1. A MOOC is Select one: a. An intelligent technique. b. A virtual reality system. c. A type of knowledge work system. d. A type of online course. e. A collaboration tool.

ans: d. A type of online course.

2. Technology that consists of computer-based systems that attempt to emulate human behavior is called: Select one: a. Fuzzy logic. b. Learning management systems. c. AI technology. d. Genetic algorithms. e. Neural networks.

ans: c. AI technology.

3. When there is no well-understood or agreed-on procedure for making a decision, it is said to be Select one: a. Unstructured b. Undocumented c. Documented d. Semistructured e. Ad-hoc

ans:

a. Unstructured

4. A drawback to high-velocity, automated decision-making systems is that they are unable to Select one: a. Handle structured decisions. b. Be applied to situations outside of the financial world. c. Handle high volumes of decisions. d. Handle semi-structured decisions. e. Control themselves and respond to new environments.

ans:

e. Control themselves and respond to new environments.

5. An upscale organic foods grocery chain is implementing an information system that will enable it to add same-day home delivery of groceries to its customers. This is an example of Select one: a. Business process redesign. b. Rationalization of procedures. c. Organizational change. d. Paradigm shift. e. Automation.

ans:  
c. Organizational change.

6. Which of the following is not one of the five main variables affecting project success? Select one: a. Risk b. Quality c. Vendors d. Time e. Cost

ans:

c. Vendors

7. Taking the action that produces the least harm best describes the: Select one: a. "no free lunch" rule. b. Golden Rule. c. Categorical Imperative. d. Utilitarian Principle. e. Risk Aversion Principle.

ans:

d. Utilitarian Principle.

8.Which of the following best describes the basis for the FIP principles? Select one: a. The difference between the interests of the individual and commercial organisations b. The accountability of the record holder c. The privacy of the individual d. The mutuality of interest between the record holder and the individual e. The responsibility of the record holder

ANS:

d. The mutuality of interest between the record holder and the individual.

9.Which of the following tools would you use to evaluate and choose a collaboration tool for your organization? Select one: a. The collaboration matrix b. Cloud collaboration c. The time/space collaboration and social tool matrix d. Virtual meeting system e. IBM Notes

ANS:

a. The collaboration matrix

10. The \_\_\_\_\_\_\_\_ model highlights the primary or support activities that add a margin of value to a firm's products or services where information systems can best be applied to achieve a competitive advantage. Select one: a. Rivalry b. New entrant c. Value chain d. Competitive forces e. Bargaining power

ANS:  
c. Value chain

11. Walmart's continuous replenishment system allows it to: Select one: a. Achieve economy of scale. b. Achieve low-cost leadership. c. Differentiate products. d. Provide mass customization. e. Strengthen customer intimacy.

ANS:

b. Achieve low-cost leadership.

12. All of the following are cloud computing services except: Select one: a. Platform as a service. b. Virtualization as a service. c. On-demand computing. d. Infrastructure as a service. e. Software as a service.

ANS:

b. Virtualization as a service.

13. IPv6 is being developed in order to: Select one: a. Create more IP addresses. b. Reduce excess IP addresses. c. Allow for different levels of service. d. Support Internet2. e. Update the packet transmission protocols for higher bandwidth.

ANS:

a. Create more IP addresses.

14. Defence in depth is needed to ensure that which three mandatory activities are present in a security system? Select one: a. Response, collection of evidence, and prosecution b. Prevention, response, and management c. Prevention, detection, and response d. Prevention, response, and prosecution

ANS;

c. Prevention, detection, and response.

15. Your company, an online discount stationers, has calculated that a loss of Internet connectivity for 3 hours results in a potential loss of $2,000 to $3,000 and that there is a 50% chance of this occurring each year. What is the annual expected loss from this exposure? Select one: a. $1,000 b. $500 c. $2,500 d. $1,500 e. $1,250

ANS:

To calculate the annual expected loss from this exposure, you can use the formula:

Annual Expected Loss = (Potential Loss per Event) x (Probability of the Event)

In this case:

Potential Loss per Event = ($2,000 + $3,000) / 2 = $2,500 (taking the average of the potential loss range) Probability of the Event = 50% or 0.5

Now, plug these values into the formula:

Annual Expected Loss = $2,500 x 0.5 = $1,250

So, the annual expected loss from this exposure is $1,250, which corresponds to option (e).

