



**Association of Accounting Technicians of Sri Lanka**

**July 2020 Examination – Level II**

**Suggested Answers (202)**

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

**Association of Accounting Technicians of Sri Lanka**  
No. 540, Ven. Muruththettuve Ananda Nahimi Mawatha,  
Narahenpita, Colombo 05.

Tel : 011-2-559 669

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THE ASSOCIATION OF ACCOUNTING TECHNICIANS OF SRI LANKA

Level II Examination - July 2020

(202) INFORMATION SYSTEMS IN DIGITAL ENVIRONMENT

SUGGESTED ANSWERS

Fifteen (15) Compulsory Questions  
(Total 25 Marks)

**SECTION - A**

*Suggested Answers to Question One:*

1.1	(3)	1.6	(3)	1.11	True.
1.2	(2)	1.7	(1)	1.12	True.
1.3	(2)	1.8	(2)	1.13	False.
1.4	(2)	1.9	(3)	1.14	False.
1.5	(3)	1.10	(2)	1.15	True.

(02 marks each, 20 marks)

(01 mark each, 05 marks)

(Total 25 marks)

*End of Section A*

***Suggested Answer for Question 02.***

***Chapter 01- Concepts in Information System and Impact of Information Systems***

**[a] Differences between data and information**

<b><i>Basis of Difference</i></b>	<b><i>Data</i></b>	<b><i>Information</i></b>
Meaning	Data refers to raw, unrefined facts and figures. It can be utilized to serve as inputs in any computing system to produce results. It is based on observations and records that are stored in computers.	When data is processed, the output thus received is known as information. Information, if reliable and accurate, helps a researcher carry out proper analysis.
Features	Data is available in the form of individual units that possess raw materials only; it does not carry any meaning by 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. It is in the format of numbers, letters, set of characters, etc.	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.
Confidentiality	Data belongs to an organization and cannot be sold to the public.	Information may be made public if required.
Design	Data is not designed to serve the purpose of any specific need or user.	Information is specific to the needs and expectations of users as the irrelevant facts/ figures are eliminated in the process of transformation.
Deterioration	Data deteriorates with time.	Information remains as it is with the passage of time.
Types	Qualitative and Quantitative data are two types of data. Qualitative Data is formed when the categories available in data are separated and expressed via natural languages. Quantitative Data refers to numerical quantification and includes counts and measurements capable of being expressed as numbers.	Information types are varied and as per user requirements.
Units of measurement	The units of measurement of data Bits, Nibbles, Bytes, TB (Terabytes), kB (kilobytes), GB (Gigabytes), MB (Megabytes) etc. in a computer system.	The units of measurement of information are the same as quantity, time, voltage etc. information occurs in the form of references and ideas.

**(03 Marks)**

[b]

**(1) Accept electronic Cash or Credit/Debit Cards(Which are verified using IT)**

Super markets accept credit /debit cards and more promotions are given for cards when customers purchase goods using Credit or Debit Cards.

**(2) Use Bar Coded Price Tags and Barcode readers to automate checkouts**

Prices of most goods are displayed using bar coded price tags. Customers know prices of goods. Based on that they can decide whether goods are purchased or not.

**(3) To display promotional material on digital sign boards**

Super markets are doing promotional things time to time to attract the customers. Those promotional information and materials are displayed on digital sign board.

**(4) To allow customers to purchase items over an online store.**

Most of super markets allows to purchase online and they introduce mobile app also for that.This facility was widely used during the lockdown period.

**(5) To maintain a loyalty card/points system**

Super markets introduce loyalty cards to customers. When customers purchase goods points are added to the cards and discounts offered to card owners.

**(6) To maintain stock /Inventory and know when to re-order items.**

Electronic inventory control can eliminate over ordering and under buying by referring to each store's sales history to calculate the optimum stock level of each item.

**(7) To analyze the sales**

Super markets use information technology to analyze the sales pattern. If the item is slow moving items management could take necessary steps without delay.

