



Association of Accounting Technicians of Sri Lanka

Level II Examination - July 2025

Suggested Answers

**(202) INFORMATION SYSTEMS IN DIGITAL ENVIRONMENT
(ISD)**

Association of Accounting Technicians of Sri Lanka
No. 540, Ven. Muruththettuve Ananda Nahimi Mawatha, Narahenpita,
Colombo 05.
Tel : 011-2-559 669

A publication of the Education and Training Division

THE ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

Level II Examination - July 2025

(202) INFORMATION SYSTEMS IN DIGITAL ENVIRONMENT

SUGGESTED ANSWERS

Fifteen (15) Compulsory Questions
(Total 25 Marks)

SECTION - A

Suggested Answers to Question One:

1.1	(4)	1.6	(3)	1.11	TRUE
1.2	(3)	1.7	(4)	1.12	FALSE
1.3	(4)	1.8	(2)	1.13	FALSE
1.4	(3)	1.9	(3)	1.14	TRUE
1.5	(3)	1.10	(4)	1.15	FALSE

(02 marks each, 20 marks)

(01 mark each, 05 marks)

(Total 25 marks)

End of Section A

Suggested Answer for Question Two:

Chapter 01

(a) Differences between data and information.

Basis of Difference	Data	Information
Meaning	Data refers to raw, unrefined facts and figures.	When data is processed, the output thus received is known as information.
Features	Data is available in the form of individual units that possess raw materials only; it does not carry any meaning itself.	Information is a result of processed data it may contain a group of data that collectively depicts logical meaning.
Dependency	Data is not reliant on information. It depends on the sources put to use for its collection.	Information is derived from data.
Peculiarity / Nature	Data by itself is vague. It can be categorized as qualitative or quantitative data variables that are useful for developing ideas or conclusions.	Information is specific in its nature. Generally, it is grouped data that provides news and meaning.
Measurement	Data is measurable in the form of bits and bytes.	Information is measurable in meaningful terms.
Represented as	Data can be collated as tabular data, data tree, graphs, etc.	Information is found as ideas, thoughts, references and language based on given data.
Methods of Use	Data is collected to be useful.	Data, when processed into reliable information, becomes useful.
Use in decision making	Data is of no use in decision making when used in its raw form.	Information or processed data is very useful in decision making.
Level of knowledge	Data provides low-level knowledge.	Information comprises of second level of knowledge.

(Expect only two differences)

(03 marks)

(b) Ways ICT tools assist in analyzing data for informed decision making

- Business Intelligence (BI) platforms and dashboards
These tools aggregate data from multiple sources, visualize trends through charts and key metrics, and enable managers to spot patterns quickly for strategic planning.
- Statistical analysis and data mining software
Applications like R, Python libraries, or specialized data mining tools apply algorithms to detect relationships, forecast outcomes, and segment customers, helping organizations predict future scenarios and tailor decisions.
- Automating Respective Tasks - ICT tools can perform routine data processing and reporting, reducing time and human errors.
- Enhancing Communication – ICT tools (E.g., email, collaborative platforms like Teams or Slack) support faster decision making through effective communication.
- Improved Data Visualization and Communication : ICT tools offer interactive dash boards that allow users to visualize data in various formats making it easier to understand trends and patterns.
- Facilitating Data Collection and Storage – Tools like databases (e.g., SQL Server , Oracle) and cloud storage systems store massive volumes of data securely and accessibly.
- Supporting Decision-Making Processes – Decision Support Systems (DSS) and Management Information System (MIS) analyze data inputs to generate insights for decision-makers.
- Enhanced Data Processing and Analysis – Big data technologies, AI and machine learning enhance data processing and analysis of data to take decisions.

(Expect only two ways)
(04 marks)

(c) Business Process Re-engineering (BPR)

Business Process Re-engineering is the radical redesign of an organization's core processes to achieve dramatic improvements in critical performance measures such as cost, quality, service and speed.