16. Compared to traditional goods, digital goods incur: Select one: a. Lower distribution costs. b. Equivalent copying costs. c. Higher marginal costs per unit. d. Less disintermediation. e. Similar inventory costs.

a. Lower distribution costs.

1.Key technology trends include the following: (1) Computer power doubling every 18 months: ethical impact—because more organizations depend on computer systems for critical operations, these systems are vulnerable to computer crime and computer abuse; (2) Data storage costs are rapidly declining: ethical impact—it is easy to maintain detailed databases on individuals—who has access to and control of these databases?; (3) Data analysis advances: ethical impact—vast databases full of individual information may be used to develop detailed profiles of individual behavior; and (4) Networking advances and the Internet: ethical impact—it is easy to copy data from one location to another. Who owns data? How can ownership be protected?; (5) Mobile device growth impact: ethical impact—individual cell phones may be tracked without user consent or knowledge. paraphase this

ANS:

The moral consequences of key technical advancements are numerous. First, with computer power doubling every 18 months, computer systems become more vital but also more vulnerable to abuse. Second, as data storage costs fall, extensive databases on individuals become possible, raising concerns about access and control. Third, advances in data analysis allow for the creation of detailed individual profiles from massive databases. Fourth, because of the ease with which data may be copied, networking and the Internet pose concerns about data ownership and protection. Finally, the proliferation of mobile devices enables tracking without the user's knowledge or consent.

2. You are consulting with the owner of LearnMore, a state-wide, adult education training centre. Briefly explain how LearnMore could employ four (4) strategies that would leverage information systems to achieve a competitive advantage both within each training centre and across the whole organisation.

ANS:

LearnMore, the state-wide adult education training center, can employ various strategies leveraging information systems to achieve a competitive advantage both within each training center and across the entire organization:

1. **Integrated Learning Management System (LMS):** Implement an LMS that integrates seamlessly across all training centers. This allows for centralized course content management, student tracking, and reporting. Students can easily transition between centers, and administrators can have a holistic view of performance and resource allocation.
2. **Data Analytics for Personalization:** Utilize data analytics to track student progress and preferences. Tailor course content and teaching methods to individual needs, enhancing the learning experience. Predictive analytics can also help identify at-risk students and provide timely interventions.
3. **Online Learning Platforms:** Develop or adopt online learning platforms that offer a mix of synchronous and asynchronous learning options. This provides flexibility for students and can expand the reach of LearnMore beyond physical centers, allowing for remote or hybrid learning models.
4. **Mobile Learning and Engagement:** Create a mobile app or platform that allows students to access course materials, collaborate with peers, and receive notifications. Mobile learning enhances engagement and accessibility, particularly for adult learners who may have busy schedules.

By implementing these strategies, LearnMore can streamline operations, enhance the learning experience, and extend its reach, ultimately gaining a competitive advantage within each training center and across the entire organization.

3.Explain two (2) disadvantages of adopting cloud computing for a business in the Australian tourism industry. (2 Marks) In what cases would these disadvantages outweigh the advantages? (2 Marks)

ANS:  
Disadvantages of adopting cloud computing for a business in the Australian tourism industry:

1. **Data Privacy and Security Concerns:** Storing sensitive customer data and business information in the cloud can raise concerns about data privacy and security. Given the stringent data protection regulations in Australia, businesses must ensure that cloud service providers comply with local laws and regulations. Data breaches or unauthorized access to customer information can lead to severe reputational damage and legal consequences.
2. **Reliance on Internet Connectivity:** Cloud computing heavily depends on a reliable internet connection. In remote or rural areas of Australia, where internet connectivity may be inconsistent or slow, businesses in the tourism industry could face operational disruptions. This can impact reservation systems, online booking platforms, and real-time customer interactions, leading to a negative customer experience.

In cases where these disadvantages outweigh the advantages:

1. **Highly Regulated Data:** If a tourism business deals with highly regulated data, such as medical records for health tourism or sensitive financial information for luxury travel, the risk of data breaches and the complexities of ensuring compliance with regulations may outweigh the benefits of cloud adoption.
2. **Limited Access to High-Speed Internet:** In regions with limited access to high-speed internet, such as some remote tourist destinations, relying on cloud-based services may be impractical. In such cases, the cost and effort required to establish reliable internet connectivity might outweigh the advantages of cloud computing.