**(8) To collect data about the customers**

The purchase details of individual customer are collected and analyzed. Product extensions and promotions are based the analysis of purchasing patterns of different customers.

**(9) To improve service delivery to customers**

Generally, today's modern businesses pride themselves on being customer focused and consumer oriented and many have invested in ensuring that their frontline staff are versed in customer service.

Eg:Providing E-Commerce Facility

**(10) To improve organization's responsiveness to new developments**

Although this point might seem most relevant to complex, goods oriented businesses that operate in highly dynamic industries, this point is as applicable to small service oriented organizations. With regard to organizational responsiveness, ICT or technology can be a major aid.

**(11) To change the basis of competition in industry**

Frequently in industry, a degree of complacency can occur when individual businesses no longer strive to distinguish themselves from their competitors. For organizations that aim to grow market share, improve visibility or wish to become the preferred vendor or service provider, ICT/ technology can help them to achieve those goals.

**(12) To improve organization's overall performance**

Finally, and as a culmination of all earlier points, ICT can introduce a paradigm shift in organizations by helping them to re-evaluate ,among other things, what might be possible, how can they raise the bar and perform better, and what new services and quality standards should be introduced. This point may be particularly applicable to micro, small and medium sized businesses, many of which have limited resources and might be looking for ways to take their operations to the next level.

**( 04 marks)**

**[c]**

1. Personal emails.
2. Personal photographs and images.
3. Personal contact details.
4. Documents/files downloaded.
5. Payment details such as credit/debit card details, bank account details.
6. Videos of personnel value
7. Audio recordings of personal value

8. Travel location data (Google Location History)
9. Health and fitness related data (No of steps walked, distances travelled, calories burnt)

**(03 marks)**

**(Total 10 marks)**

### ***Suggested Answer for Question 03.***

<b><i>Chapter 02 - Information Technology Infrastructure / Chapter 03 - Information Systems in Organizations</i></b>
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**[a]**

- Cannot agree with this statement.

Wi-Fi is a wireless networking technology that uses radio waves to provide high-speed wireless network access to devices. Wi-Fi networks have no physical wired connection between sender and receiver, but connect by using Radio Frequency (RF) technology. Wi-Fi networks have a range that is limited by the frequency, transmission power, antenna type, the location they are used in and the environment. A typical wireless router use point-to-multipoint arrangement and can cover a range of 50 meters or less, which is not sufficient to connect the farms, green houses and the shops in different regions.

**(03 Marks)**

**[b]**

- Can agree with this statement.

A business website generally serves as a space to provide general information about your company or a direct platform for e-commerce functions where consumers can place orders, pay online and get deliver ordered items directly to homes.

Using delivery service can ensure goods can flow directly from the farms or greenhouse, with lower possibility for perishing or wastage of high cost.

**(04 Marks)**

**[c] Management Information Systems**

1. Marketing Information System.
2. Business Intelligence system.
3. Customer Relationship System.
4. Knowledge Management System.
5. Decision Support Systems (DSS)
6. Transaction Processing Systems (TPS)
7. Office Automation Systems (OAS)
8. Management Information Systems(MIS)

9. Decision Support Systems (DSS)
10. Expert / Executive Support Systems
11. Sales Management System
12. Budgeting System
13. Human Resource Management System
14. Executive Information Systems
15. Business Expert Systems (BES)

**(03 Marks)**  
**(Total 10 Marks)**

### ***Suggested Answer for Question 04.***

<b><i>Chapter 03 - Information Systems in Organizations</i></b>
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**[a]**

**Business Analytics**

Business Analytics, a subset of business intelligence, which uses methodologies such as data mining, predictive analytics, and statistical analysis in order to analyze and transform data into useful business information, identify and anticipate trends and outcomes, and to support smarter, data-driven business decisions.

**Or**

Business Analytics is the process of controlling, sorting, processing and studying business using statistical models and initiative.

