Information Technology Applications 203C (ITA203C) FE Practice Test (Sample)

Study Guide

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Questions

1. **What is one key benefit of using a superclass in entity modeling?**

   A. It restricts attribute access to subclasses.

   B. It allows for shared attributes in subtypes.

   C. It eliminates the need for separate tables.

   D. It simplifies the design process significantly.

2. **Which of the following best describes Cloud Computing?**

   A. Local server storage

   B. Internet-based computing

   C. Installing software on individual machines

   D. None of the above

3. **Which of the following is NOT a method used to evaluate capital budgeting for IT projects?**

   A. Payback method

   B. Accounting rate of return

   C. Breakeven analysis

   D. Net present value

4. **Strategic systems are about?**

   A. Providing aggregated information for decision making.

   B. Performing core business processes of the firm cost-effectively.

   C. Providing competitive advantage or reducing competitive disadvantage.

   D. All of the above.

5. **Rank-and-file employees typically make which type of decisions?**

   A. Structured

   B. Unstructured

   C. Semistructured

   D. Procedural

6. **What is the function of a middleware software?**

    A. Improve network speed

    B. Integrate different software applications

    C. Create virtual machines

    D. Manage user interfaces

7. **Which of the following is the primary technology used in a mobile payment system like Apple Pay?**

    A. Near Field Communication (NFC)

    B. QR code

    C. Radio Frequency Identification (RFID)

    D. None of the above

8. **What issue was British Telecom facing in its data file environment, as highlighted in management discussions?**

    A. Program-data dependence

    B. Data redundancy

    C. Lack of data sharing

    D. Data quality

9. **Which of the following describes a "gateway" in BPMN?**

    A. A decision point that routes processes based on conditions

    B. An event that halts process execution

    C. An input to an ongoing process

    D. A storage area for process data

10. **Which expert system is used by Countrywide Funding Corp. for assessing creditworthiness?**

    A. AskMe

    B. EVAL

    C. CLUES

    D. CBR

Answers

1. B
2. B
3. C
4. D
5. A
6. B
7. A
8. D
9. A
10. C

Explanations

1. What is one key benefit of using a superclass in entity modeling?

A. It restricts attribute access to subclasses.

B. It allows for shared attributes in subtypes.

C. It eliminates the need for separate tables.

D. It simplifies the design process significantly.

Using a superclass in entity modeling provides the key benefit of allowing for shared attributes in subtypes. By defining a superclass, common attributes and behaviors that apply to multiple related entities can be centralized within that superclass. This promotes consistency and minimizes redundancy, as all subclasses automatically inherit these shared attributes, which can streamline data management and ensure that any changes to the shared attributes are reflected across all subclasses. This setup is particularly advantageous in object-oriented design and databases, where entities often have overlapping characteristics. By leveraging a superclass, developers can efficiently manage and extend their models, reducing the risk of errors and simplifying maintenance tasks. Attributes like "name," "created date," or "status" can be included in the superclass, while specific attributes unique to each subclass can be added in a seamless manner, ensuring clarity and organization within the data model. This hierarchical structure ultimately supports better scalability and flexibility when updating or adding new functionality.

2. Which of the following best describes Cloud Computing?

A. Local server storage

B. Internet-based computing

C. Installing software on individual machines

D. None of the above

Cloud computing is best described as internet-based computing, which encompasses the delivery of various services such as storage, processing power, and applications over the internet. This model allows users to access and use these resources flexibly and on-demand without the need for local installations or dedicated hardware. This approach provides numerous advantages, including scalability, cost efficiency, and accessibility from anywhere with an internet connection. Users can leverage these services to accommodate fluctuating demands, ensuring they only pay for what they use, which contrasts distinctly with the traditional methods of data management and software installation tied to specific hardware. The other options pertain to more localized computing practices. Local server storage focuses on maintaining data and applications on site, while installing software on individual machines describes a standard method of software deployment that does not utilize internet connectivity in the way cloud computing does. Thus, the selection of internet-based computing accurately reflects the characteristics and benefits of cloud services, distinguishing it from more traditional computing methods.

