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| 1. Systems analysis establishes the need for an information system and its extent.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 2. The term “database development” is used to describe the process of database design and implementation.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 3. The primary objective in database design is to create complete, normalized, nonredundant, and fully integrated conceptual, logical, and physical database models.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 4. The implementation phase of database design includes creating the database storage structure and loading the database, but does not provide for data management.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 5. The Systems Development Life Cycle (SDLC) traces the history of an information system.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2 The Systems Development Life Cycle | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 6. The Systems Development Life Cycle (SDLC) is a sequential process rather than an iterative process.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2 The Systems Development Life Cycle | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 7. The Systems Development Life Cycle's (SDLC's) planning phase yields a general overview of the company and its objectives.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2a Planning | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 8. In the Systems Development Life Cycle (SDLC), problems defined during the planning phase are examined in greater detail during the analysis phase.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2b Analysis | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 9. The analysis phase of the Systems Development Life Cycle (SDLC) involves a cycle of coding, testing, and debugging.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 10. In the Systems Development Life Cycle(SDLC), the design of the system's processes begins in the detailed systems design phase.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2c Detailed Systems Design | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 11. In the detailed systems design phase of the Systems Development Life Cycle (SDLC), steps are laid out for the conversion of a database from an old system to a new system.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2c Detailed Systems Design | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 12. The database contents might be loaded interactively or in batch mode using a variety of methods and devices including customized user programs.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 13. A system is always at some stage of SDLC because every request for structural changes requires retracing the steps of the Systems Development Life Cycle (SDLC).   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2e Maintenance | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 14. A system maintenance activity generated in response to changes in the business environment is referred to as corrective maintenance.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2e Maintenance | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 15. The overall purpose of the database initial study is to create the conceptual design.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3a The Database Initial Study | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 16. After the initial declarations in Database Life Cycle (DBLC), the database designer must carefully probe in order to generate additional information that will help define the problem within the larger framework of company operations.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3a The Database Initial Study | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 17. In most modern relational DBMSs, a new database implementation requires the creation of special storage-related constructs to house the end-user tables.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3c Implementation and Loading | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 18. Data integrity is enforced by the database management system (DBMS) through the proper use of primary and foreign key rules.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 19. The testing and evaluation phase of the Database Life Cycle (DBLC) occurs after applications programming.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 20. Evaluation of database performance is rendered easier by the fact there are no standards to measure it.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 21. The process of creating an information system is known as \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | systems development | b. | database development | |  | c. | network development | d. | enterprise development |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 22. The traditional Systems Development Life Cycle (SDLC) is divided into \_\_\_\_\_ phases.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | two | b. | three | |  | c. | four | d. | five |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2 The Systems Development Life Cycle | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 23. Discovery of user requirements, existing system evaluation, and logical system design are part of the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | planning | b. | analysis | |  | c. | detailed systems design | d. | implementation |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2b Analysis | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 24. Coding, testing, and debugging are part of the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | planning | b. | analysis | |  | c. | detailed systems design | d. | implementation |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 25. “Should the existing system be replaced?” is a question that is asked during the \_\_\_\_\_ stage of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | planning | b. | analysis | |  | c. | implementation | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2a Planning | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 26. “What are the requirements of the current system’s end users?” is a question asked during the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | planning | b. | analysis | |  | c. | implementation | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2b Analysis | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 27. The result of the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC) should be a better understanding of the system's functional areas, actual and potential problems, and opportunities.