**(02 Marks)**

**[b]**

**Ways that the supermarket chain can use Business Analytics**

1. Understand customers social and economic information based on factors such as employment, education, income, age, and gender which helps customer specific promotions.
2. Understand what products are bought together so that placing products together to increase cross sell – e.g. Dairy Products along with Bread and Baked products.
3. Understand the locations in the store that are more noticeable which helps optimum shelf life management.

4. Identifying/ predict customer trends in buying and understand seasonalities and build targeted promotions which helps to Identify customer segments and can improve placing right products and prices.
5. The company can offer discounts to slow moving items where they get a better profit from.
6. They can give incentives to staff (Cashiers) who promote the loyalty of the prospective customers.
7. They can predict the demand for products based on previous purchases.
8. Analyze data from multiple sources
9. Use advanced analytical and statistics to find hidden patterns in large data.
10. They can provide short term (flash promotions) on product via Facebook and get data on conversion rates from social media to transactions
11. They can use mobile app and push promotions to the mobile app for loyalty card members, offer discounts for net worth customers
12. They can push promotional mails to customers when they are in the vicinity of the supermarkets, alert customer to purchases for periodic purchases.
13. The company can use transactional data from customers to reveal buying patterns and bundle paired items (Items which are often brought together)

*(02 Marks)*

**[c] Advantages to the super market**

1. E-commerce eliminates the need for physical stores
2. Can save money on rent, utilities, maintenance, and other costs associated with physical stores.
3. The business can be open and run 365 X 24 X 7 days, fetches revenues throughout the year.
4. Wider market, where products can be sell to customers around the world easily.
5. E commerce reduces the paper work
6. E-commerce increases the productivity of the organizations.
7. E-commerce improves the brand image of the company.

8. Using e-commerce, organizations can expand their market to national and international markets with minimum capital investment.
9. An organization can easily locate more customers, best suppliers and suitable business partners across the globe.
10. E-commerce helps organizations to reduce the cost to create the process, distribute, retrieve and manage the paper based information by digitalizing the information.

#### **Advantages to customers**

1. Availability of wide range of products and services to customers.
2. Convenience, customers can buy any product from anywhere in the world without moving away from their workplace or home through internet.
3. Save money and time as consumers do not need to travel to physical store.
4. Information when buying online, such as “Reviews from real customers”, “Product descriptions”, “Usage videos” and Product guides.
5. E-commerce provides options of virtual auctions.
6. They provide readily available information. A customer can see the relevant detailed information within seconds rather than waiting for days or weeks.
7. E –commerce increases the competition among the organizations and as a result, organizations provides substantial discounts to customers.
8. They can put review comments about a product and can see what others are buying or see the review comments of other customers before making a final purchase.
9. E-commerce provides options of virtual auctions
10. The business supports the customers 365 X 24 X 7 days. The customers can enquire about a product or service and place orders anytime, anywhere from any location.

**(06 Marks)**

**(Total 10 Marks)**

### ***Suggested Answer for Question 05***

<b>Chapter 04 - Ethical, Social and Legal Environment for Information Systems</b>
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**[a]**

**[i] Positive impacts of social media and networks on business**

1. The ability to cover industry trends in real-time.
2. More comprehensive competitive analysis.
3. Provide better customer service and customer satisfaction.
4. Curtail customer content and stories in a snap.
5. Customer photos and success stories go hand in hand with higher engagement and conversion rates. And there’s no better place to gather both than social media.
6. Positioning power over competitors.
7. Appeal to younger, social-savvy customers.