(03 marks)
(Total 10 marks)

Suggested Answer for Question Three:

Chapter 2

(a) List of Software Options

General Purpose Software :

- Word processing software
- Spreadsheet software
- Database software
- Presentation software
- Web browsers
- E-mail software
- Communication software
- Accounting software

(Expect only two software)

Application Specific Software :

- GPS tracking software
- Warehouse management software
- Specialized medical software
- Flood warning system software
- Business process management software
- Inventory management application software.

*(Expect only two software)
(04 marks)*

(b)

1. Real-Time Tracking and Visibility

- **Enhanced Tracking:** Mobile apps allow both companies and customers to track shipments in real time, providing updates on location, estimated delivery times, and any delays.
- **Transparency:** This visibility builds trust with customers, as they can see where their goods are at any moment.

2.Improved Communication

- **Instant Messaging :** Mobile apps facilitate direct communication between drivers, warehouse staff and customers, improving coordination and reducing misunderstandings.
- **Alerts and Notifications :** Companies can send timely alerts about shipment status charges, delays or other important information.

3.Efficiency and Productivity

- **Route Optimization :** Mobile apps can provide drivers with optimized routes, reducing travel time and fuel cost.

4.Data Collection and Analysis

- **Real Time Data:** Mobile apps collect data on delivery times, routes taken and other metrics, which can be analyzed to improve operations.
- **Performance Metrics:** Companies can use this data to monitor driver performance, identify bottlenecks and implement improvements.

5.Customer Engagement and Satisfaction

- **User-Friendly Experience:** A mobile app can enhance customer experience by providing easy access to services, tracking and support.
- **Self-Service Options:** Customers can manage their shipments, schedule pickups and access support directly through the app

6.Cost Reduction

- **Reduced Paperwork:** Mobile apps can digitize paperwork, reducing the need for physical documents and minimizing errors.
- **Operational Savings:** By improving efficiency and communication, companies can reduce operational cost.

7.Competitive Advantage

- **Differentiation:** Offering a robust mobile app can set a company apart from competitors who may not provide the same level of service and technology.
- **Adaption to Trends:** As more consumers rely on mobile technology, having an app can help companies stay relevant and meet customer expectations.

(Expect only two reasons)
(04 marks)

(c)

- Less control. Security, type and size of storage capacities decided by cloud provider.
- Possibilities of service absence. Loss of internet connection, provider outage, provider equipment failure will leads to system halt.
- Need of a dedicated connection to the internet to use the cloud facility.
- Need for training or experience in managing cloud storage.
- Cost of cloud storage and any additional services.

(Expect only two disadvantages)
(02 marks)
(Total 10 marks)

Suggested Answer for Question Four:

Chapter 03

(a) Difference between data analysis and business intelligence

Data Analytics

Data analytics is the process of inspecting, cleaning, transforming, and modeling raw datasets to uncover patterns, test hypotheses, and draw specific insights for a defined problem and to support decision making.

Business Intelligence (BI)

Business Intelligence (BI) refers to the tools, technologies, applications and practices used to collect, integrate, analyze and present an organization's raw data in order to create information which is useful to entire business.

(03 marks)

(b) Advantages of using office automation systems (OAS)

- Reducing the manual effort to complete routine / repetitive tasks
- Minimize manual errors
- Reduction of the processing times
- Better process visibility and identify potential bottlenecks
- Allows better business decisions based on data
- Office functions become faster and process driven.
- All data can be digitized and stored efficiently for future use.

(Expect only two advantages)

(03 marks)

(c) Benefits of a Business Intelligence Program

- Faster and improved, Data-Driven Decision making
- Improved Data Consistency
- Deeper Insight into Market Trends and Patterns
- Enhance Competitive Advantage
- Optimization of internal business processes
- Increasing operational efficiency
- Finding ways for new revenue.