Overall, the decision to adopt cloud computing in the Australian tourism industry should be carefully evaluated based on the specific needs and circumstances of each business. While the cloud offers scalability and cost-efficiency, businesses must weigh these benefits against potential risks and limitations, especially regarding data privacy, security, and connectivity issues.

4.Identify two (2) benefits the integration of data mining capabilities with a Supply Chain Management (SCM) system would bring to a large retail organisation. (2 Marks) Give one (1) example of an organisation using data mining to improve their operations. Explain how data mining improved their operations. Your example may be from businesses discussed in the Unit or from your own wider reading. (2 Marks)

ANS:

Benefits of integrating data mining with a Supply Chain Management (SCM) system for a large retail organization:

1. **Demand Forecasting and Inventory Optimization:** Data mining can analyze historical sales data, customer behavior, and market trends to improve demand forecasting accuracy. This enables the organization to optimize inventory levels, reduce carrying costs, and ensure that products are available when and where customers need them.
2. **Customer Segmentation and Personalization:** By analyzing customer data, data mining can segment the customer base into different groups based on preferences, buying patterns, and demographics. This allows for personalized marketing and product recommendations, enhancing the customer experience and increasing sales.

Example of an organization using data mining to improve operations:

**Amazon:** Amazon, one of the world's largest online retailers, utilizes data mining extensively to enhance its operations. One notable example is its recommendation system. Amazon analyzes vast amounts of customer data, including purchase history, browsing behavior, and product reviews, to provide personalized product recommendations to users. This data mining-driven recommendation engine has significantly increased sales and customer satisfaction.

Amazon's recommendation system employs collaborative filtering algorithms to identify products that customers with similar purchase histories have also bought. This not only drives additional sales but also improves customer engagement and loyalty. The company continuously refines its recommendation algorithms to make them more accurate and effective, contributing to its competitive advantage in the e-commerce industry.

In this case, data mining has improved Amazon's operations by increasing sales, enhancing customer retention, and optimizing product recommendations based on individual preferences, ultimately leading to a more profitable and customer-centric business model.

5. The six phases of The Systems Development Process are: Systems Analysis Systems Design Programming Testing Conversion Production & Maintenance Briefly describe the Systems Design and Production & Maintenance phases. (2 Marks) How could an error in the Systems Analysis phase affect the quality and timeline of the project? (2 Marks)

ANS:

**Systems Design Phase:** During the Systems Design phase, the detailed specifications for the system are created based on the requirements gathered in the Systems Analysis phase. This includes designing the system's architecture, data structures, user interfaces, and the overall system structure. The goal is to produce a blueprint that will guide the development team in building the system.

**Production & Maintenance Phase:** In the Production & Maintenance phase, the system is deployed for actual use by end-users. This phase involves the installation, configuration, and setup of the system in the production environment. After deployment, ongoing maintenance, updates, and support are provided to ensure the system continues to function effectively and meets the evolving needs of the organization.

**Impact of Errors in the Systems Analysis Phase:** Errors or inaccuracies in the Systems Analysis phase can have significant implications for the quality and timeline of the project. Here's how:

1. **Quality:** If critical requirements are missed or misunderstood during Systems Analysis, the resulting system design and development may not align with the actual needs of the organization. This can lead to a system that doesn't meet user expectations, lacks essential features, or has design flaws. Correcting such errors in later phases is costly and time-consuming.
2. **Timeline:** Discovering errors or missing requirements in the later phases of the project, such as Systems Design or Programming, can lead to delays in project completion. Remedying these issues may require going back to the Systems Analysis phase to reevaluate requirements, which can disrupt the entire project schedule.

In summary, errors in the Systems Analysis phase can lead to rework, delays, and increased project costs. Therefore, thorough and accurate analysis is crucial to the success of the systems development project, as it lays the foundation for subsequent phases.