3. Which of the following is NOT a method used to evaluate capital budgeting for IT projects?

   A. Payback method

   B. Accounting rate of return

   C. Breakeven analysis

   D. Net present value

The breakeven analysis is not typically considered a formal method for evaluating capital budgeting specifically for IT projects. In capital budgeting, the focus is primarily on the expected financial return of an investment relative to its total cost over time, involving metrics that incorporate the time value of money and profitability. The payback method determines how long it takes to recover the initial investment, providing insights into risk and liquidity but not necessarily accounting for the profitability after recouping the investment. The accounting rate of return focuses on the net income attributable to the investment relative to its initial cost, offering a straightforward percentage that can be easily communicated. Net present value (NPV) evaluates the profitability of an investment by calculating the difference between the present value of cash inflows and outflows over time, which reflects how well the project is expected to perform financially over its lifespan using discounted cash flow techniques. While breakeven analysis can help assess when an investment will start generating positive cash flow, it does not provide a comprehensive assessment of the project's financial viability in the way that the other methods do, making it less suitable for evaluating capital budgeting specifically for IT investments.

4. Strategic systems are about?

   A. Providing aggregated information for decision making.

   B. Performing core business processes of the firm cost-effectively.

   C. Providing competitive advantage or reducing competitive disadvantage.

   D. All of the above.

Strategic systems play a crucial role in organizations by aligning technology and business strategies to enhance overall performance and competitiveness. These systems are designed with the goal of not just supporting routine operations but also enabling significant decisions that can impact the long-term success of a business. To elaborate, providing aggregated information for decision-making is essential because strategic systems help in synthesizing large volumes of data into actionable insights, which can improve insight-driven decision-making processes. This capability empowers leaders to make informed choices that align with the organization's strategic goals. Additionally, performing core business processes efficiently and cost-effectively is another essential characteristic of strategic systems. By streamlining operations, these systems can help businesses save on costs and improve productivity, allowing organizations to focus resources on strategic initiatives rather than just routine tasks. Furthermore, strategic systems are fundamentally tied to providing a competitive advantage. They can enable companies to differentiate their offerings, optimize processes, and respond more swiftly to changes in the market. This can help an organization to not only gain an edge over competitors but also mitigate any disadvantages they might be facing. Thus, strategic systems encapsulate multiple functions — from enhancing decision-making through data aggregation to improving core processes and fostering competitive advantages — making the comprehensive view that includes all these aspects pertinent and accurate.

5. Rank-and-file employees typically make which type of decisions?

A. Structured

B. Unstructured

C. Semistructured

D. Procedural

Rank-and-file employees typically make structured decisions. Structured decisions are those that are repetitive and routine in nature, often following established procedures or guidelines. These types of decisions are characterized by clear parameters and well-defined processes, allowing employees at this level to rely on standard operating procedures to resolve issues or complete tasks. In many organizations, rank-and-file employees may work within specific roles that require them to follow predetermined policies, such as processing transactions, managing customer queries, or adhering to safety protocols. The structured nature of their decisions enables efficiency and consistency in operations, reducing the chance for error and enabling smoother workflow.   While unstructured decisions involve more ambiguity and require greater judgment and discretion, these are typically reserved for higher-level management roles. Semistructured decisions contain elements of both structured and unstructured and generally require some analytical thinking but are still frameworked within some guidelines. Procedural decisions may sound similar to structured but are specifically based on formalized processes or rules. Understanding the distinction between these categories helps clarify why structured decisions are the norm for rank-and-file employees.

6. What is the function of a middleware software?

A. Improve network speed

B. Integrate different software applications

C. Create virtual machines

D. Manage user interfaces

Middleware software acts as a bridge between different software applications, enabling them to communicate and work together effectively. It facilitates data exchange and functionality sharing across diverse systems, which may be built on different platforms or languages. This integration allows for smoother operations and enhanced collaboration in multi-tier architectures, where applications need to interact seamlessly without being directly connected. By utilizing middleware, organizations can connect legacy systems with modern applications, enabling better data access and improving overall system interoperability. This capability is critical in environments where different software components need to collaborate, ensuring that information flows correctly and efficiently between them.

