics created using Artificial Intelligence.

(01 mark each, 05 marks)

(Total 25marks)

———————— *End of Section A* ————————

SECTION B

(Total 50 marks)

Question 02

From the start of the COVID-19 pandemic, technology is playing a crucial role in keeping our society functional in times of lockdown and quarantine.

You are required to:

(a) **State** four(04) characteristics of quality information.   (02 marks)

(b) **Explain** three(03) methods as to how Information Technology is used with COVID-19 pandemic.   (06 marks)

(c) **Explain** what is meant by an Information System (IS).   (02marks)

(Total 10 marks)

Question 03

A student attending a higher educational establishment has been informed that all classes will be moved online (i.e., lectures will be held online real-time). He currently has a smartphone with no data connection. However, his parents will be able to give him financial support to purchase any devices or service subscription.

You are required to:

(a) **List** two(02) applications to be installed on his smartphone that might be useful for him to follow the live lectures and recorded versions of them. *(State any assumptions.)*   (02 marks)

(b) **State** two(02) services which he can subscribe to such that he can get the necessary Internet connectivity.   (02 marks)

(c) "He must learn to use the software Microsoft Word and Microsoft Excel as part of his courses."

   State two(02) any further devices he requires to follow the lessons.   (02 marks)

(d) The student is planning to get a USB Flash Drive to store notes. A friend of him suggests that there is no requirement to purchase one.

   State whether you can agree with his friend's statement with justifications for your answer.
   (04 marks)
   (Total 10 marks)

Question 04

LakTea, is a tea brand which caters Ceylon Tea for local and foreign markets. They own factories in Thalawakelle and Deniyaya. They have their Office in Colombo 01, and the warehouse complex in Peliyagoda. The company exports tea to Europe and Middle East. Currently they have no computerised information system and are now planning for implementation.

You are required to:

(a) **Explain** three(03) types of Information Systems / Modules that might be required by **LakTea**. *(You should also clearly justify the need for each information system / Module.)*
   (06 marks)

(b) Business Process Outsourcing (BPO) is a method of contracting various business related operations to third party service providers.

   State four(04) advantages of Business Process Outsourcing (BPO).   (04 marks)
   (Total 10 marks)

Question 05

(a) **Mr. Amarasingham** is an Entrepreneur who uses email facility frequently for his business purposes. In recent times, he is noticing an increase in the amount of unsolicited emails he is receiving. He has recently provided his email address to a Bank during the KYC (Know-Your Customer) process, and suspects that an employee of the bank may have shared his email address with a third-party e-marketing company.

Saman, a friend of **Mr. Amarasingham** says that this situation is only possible if someone has hacked into his email account.

You are required to:

(i) **State** whether you can agree with his friend's statement with justifications for your answer. (03 marks)

(ii) **Explain** two(02) possible steps that can be taken by **Mr. Amarasingham** to ensure that he has less unsolicited emails. (04 marks)

(b) A friend of yours informs you that someone has uploaded a profile picture of her and created a fake Facebook account.

You are required to:

Explain the best course of action that she can take to mitigate the above adverse effect.

(03 marks)
(Total 10 marks)

Question 06

(a) Green computing is the environmentally responsible and eco-friendly use of computers and their resources. Nowadays, there is a trend to minimize adverse impact of the global environment.

You are required to:

Explain three(03) reasons to adopt green computing practices. (06 marks)

(b) IoT (Internet of Things) is often referred to as one of the driving forces in the 4th Industrial Revolution.

Explain the function performed by Internet of Things (IoT) devices. (04 marks)
(Total 10 marks)

End of Section B

SECTION C
(Total 25 marks)

Question 07

Lanka Biscuits Limited (LBL), is established in 1960, is one of the oldest confectionery manufacturer in Sri Lanka. The company owns more than 50% of the domestic confectionery market share. It exports to over 70 countries.

Currently, **LBL's** distribution chain consists of over 100,000 small-scale businesses and several supermarkets. Their aim is to be the number one confectionery and biscuits brand in Asia.

Ensuring that customers have access to their products wherever and whenever they need is the primary responsibility of the sales team at **LBL**. They have probably the largest field sales force in Sri Lanka, and it is important for them to increase availability of their products and push new innovations to the shelf.

A single member of the field sales team used to compile 15 to 25 invoices by pen and paper and spend 90 minutes a day manually compiling sales updates for top management. With raising more than 15,000 invoices per day, coordinating with distribution teams and then generating reports for monthly review would take more than a day. This manual reporting process is extremely cumbersome.

You are required to:

(a) **Discuss** one possible IT strategy that **LBL** can adopt to increase sales force productivity.

(04 marks)

(b) **Explain** four(04) components of IT Infrastructure that the company might have to invest in to achieve strategy mentioned in (a) above.   (08 marks)

(c) **State** four(04) benefits that **LBL** can get using the Business Intelligence (BI) to the business.   (04 marks)

(d) **List** four(04) possible advantages of maintaining an active social media presence for **LBL**.

(04 marks)

(e) **Explain** the concepts "Big Data" and "Data visualisation".   (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.