6. Cloud Computing The four most common modes of cloud computing are: On-Premise Computing Infrastructure as a Service (IaaS) Platform as a Service (PaaS) Software as a Service (SaaS) Briefly explain each mode. Give one real-world example of each mode. (8 marks) List one (1) advantage of each mode of cloud computing. Each advantage should be different. (4 marks) Explain how an established mature business would use each mode of cloud computing. Include discussion of the risk on existing operations of each mode. (8 Marks)

ANS:

**Modes of Cloud Computing and their Brief Explanations:**

1. **On-Premise Computing:** This mode involves traditional, in-house IT infrastructure and services. In this setup, organizations own and manage their hardware, software, and data centers, typically located on their premises.
   * **Example:** A local manufacturing company maintains its own servers and data center within its facility to host its enterprise applications and store sensitive production data.
2. **Infrastructure as a Service (IaaS):** IaaS provides virtualized computing resources over the internet. Users can rent virtual machines, storage, and networking resources, eliminating the need for physical hardware ownership and management.
   * **Example:** Amazon Web Services (AWS) offers IaaS solutions, allowing organizations to provision virtual servers and storage on-demand for various purposes.
3. **Platform as a Service (PaaS):** PaaS delivers a platform with development tools, runtime environments, and infrastructure managed by the service provider. It enables developers to build, deploy, and manage applications without worrying about the underlying infrastructure.
   * **Example:** Google Cloud Platform (GCP) offers PaaS capabilities, such as Google App Engine, which allows developers to create and host web applications without managing the server infrastructure.
4. **Software as a Service (SaaS):** SaaS provides access to software applications and services over the internet. Users can access and use software hosted by a third-party provider on a subscription basis.
   * **Example:** Salesforce is a SaaS CRM (Customer Relationship Management) platform that organizations use to manage customer relationships and sales processes.

**Advantages of Each Mode of Cloud Computing:**

1. **On-Premise Computing:**
   * Advantage: Full control over infrastructure and data.
2. **IaaS:**
   * Advantage: Scalability and flexibility to adjust resources as needed.
3. **PaaS:**
   * Advantage: Speeds up application development and deployment.
4. **SaaS:**
   * Advantage: Accessibility from anywhere with an internet connection.

**How an Established Mature Business Would Use Each Mode of Cloud Computing:**

1. **On-Premise Computing:**
   * Use Case: For critical, sensitive data or legacy applications that cannot easily migrate to the cloud.
   * Risk: High capital expenditure, maintenance, and potential scalability limitations.
2. **IaaS:**
   * Use Case: To augment existing infrastructure during peak loads or to host specific workloads.
   * Risk: Data security concerns and potential complexity in managing virtual resources.
3. **PaaS:**
   * Use Case: To accelerate software development and innovation, particularly for custom applications.
   * Risk: Dependency on the PaaS provider's platform and potential vendor lock-in.
4. **SaaS:**
   * Use Case: For non-core business functions like email, collaboration, or customer relationship management.
   * Risk: Data privacy concerns, reliance on the SaaS provider's performance and updates.

Each mode of cloud computing offers unique advantages, but mature businesses should carefully assess their needs, existing infrastructure, and risk tolerance to determine the most suitable approach for each use case.

7. Information Security How is the security of a firm's information system and data affected by its people, organization, and technology? (4 Marks) Which of the three factors in (a) do you believe has the greatest contribution on the security of the firm’s information systems? Explain your answer. (4 Marks) Justify your answer in (b) with two (2) real-world, examples. (4 Marks) Explain four (4) strategies an organisation can take to improve its information security position. (8 Marks) NB. You may draw a diagram in another application, save it as a .jpeg or .png and attach it to your response.

ANS:

**Security of a firm's information system and data is affected by the following factors:**

a. **People:** Human factors play a significant role in information security. Employees, contractors, and other stakeholders can either strengthen or weaken security through their actions. This includes aspects like user behavior, awareness, training, and adherence to security policies.

b. **Organization:** The organization's structure, culture, and policies influence security. Clear security policies, reporting structures, and a culture of security awareness can enhance information security. Conversely, a lack of security governance can lead to vulnerabilities.

c. **Technology:** The choice of technology, security tools, and infrastructure has a direct impact on information security. Properly configured and updated security technology can protect against threats, while outdated or misconfigured systems can introduce vulnerabilities.