7. Which of the following is the primary technology used in a mobile payment system like Apple Pay?

A. Near Field Communication (NFC)

B. QR code

C. Radio Frequency Identification (RFID)

D. None of the above

The primary technology used in a mobile payment system like Apple Pay is Near Field Communication (NFC). NFC allows for secure communication between devices when they are in close proximity, typically within a few centimeters. This technology is crucial for the functionality of mobile payment systems because it enables users to make payments simply by tapping their mobile device against a compatible payment terminal. NFC is designed to facilitate secure transactions by encrypting data and ensuring that information is exchanged between devices securely. When you use Apple Pay, your payment information is transmitted via NFC, allowing for quick, contactless payments without the need for physical cards or cash. While QR codes and RFID are also encountered in payment and identification technologies, they are not the primary method utilized by Apple Pay. QR codes require scanning and visual recognition, which is not as seamless as the tap-and-go convenience offered by NFC. RFID operates differently and is often used for tracking and identifying items rather than for direct payment transactions. Thus, NFC stands out as the most effective technology for mobile payments in systems like Apple Pay.

8. What issue was British Telecom facing in its data file environment, as highlighted in management discussions?

A. Program-data dependence

B. Data redundancy

C. Lack of data sharing

D. Data quality

The issue highlighted by British Telecom regarding its data file environment relates to data quality. This refers to the accuracy, consistency, and reliability of the data stored within the system. Poor data quality can lead to several problems, including incorrect decision-making, inefficiencies in operations, and compromised customer interactions. Organizations, especially those like British Telecom that depend heavily on data for their operations and decision-making processes, must prioritize high data quality to maintain competitive advantages and ensure effective service delivery. By addressing data quality, organizations can improve the overall integrity of their databases, ensure compliance with regulations, and enhance analytical capabilities, leading to better-informed business strategies and operations. Proper management of data quality involves regular audits, cleansing processes, and implementing data governance frameworks to sustain the accuracy and usability of the data collected and stored. Enhancing data quality ultimately supports all other aspects of data management, including sharing and integration, which are vital for optimized data utilization across the organization.

9. Which of the following describes a "gateway" in BPMN?

A. A decision point that routes processes based on conditions

B. An event that halts process execution

C. An input to an ongoing process

D. A storage area for process data

A gateway in Business Process Model and Notation (BPMN) is indeed described as a decision point that routes processes based on conditions. Gateways serve a crucial role in process flow by controlling the divergence and convergence of sequences based on certain criteria or conditions. They can facilitate decisions, parallel processing, and branching within a process, making them essential for modeling complex workflows. For instance, when a process reaches a gateway, it can evaluate conditions to determine which path to follow next. This allows for a more dynamic and responsive process that can adapt based on varying inputs or states. Different types of gateways, such as exclusive, inclusive, and parallel, help define how the process behaves under different scenarios. The other options do not accurately capture the function of a gateway. An event that halts process execution represents something different, as it involves pausing or stopping the process rather than guiding its flow. An input to an ongoing process refers to data or information being fed into a process, and a storage area for process data pertains more to databases or repositories rather than the routing function of a gateway. Thus, the definition that a gateway is a decision point aligning with conditions captures its purpose effectively within BPMN.

10. Which expert system is used by Countrywide Funding Corp. for assessing creditworthiness?

A. AskMe

B. EVAL

C. CLUES

D. CBR

The correct choice is CLUES, which stands for "Computerized Loan Underwriting Expert System." This expert system was specifically developed to assist lenders like Countrywide Funding Corp. in evaluating the creditworthiness of potential borrowers. CLUES uses a variety of algorithms and data analysis techniques to assess credit applications, helping financial institutions make informed lending decisions. This system evaluates borrower information against established credit criteria, allowing for a more consistent and accurate assessment process. The use of CLUES can streamline the underwriting process, reduce human error, and enhance the overall efficiency of loan approval operations. Thus, its application in the context of credit assessment reflects its significance in financial technology and risk management practices. In contrast, other options may represent different technologies or systems that are not specifically dedicated to assessing creditworthiness, which is why they are not the best fit for this particular scenario.