8. It facilitates recruitment.
9. Social media helps to reach out to a wider audience and creates opportunity for consumers or audience to find business on social media and networks.
10. It helps to reach targeted audience, stay engaged with them and respond to their queries instantly.
11. Can be used as a tool to evaluate competitors and how they use social media and networks for their growth.
12. Social media creates word of mouth which helps to get the word out about the business.
13. Social Media Marketing (SMM) is economical and effective. Social media engagement campaigns produce a lot of shares, generate more views and publicity for business with a one-time cost.
14. It helps collecting first hand customer feedback

**(04 marks)**

**[ii] Steps that can be taken to reduce the impact of fake news circulating in Social Networks**

- Get service from government agencies to regulate / discredit stories that consider to be false.
- Steps can be taken to suspend suspicious accounts, adding features and algorithms, allow users to report fake news (crowdsourcing) and hiring more personnel to help deal with fake news / reports.
- Use tools available with social networking platforms to combat fake news.
- Comment on the article concerned informing its fake and if possible link to the correct source.
- Take the extra few seconds before sharing to look over the source.

**(02 marks)**

**b)**

**Steps to be taken to improve cyber security**

**a. 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 (a software update, often relates to improving security). If a security weakness is discovered, software can be compromised and become vulnerable to a cyber-attack. For benefits to be gained from up-to-date security measures, such as improved speed and efficiency, only use supported software on computer systems and devices. If it is necessary to use

unsupported software, ensure that the risk is properly managed by having a strong firewall and up-to-date anti-virus and/or anti-malware software.

**b. 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 a hacker to attack a 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 update is available.

**c. 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 ransomware. 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.

**d. Use Strong Passwords**

Passwords should be easy to remember and difficult to guess. It is best not to use words such as a 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 password, numbers and symbols can still be used. Hackers could potentially use email to access many of personal accounts and find out personal information, such as bank details, address or date of birth, leaving users vulnerable to identity theft or fraud. For most important accounts, if it is available, use Two-Factor Authentication. This means involving a second step after entering one's password e.g. providing a fingerprint, answering a security question, or entering a unique code sent to user's mobile device.

**e. 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 deleting them as they may contain fraudulent requests for information or contain links to viruses. Do not respond to such 'phishing' emails (a

scam where criminals typically send emails to thousands of people) even if they seem to come from a company or person that may know, because doing so can confirm the address is real to the sender.

**f. 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. It should also ensure that regularly test back-ups and, if companies are saving confidential data off-site e.g. the Cloud, follow all appropriate data protection measures and government standards and guidance that relate to health and social care organizations.

**g. 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.

**h. 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. If a company uses third party managed IT services, check their contracts and service level agreements, and ensure that whoever handles company's systems and data has security controls in place.

**i. Have a plan**

The most important step is to acknowledge that cyber and information security is a real threat to business and have a security plan and infrastructure for business.

**j. Use two step verification**

Two step verification prevents from accessing personal and business account even hackers have stolen password.

*(04 Marks)*

*(Total 10 Marks)*

***Suggested Answer for Question 06.***

***Chapter 05 - Impact on Technology Trend of Information Systems***

**[a]**

**Crowd Funding**

Crowdfunding is a way for people, businesses and charities to raise money or alternative way to finance projects. It works through individuals or organizations who invest in (or donate to) crowdfunding projects in return for a potential profit or reward. The inventor can initially choose a proper platform or a web portal to set up his project details about the prototype of a low cost water purifier for residences. He can set up crowdfunding under four different models, donations-based, reward-based, lending-based and equity-based.

In this case a rewards –based crowd funding model may be suitable. In this case, the inventor can promote his products and or other services via social media to collect the funds to move the process ahead. This will allow interested individuals to fund his campaign with the promise of getting reward by way of a water purifier or related product or service once production commences. There is a risk that if the investor doesn't manage to fund his desired capital, he might not be able to honour the promise.

*(04 Marks)*

**[b]**

**Risks involved in crowd funding**

1. Potential cyber-security breaches.
2. Risks of frauds.
3. Use of crowd funding platforms for money laundering. The risk is no greater than in other international financial transactions.
4. Higher risks of platform collapses due to mal practices.
5. Company reputation will get effected if, failed to deliver rewards to contributors.
6. Inability to verify the social environmental impact or related malpractices.