(Expect only four benefits)
(04 marks)
(Total 10 marks)

Suggested Answer for Question Five:

Chapter 04

(a) Negative Impacts of Social Media and Social Networks

- Spread of misinformation and fake news
- Privacy erosion and data exploitation
- Mental health challenges and social comparison
- Cyberbullying
- Hacking
- Loss of reputation.
- Decrease in privacy
- Comparison and envy
- Cyber stalking and harassment
- Social Isolation
- Self-esteem issue
- The decline in face-to-face communication

(Expect only three impacts)
(03 marks)

(b) Information Security Principles

(i) Integrity

Ensures data remains accurate, consistent, and unaltered from creation through use. This means that IT system creators and managers implement controls within the system to ensure that users enter and process data correctly and that conflicting data elements are identified and resolved.

(ii) Availability

Guarantees that authorized users can reliably access systems and data when needed. Achieved through redundant infrastructure, load balancing, backup power supplies, and disaster recovery planning to minimize downtime.

(03 marks)

(c) Factors Influencing Adoption of Green Computing

1. Rapid Growth of the Internet

More and more people are increasingly relying on electronic data. There has been a rapid adoption of Internet based communications and media, computerization of business processes and applications, legal requirements for record retentions and disaster recovery. All these have led to the rapid growth in the size and number of data centers.

2. Increasing Equipment Power Density:

Although advances server CPUs have in some cases enabled higher performance with less power consumption per CPU, overall server power consumption has continued to increase as more servers are installed with higher performance power hungry processors with more memory capacity.

3. Increasing Cooling Requirements

The increase in server power density has led to an associated increase in data center heat density. Servers require approximately 1 to 1.5 watts of cooling for each watt of power used. The ratio of cooling power to server power requirements will continue to increase as data center server densities increase.

4. Increasing Energy Costs

Data center expenditures for power and cooling can exceed that for equipment over the useful life of a server.

5. Restrictions on Energy Supply and Access

In some crowded urban areas utility power feeds are at capacity and electricity is not available for new data centers at any price.

6. Low Server Utilization Rates

Data center efficiency is a major problem in terms of energy use. The server utilization rates average 5-10 per cent for large data centers. Low server utilization means companies are overpaying for energy, maintenance, operations support, while only using a small percentage of computing capacity.

7. Growing Awareness about impact of IT on the Environment

Carbon emissions are directly proportional to energy usage. In 2010 there were approximately 44 million servers worldwide consuming 0.5% of all electricity. Data centers in the U.S use more than 1% of all electricity.

(Expect only two factors)

(04 marks)

(Total 10 marks)

Suggested Answer for Question Six:

Chapter 05

(a) Two ways Sri Lankan businesses can gain competitive advantages with AI-driven applications

- **Enhancing operational efficiency:** AI-powered process automation (e.g., invoice processing, demand forecasting) reduces manual errors and cycle times. This enables leaner operations and faster response to market fluctuations, lowering costs and boosting productivity.
- **Personalizing customer experiences:** Machine-learning-based recommendation engines and intelligent chatbots tailor product suggestions and support interactions in real time. By delivering highly relevant experiences, businesses can increase customer satisfaction, loyalty, and lifetime value.
- **Recommendation system:** By analyzing customer data, AI algorithms can suggest products or services that are highly relevant to individual preferences. This personalized approach increases the likelihood of purchases and fosters customer loyalty.
- **Optimized Marketing Campaigns:** AI can revolutionize marketing efforts by enabling targeted reach and predictive analytics. By leveraging AI algorithms, the business can create effective campaigns that resonate with your ideal customer segments.
- **Targeted Advertising:** AI-powered tools can analyze vast amounts of data to identify target segment demographics, interests and behaviors. This allows us to deliver highly relevant ads that are more likely to be converted.
- **Content Creation:** AI can assist in content generation by suggesting topics, headlines, and even writing entire pieces. This can help to create engaging content that attracts and retains the customer break.
- **Data-Driven Decision Making:** Insights and Actionable intelligence AI can transform decision-making process by providing valuable insights and actionable intelligence. By leveraging the power of AI-powered data analysis, the business can make more informed and strategic choices.
- **Innovation:** AI can drive innovation by enabling new products, services and business models.
- **Differentiation:** By implementing AI solutions, the business can set business apart from competitors and attract customers who value innovation and cutting-edge technology.
- **Strategic Advantages:** AI can accelerate research and development, enabling businesses to create innovative products and services faster. AI-powered automation and optimization can lead to significant cost saving across various business functions.