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | analysis | b. | implementation | |  | c. | detailed systems design | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2b Analysis | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 28. The logical systems design is created during the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | planning | b. | analysis | |  | c. | implementation | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2b Analysis | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 29. The \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC) includes all the necessary technical specifications for the screens, menus, reports, and other devices used to make the system more efficient.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | analysis | b. | implementation | |  | c. | detailed systems design | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2c Detailed Systems Design | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 30. Training principles and methodologies are planned during the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | maintenance | b. | implementation | |  | c. | analysis | d. | detailed systems design |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2c Detailed Systems Design | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 31. During the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC), the hardware, database management system (DBMS) software, and application programs are installed, and the database design is implemented.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | detailed systems design | b. | analysis | |  | c. | maintenance | d. | implementation |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 32. The database contents are loaded during the \_\_\_\_\_ phase of the Systems Development Life Cycle (SDLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | analysis | b. | detailed systems design | |  | c. | implementation | d. | maintenance |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 33. The implementation of \_\_\_\_\_ applications tends to prolong the operational life of systems by making them easier to update and maintain.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | database-produced | b. | network-produced | |  | c. | CASE-produced | d. | design-produced |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2e Maintenance | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 34. In DBLC, the phase after the database initial study is \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | operation | b. | database design | |  | c. | database initial study | d. | implementation and loading |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3b Database Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 35. The maintenance and evolution phase of the Database Life Cycle (DBLC) involves \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | defining objectives | b. | introducing changes | |  | c. | testing the database | d. | installing the DBMS |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3 The Database Life Cycle | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 36. Selecting database management system (DBMS) software is part of the \_\_\_\_\_ phase of the Database Life Cycle (DBLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | database initial study | b. | database design | |  | c. | implementation and loading | d. | testing and evaluation |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3 The Database Life Cycle | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 37. Producing the required information flow is part of the \_\_\_\_\_ phase of the Database Life Cycle (DBLC).   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | database initial study | b. | database design | |  | c. | operation | d. | testing and evaluation |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3 The Database Life Cycle | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 38. \_\_\_\_\_ is a technique that creates logical representations of computing resources that are independent of the underlying physical computing resources.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Normalization | b. | Virtualization | |  | c. | Specialization | d. | Generalization |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3c Implementation and Loading | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 39. The implementation and loading phase of the Database Life Cycle (DBLC) involves \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | defining objectives | b. | introducing changes | |  | c. | testing the database | d. | installing the DBMS |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3c Implementation and Loading | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 40. In the context of the database design process, the conceptual design step that defines the fragmentation and allocation strategy is \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | database analysis and requirements | b. | ER modeling and normalization | |  | c. | data model verification | d. | distributed database design |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4d Distributed Database Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 41. In the context of the database design process, the conceptual design step that determines end-user views, outputs, and transaction-processing requirements is \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | data analysis and requirements | b. | entity relationship modeling and normalization | |  | c. | data model verification | d. | distributed database design |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4a Data Analysis and Requirements | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 42. \_\_\_\_\_ can render data useless to unauthorized users who might have violated some of the database security layers.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Data encryption | b. | Access rights | |  | c. | Physical security | d. | Password security |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 43. Once the data has been loaded into the database, the \_\_\_\_\_ tests and fine-tunes the database for performance, integrity, concurrent access, and security constraints.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | programmer | b. | manager | |  | c. | database administrator | d. | systems administrator |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 44. In a(n) \_\_\_\_\_, only the objects that have been updated or modified since the last full backup are backed up.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | transaction log backup | b. | conservative backup | |  | c. | differential backup | d. | adaptive backup |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 45. Which of the following is a hardware-induced database failure?