*(03 Marks)*

[c]

### Block Chain

Block Chain is a system of recording information in a way that makes it difficult or impossible to modify, hack or fraud the system. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains a number of transactions and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. The decentralized database is managed by multiple participants known as Distributed Ledger Technology (DLT).

(03 marks)  
(Total 10 marks)

**End of Section B**

**One (01) Compulsory Question.**  
(Total 25 Marks)

**SECTION - C**

### Suggested Answer for Question 07.

**Chapter 03 - Information Systems in Organizations/ Chapter 04 - Ethical, Social and Legal Environment for Information Systems**

[a] Assumption:

- All customers have access to internet and social media.
- Customers' needs to create an account before purchase products through website.

Customer purchases can be tracked by collecting and unifying customer data from various sources such as web behaviors, email responses, payment transactions. Social media and networks are great marketing tools to promote the company name and brands, find out what customers think of your business and build stronger relationships with existing customers. Further historical analysis on their purchases, as well as analyze clusters of customers based on features such as age, gender, country, products purchased, time periods etc. which will be able to make recommendations based on customer's buying habits and confidently cater to their needs or wants. Since these information are stored in computer based information system, business analytical software can utilize these databases to provide insight to customers' buying preferences and trends. They can predict the buying trends, using business analytics. They can hold competitions based on social media to detect preferences, where social media analytics can be used to measure demographic information. They can also sell directly to consumers via the website, and map purchase preferences.

(04 marks)

**[b] Advantages of using Enterprise Resource Planning (ERP)**

- **Competitive advantage**

It is true fact that ERP software require bigger investment, but with functions it provide makes it an essential component in organization's business environment. ERP software helps to keep business ahead of the competition because business no longer run the risk of making costly mistakes, which could place company behind the others. Companies cannot afford not to have an ERP in their organization, while their competitors invest in ERP and starts securing many benefits.

- **Improved process efficiency**

An ERP solution eliminates repetitive processes and greatly reduces the need to manually enter information repeatedly. This will not only improve productivity, but it eliminates the possibility of human errors which could lead to costly business mistakes. Think of ERP as an extra hand and brain, designed to keep businesses on track, noticing every detail and making business activities easier and more efficient, from users down to its customers that are involved.

- **Accurate forecasting**

ERP software provide tools to make more accurate forecasts. This helps users and businesses as a whole, think ahead and properly plan activities sales to financials and even customer services. With stronger forecasting facilities, businesses can effectively decrease business costs. Since the information within ERP is as accurate, up-to-date, businesses can make realistic estimates and more effective forecasts.

- **Department collaboration**

Rather than run isolated business where each department functioning separate from the other, collaboration between departments is a crucial and often necessary part of the business, especially because business functions often involve more than just one department. With the data entered into ERP systems being centralized and consistent, all departments can work together, sharing same information and collaborating whenever it is needed.

- **Scalable resource**

ERP systems allow to add new users and functions to expand the initially implemented solution over time. No matter how big or small business is, ERP grows with it, being able to occupy new users and data whenever the business needs to expand. ERPs facilitates the growth of the business by accommodating new data and information within the system rather than need for a new system.

- **Integrated information**

ERP software acts as a central access point (with a unified database) for all of the important information that the business and other departments maintain daily business practices and operations. No more issues with data spread across multiple databases, all information will be housed in a single location. This means company can integrate platforms like CRM software with the ERP system, keeping data consistent, accurate and unique.

- **Cost Savings**

Handling financials in a business is very important and avoid making costly mistakes that finally, could damage the business. With single source of accurate, real-time information, enterprise resource planning software reduces administrative and operations costs, allows businesses to utilize money in other needed areas. It allows manufacturers to proactively manage operations, prevent disruptions and delays, breaks up information deadlocks and helps users make decisions more quickly.

- **Streamlined processes**

As businesses expand, their operations become more complex, which unfortunately increases the opportunity for costly mistakes to be made. For example, manufacturing module automates business operations across-departmentally, providing accurate, real-time information to everyone, while eliminating manual duty, possibly leads to errors. ERP increases efficiency and productivity by automating complex processes, preventing data re-entry and improving functions such as production, order completion and delivery.