(Expect only two ways)
(04 marks)

(b) Advantages of using crowdfunding

- Access to diverse funding sources without traditional bank loans or venture capital
- Early market validation as backers (supporters, investors) demonstrates real demand
- Marketing and brand exposure through campaign promotion
- Direct engagement with a community that provides feedback and advocacy
- An effective way to collect money sent in payment or as a gift.
- Create a culture of entrepreneurship, offering new ways for matching entrepreneurs with investors.
- It allows project owners to validate ideas and interventions before targeting traditional donors or financial organizations.
- Crowd funding platforms may be cost-effective intermediaries as they help individual investors and donors navigate complex foreign legal frameworks, allowing them to invest abroad at affordable rates.
- The financial risk of small projects—that are usually perceived as riskier—can be shared with a wider group of investors.
- Holds the promise of democratizing start-ups' financing.
- Companies can use crowd funding platforms to find, communicate, and invest in start-ups they would not have otherwise found.

*(Expect only 4 advantages)
(04 marks)*

(c) Two possible risks associated with crowdfunding

- Potential cyber security breaches
- Risk of fraud
- Risk of platform collapses due to malpractices.
- Inherent political and commercial risks
- Reputation Risk – Company reputation will get affected if we fail to deliver rewards to contributors.
- Risk on inability to verify social and environmental impact or related malpractices.

(Expect only two risks)

(02 marks)

(Total 10 marks)

End of Section B

Suggested Answer for Question Seven:

Chapter 2 & 3

(a) Mobile Devices for Greenway

- Smart phones (e.g., Android or iOS devices)
- Tablets (e.g., iPad, Android tablets)
- Rugged handheld scanners with mobile OS
- Wearable devices (e.g., smartwatches or smart glasses)
- Ultra mobile PC
- VR headsets
- Fitness tractors
- Notebooks
- E Traders
- PDA
- Laptops
- Portable media players
- Handheld gaming consoles

(Expect only four devices)
(04 marks)

(b) Benefits of Introducing Communication Software

- Real-time collaboration
Teams can chat, share files, and resolve issues instantly, reducing delays in order handling.
- Centralized information
All messages, updates, and documents live in one platform, eliminating fragmented email threads.
- Enhanced remote support
Delivery agents and support staff can troubleshoot route or technical issues from any location.
- Automated notifications
Alerts for new orders, inventory low-stock, or urgent customer feedback keep everyone informed.
- Increase productivity.
- Minimize cost
- Promote digital information
- Foster employees' experience management
- Drives employees' engagement.

(Expect only four benefits)
(04 marks)

(c) Three Types of Information Systems

1.Transaction Processing System (TPS)

Transaction Processing Systems monitor, collect, store and process data generated from all business transactions. The purpose of using a TPS is to provide all information required by the management and by organizational policies, to keep the business running properly and efficiently.

2.Management Information System (MIS)

Management Information Systems (MIS) are used by tactical managers in the middle level to monitor the organization's current performance status. The output from a TPS is used as the feed to a management information system. The MIS system analyzes the input data through routine algorithms i.e. collection of data, processing data into information, sorting information for later use, summarize and distribute results to produced reports so that middle level managers can use to monitor, regulate and predict future performances.

3.Customer Relationship Management (CRM) System

Centralizes customer profiles, feedback history, and loyalty program data, enabling personalized marketing and improved customer retention.

4.Decision Support System (DSS)

A decision support system (DSS) is a specific type of computerized information system that supports business and organizational decision-making activities. DSS use summarized information, exceptions, patterns, and trends using the analytical models. A decision support system helps in decision-making but does not necessarily give a decision itself.

5.Business Expert System

Some business scenarios are very complex in nature and require the help of advanced systems that can help with expert solutions. BES are computer based systems which use artificial intelligence (AI) and neural networks to recreate the performance level of a human-expert, thereby helping the business decisions.