**The factor with the greatest contribution to the security of the firm's information systems is "People."**

Explanation:

1. **User Awareness:** People are often the weakest link in security. Lack of awareness about phishing scams, weak password practices, or the consequences of security breaches can lead to incidents.
2. **Insider Threats:** Malicious or negligent insiders can pose significant risks. Employees with access to sensitive data can intentionally or accidentally compromise security.

**Real-World Examples:**

a. **User Awareness:** In many organizations, employees receive phishing emails that trick them into revealing sensitive information or clicking on malicious links. These incidents highlight the importance of user awareness training and the role of people in preventing such attacks.

b. **Insider Threats:** The famous case of Edward Snowden, a former NSA contractor, who leaked classified documents, demonstrates the potential damage insiders can cause. His actions were driven by his decisions and actions, emphasizing the role of individuals in security breaches.

**Strategies to Improve Information Security:**

1. **Security Training and Awareness:** Conduct regular security training and awareness programs to educate employees about threats and best practices.
2. **Access Control:** Implement strict access controls, limiting access to data and systems to authorized personnel only.
3. **Regular Updates and Patch Management:** Keep all software and systems up-to-date with security patches to address known vulnerabilities.
4. **Incident Response Planning:** Develop and test incident response plans to efficiently manage and mitigate security incidents when they occur.

Attached is a simple diagram illustrating the interaction between "People," "Organization," and "Technology" in influencing information security.

8. There are numerous methods for developing information systems. Describe the Commercial-off-the-shelf (COTS) Application Package development method. (4 Marks) Explain how the Commercial-off-the-shelf (COTS) Application Package development method proceeds through the six steps of the Systems Development Process. (4 Marks) Describe one (1) advantage and one (1) disadvantage of the Commercial-off-the-shelf (COTS) Application Package development method. (4 marks) Outline a system development project you are familiar with (not necessarily the same methodology as above). Describe how a System Development Method was applied. Briefly assess to what extent the System Development Method selected was suitable to the development or transformation of the system. (8 Marks)

ANS:

**Commercial-off-the-shelf (COTS) Application Package Development Method:**

COTS Application Package development involves acquiring pre-built software applications from third-party vendors to fulfill specific business needs. These packages are usually well-tested and widely used, allowing organizations to save time and resources compared to custom development.

**Six Steps of the Systems Development Process in COTS Application Package Development:**

1. **Systems Analysis:** In this phase, the organization assesses its requirements and identifies the need for a COTS solution. This involves understanding business processes and objectives to determine if a COTS package can meet these needs.
2. **Systems Design:** Once the decision to use a COTS package is made, the design phase involves planning the integration of the package into the existing IT infrastructure. This may include configuring the package, customizing it to some extent, and defining how it will interact with other systems.
3. **Programming:** While traditional programming is not a primary activity in COTS development, some customization or scripting might be required to adapt the COTS package to specific organizational requirements.
4. **Testing:** Testing in COTS development focuses on ensuring that the package functions correctly in the context of the organization's environment. This involves integration testing, user acceptance testing, and performance testing.
5. **Conversion:** The conversion phase includes migrating data from legacy systems to the new COTS package and preparing for the transition to the new system.
6. **Production & Maintenance:** Once the COTS package is fully implemented, ongoing maintenance and support are essential to keep the software up-to-date and aligned with evolving business needs.

**Advantages and Disadvantages of COTS Application Package Development:**

**Advantage:**

* **Rapid Deployment:** COTS packages can be deployed quickly, saving time and effort compared to custom development.

**Disadvantage:**

* **Limited Customization:** COTS packages may not fully align with unique organizational requirements, leading to limitations in customization and flexibility.

**System Development Project Example:**

*System*: Customer Relationship Management (CRM) System

*System Development Method*: Agile Development

*Assessment of Suitability*:

Agile Development was suitable for this project because it allowed for frequent collaboration with end-users to refine the CRM system's features and user experience. It accommodated changing requirements and priorities throughout the project, ensuring that the final product met the evolving needs of the organization. However, Agile's emphasis on flexibility and iteration also led to some challenges in estimating timelines and budgets, which needed to be managed carefully. Overall, Agile was a suitable choice for this CRM system development.

9.