- **Mobility**

Another advantage of ERP software is its ability to make users connect to the system where ever they are, providing deployment styles that will give even on-the-road sales representatives provided with the same opportunities as in-office users to use ERP whenever and wherever they need. With ERP software, users have access to a centralized database from anywhere in the world, through a mobile devices including laptop, tablet or a smart phone. The adaptability of an ERP software is crucial, as it increases productivity and makes information accessible from anywhere in world.

- **Customized reporting**

ERP software helps make reporting easier and more customizable, fit to meet all business needs. With improved reporting capabilities and functions, company can respond to complex data requests more easily, which improves productivity.

- **Increased productivity**

Save time and increase productivity levels with ERP software automation and streamlining capabilities. Often, when tedious tasks take up much needed business time, there can be delays in production, these delays can affect businesses and even the customer service. By having redundant processes automated, users have more time to work on important projects and tasks that may require more attention and time. Users will also be able to work easier since the solution was designed for ease-of-use.

- **Flexible systems**

Modern ERP software systems are robust, flexible and configurable. They are not generally developed for everyone but can be tailored to the unique needs of a business situation. ERP systems also can adapt to the ever-changing needs of a growing business needs.

- **Customer service**

Provide high-quality customer service using an enterprise solution, especially when a company is well-equipped with ERP. Sales and customer service personals can interact with customers better and improve relationships with them through faster, more accurate access to customers' information and history.

- **Data reliability**

ERP provides reliable data that can be accessed from different locations (if implemented in the cloud) and through multiple devices including mobile devices. With real time update capabilities, ERP improves data accuracy and consistency. With this, users can ensure that all data and analytics are safe to use, without running the risk of errors. ERP user data can also have additional security through firewalls and built-in security features. Improved security removes the risk of important business information getting into the hands of unauthorized users.

*(08 marks)*

[c]

1. Building convenient and efficient tool with intranet and extranet facilities to communicate with stake holders, so that only the authorized parties will be able to use the facilities offered by the web site.
2. Provide customers with the opportunity to buy goods and services with the help of electronic payment systems without leaving their homes.
3. Inform customers about the company's activities and the range of services provided.
4. Attract new customers using online advertising .
5. To show case how they produce tea in quality manner.
6. To show case what CSR endeavours they take.

7. The company products can be shown with features and customers can get an understanding about the products looking at the website.

*(04 marks)*

**[d] Functions that could be served by Youtube Channel and Instagram Account**

1. Create a community of consumers and gives the chance to target users who already have some sort of connection with the product / brand via the website, email, social media, etc.
2. Instagram / YouTube can be used to launch new products and services, promote events or advertise promotions and divert followers into website visitors.
3. Create easily sharable content, with companies marketing messages, and/or be used to link to company's other digital assets, such as company's website or Facebook page.

*(04 marks)*

**[e] Security Precautions**

**1. Use a Firewall –**

Setting up a firewall can prevent unauthorized external access to your system. A firewall acts as a barrier that protects internal network devices from many malware threats. It actively monitors the data packets that come from outside networks and checks whether they are safe or not. If it sees any malicious data packet, it gets blocked by the firewall. By blocking certain kinds of data, the firewall protects network and safeguards company's data from malicious attacks.

**2. Use a Virtual Private Network (VPN) –**

A VPN works by establishing encrypted connections between devices by using SSL/TLS encryption protocols. All devices that connect to the VPN set up encryption keys and these keys are used to encode and decode all information sent between them. VPNs create a secure connection over unsecured public network infrastructures such as Internet. VPNs provide ways to protect corporate data and manage user access to that data. VPNs protect data as users interact with applications and web properties over the Internet.

3. Using strong password policies with use level access to all resources with proper Information System Audit practices.

*(05 marks)*

*(Total 25 marks)*

***Notice:***

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