6.Executive Information System

An information system that provides strategic information tailor-made to the needs of executives and other decision makers. The importance of EIS is, graphical displays it provides and an easy- to-use user interfaces. It provides strong reporting and drill-down capabilities.

*(Expect only three systems)
06 marks)*

(d) Five Advantages of E-Commerce for Greenway

1. Organizations can expand market reach
2. 24/7 Availability
3. Reduces Operational Costs
4. Data-Driven Personalization
5. Streamlined Fulfillment by simplifying the business process.
6. E-commerce improves the brand image of the company.

7. E-commerce helps organizations to provide better customer services.
8. E-commerce helps to simplify the business processes and makes them faster and efficient.

(Expect only five advantages)
(05 marks)

(e)

Information security threats

1. Malware
2. Spyware
3. Keystroke loggers
4. Backdoor access to IT systems
5. Phishing and targeted scams designed to steal user credentials
6. Intentional misuse by someone with legitimate access
7. Denial of service (DoS) attacks intended to make data unavailable.

(Expect only two threats)

1.Steps to improve security

1.Move away from using unsupported software

This is when the supplier no longer updates software e.g. operating systems such as Windows, apps, web browsers, etc. Although the software will continue to operate, it will no longer protect against online threats through updates or patching.

2.Always download and install the latest software and app updates

Software updates are designed to fix weaknesses in software and apps which could be used by hackers to attack device. Installing them as soon as possible helps to keep devices secure. One can set desktops, laptops, smart phones and tablets to automatically install software updates when an updates are available.

3.Run up-to-date anti-virus software

Computers, tablets and smart phones can easily become infected by small pieces of software known as malware. Common types include viruses or spyware and ransom-ware. To help prevent infection, install internet security software, like anti-virus and/or anti-malware on devices and keep it up to date for better protection.

4.Use Strong Passwords

Passwords should be easy to remember and difficult to guess. It is best not to use words such as child's name, pet's name or favorite sports team as this type of information might be easily guessed. Use random words to create a strong passwords, numbers and symbols can still be used.

5.Delete suspicious emails and avoid clicking on unknown attachments or links

Email is an excellent communication tool but is frequently used to deliver unwanted or unwelcome material, often referred to as 'spam' or 'junk' email. At best, this is annoying and at worst it can be malicious, causing considerable harm to computers and organization. Delete suspicious emails and do not click on links or open attachments in these emails before delete them as they may contain fraudulent requests for information or contain links to viruses.

6.Back up data

If the device is infected by a virus or accessed by a hacker, the data may be damaged, deleted, stolen or even held to ransom, which means users will not be able to access it. Companies should therefore safeguard their most important data by backing up to a secure external hard drive or storage system based in the Cloud.

7.Train Staff to be Cyber Aware

Make sure staff is trained to know the benefits of operating digitally, but are also aware of cyber security threats and how to deal with them. Due to the rapid development and changes in digital technology, it is a good idea to add cyber security to annual training plans / matrix.

8.Manage Security Relationships With Suppliers And Partners

As organizations grow and work with more suppliers and partners, companies become a link in one or more complex supply chains. It is important to observe good practice (and in many cases, compliance) because vulnerabilities will place not only the own organization at risk, but also others within the supply chain.

(Expect only two steps)

(6 marks)

(Total 25 marks)

End of Section C

Notice:

These answers compiled and issued by the Education and Training Division of AAT Sri Lanka constitute part and parcel of study material for AAT students.

These should be understood as Suggested Answers to question set at AAT Examinations and should not be construed as the “Only” answers, or, for that matter even as “Model Answers”. The fundamental objective of this publication is to add completeness to its series of study texts, designs especially for the benefit of those students who are engaged in self-studies. These are intended to assist them with the exploration of the relevant subject matter and further enhance their understanding as well as stay relevant in the art of answering questions at examination level.



© 2021 by the Association of Accounting Technicians of Sri Lanka (AAT Sri Lanka). All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the Association of Accounting Technicians of Sri Lanka (AAT Sri Lanka)