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Memory chip errors | b. | Viruses | |  | c. | Malware | d. | Abortion due to deadlock |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 46. The last step in the Database Life Cycle (DBLC) is \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | maintenance and evolution | b. | operation | |  | c. | testing and evaluation | d. | implementation and loading |  |  |  | | --- | --- | | *ANSWER:* | a | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3f Maintenance and Evolution | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 47. The first step in developing the conceptual model using ER diagrams is to \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | normalize the entities | b. | complete the initial ER diagram | |  | c. | identify, analyze, and refine the business rules | d. | define the attributes, primary keys, and foreign keys for each of the entities |  |  |  | | --- | --- | | *ANSWER:* | c | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-4b Entity Relationship Modeling and Normalization | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 48. The first step in the ER model verification process is to \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | identify each module and its components | b. | identify the ER model's central entity | |  | c. | verify all processes against the ER model | d. | identify each module's internal transaction requirements |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-4c Data Model Verification | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 49. \_\_\_\_\_ is the process of determining the data storage organization and data access characteristics of the database to ensure its integrity, security, and performance.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Conceptual design | b. | Network design | |  | c. | Logical design | d. | Physical design |  |  |  | | --- | --- | | *ANSWER:* | d | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-7 Physical Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 50. During decentralized design, after the \_\_\_\_\_ has been completed, all modules are integrated into one conceptual model.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | declaration process | b. | verification process | |  | c. | conceptual process | d. | logical process |  |  |  | | --- | --- | | *ANSWER:* | b | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-9 Centralized versus Decentralized Design | | *LEARNING OBJECTIVES:* | 09.06 - Distinguish between centralized and decentralized conceptual database design | |

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| 51. A(n) \_\_\_\_\_ is a carefully designed and constructed repository of facts that is a part of a larger whole known as an information system.   |  |  | | --- | --- | | *ANSWER:* | database | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 52. \_\_\_\_\_ is the process that establishes the need for, and the extent of, an information system.   |  |  | | --- | --- | | *ANSWER:* | Systems analysis | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-1 The Information System | | *LEARNING OBJECTIVES:* | 09.01 - Describe the role of database design as the foundation of a successful information system | |

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| 53. The traditional Systems Development Life Cycle (SDLC) phases are \_\_\_\_\_, analysis, detailed systems design, implementation, and maintenance.   |  |  | | --- | --- | | *ANSWER:* | planning | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2 The Systems Development Life Cycle | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 54. An initial assessment of the information flow-and-extent requirements must be made during the \_\_\_\_\_ portion of the Systems Development Life Cycle (SDLC).   |  |  | | --- | --- | | *ANSWER:* | planning | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2a Planning | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 55. After testing is concluded, the final \_\_\_\_\_ is reviewed and printed and end users are trained.   |  |  | | --- | --- | | *ANSWER:* | documentation | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 56. The advent of very sophisticated application generators and \_\_\_\_\_ has substantially decreased coding and testing time.   |  |  | | --- | --- | | *ANSWER:* | debugging tools | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-2d Implementation | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 57. The system’s \_\_\_\_\_ defines the extent of the design according to operational requirements.   |  |  | | --- | --- | | *ANSWER:* | scope | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3a The Database Initial Study | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 58. The proposed system is subject to limits known as \_\_\_\_\_, which are external to the system.   |  |  | | --- | --- | | *ANSWER:* | boundaries | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3a The Database Initial Study | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 59. \_\_\_\_\_ are usually provided by the database management system (DBMS) to check for access violations.   |  |  | | --- | --- | | *ANSWER:* | Audit trails | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 60. \_\_\_\_\_ allow end users to access the database without being able to download the information from their workstations.   |  |  | | --- | --- | | *ANSWER:* | Diskless workstations | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 61. The \_\_\_\_\_ stage uses data modeling to create an abstract database structure that represents real-world objects in the most realistic way possible.   |  |  | | --- | --- | | *ANSWER:* | conceptual design | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4 Conceptual Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 62. The first step in \_\_\_\_\_ is to discover the data element characteristics.   |  |  | | --- | --- | | *ANSWER:* | conceptual design | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4a Data Analysis and Requirements | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 63. A designer must have a thorough understanding of the company's data types, extent, and uses in order to develop an accurate \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | data model | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4a Data Analysis and Requirements | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 64. A(n) \_\_\_\_\_ rule is a brief and precise narrative of a policy, procedure, or principle within a specific organization's environment.   |  |  | | --- | --- | | *ANSWER:* | business rule | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4a Data Analysis and Requirements | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 65. Because real-world database design is generally done by teams, the database design is probably divided into major components known as \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | modules | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4c Data Model Verification | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 66. A(n) \_\_\_\_\_ is an information system component that handles a specific business function, such as inventory, orders, or payroll.   |  |  | | --- | --- | | *ANSWER:* | module | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4c Data Model Verification | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 67. The term \_\_\_\_\_ describes the strength of the relationships found among a module’s entities.   |  |  | | --- | --- | | *ANSWER:* | cohesivity | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-4c Data Model Verification | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 68. When selecting DBMS \_\_\_\_\_, items to consider include processors, RAM, and disk space.   |  |  | | --- | --- | | *ANSWER:* | hardware | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-5 DBMS Software Selection | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 69. The \_\_\_\_\_ goal is to design an enterprise-wide database based on a specific data model but independent of physical-level details.   |  |  | | --- | --- | | *ANSWER:* | logical design | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-6 Logical Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 70. \_\_\_\_\_ could become a very technical job that affects not only the accessibility of the data in the storage device(s) but also the performance of the system.   |  |  | | --- | --- | | *ANSWER:* | Physical design | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | 9-7 Physical Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 71. List and briefly describe the three types of system maintenance activities.   |  |  | | --- | --- | | *ANSWER:* | The three types of maintenance activities are:   1. Corrective maintenance in response to systems errors. 2. Adaptive maintenance due to changes in the business environment. 3. Perfective maintenance to enhance the system. | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-2e Maintenance | | *LEARNING OBJECTIVES:* | 09.02 - Describe the five phases in the Systems Development Life Cycle (SDLC) | |

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| 72. List and describe the different levels at which database backups can be performed.   |  |  | | --- | --- | | *ANSWER:* | A full backup, or dump, of the entire database. In this case, all database objects are backed up in their entirety.  A differential backup of the database, in which only the objects that have been updated or modified since the last full backup are backed up.  A transaction log backup, which backs up only the transaction log operations that are not reflected in a previous backup copy of the database. In this case, no other database objects are backed up. | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-3d Testing and Evaluation | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 73. What are the factors affecting the purchasing decision for DBMS software?   |  |  | | --- | --- | | *ANSWER:* | Cost: This includes the original purchase price, along with maintenance, operational, license, installation, training, and conversion costs.    DBMS features and tools: Some database software includes a variety of tools that facilitate application development. For example, the availability of query by example (QBE), screen painters, report generators, application generators, and data dictionaries helps to create a more pleasant work environment for both the end user and the application programmer. Database administrator facilities, query facilities, ease of use, performance, security, concurrency control, transaction processing, and third-party support also influence DBMS software selection.    Underlying model: This can be hierarchical, network, relational, object/relational, or object-oriented.    Portability: A DBMS can be portable across platforms, systems, and languages.    DBMS hardware requirements: Items to consider include processor(s), RAM, disk space, and so on. | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-5 DBMS Software Selection | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 74. Explain the concept of logical design and list the steps involved.   |  |  | | --- | --- | | *ANSWER:* | Logical design is the second stage in the database design process. The logical design goal is to design an enterprise-wide database that is based on a specific data model but independent of physical-level details. Logical design requires that all objects in the conceptual model be mapped to the specific constructs used by the selected database model.  The logical design is generally performed in the following four steps:  1. Mapping the conceptual model to logical model components  2. Validating the logical model using normalization  3. Validating the logical model integrity constraints  4. Validating the logical model against user requirements | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-6 Logical Design | | *LEARNING OBJECTIVES:* | 09.03 - Design databases using the six phases in the Database Life Cycle (DBLC) framework | |

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| 75. Explain the differences between a centralized and decentralized approach to database design.   |  |  | | --- | --- | | *ANSWER:* | Centralized design is productive when the data component has a relatively small number of objects and procedures. The design can be carried out and represented in a fairly simple database. Centralized design is typical of relatively simple, small databases and can be successfully done by a single database administrator or by a small, informal design team. The company operations and the scope of the problem are sufficiently limited to allow even a single designer to define the problem(s), create the conceptual design, verify the conceptual design with the user views, define system processes and data constraints to ensure the efficacy of the design, and ensure that the design will comply with all the requirements.  On the other hand, decentralized design might be used when the system’s data component has a considerable number of entities and complex relations on which very complex operations are performed. Decentralized design is also often used when the problem itself is spread across several operational sites and each element is a subset of the entire data set. In large and complex projects, the database typically cannot be designed by only one person. Instead, a carefully selected team of database designers tackles a complex database project. Within the decentralized design framework, the database design task is divided into several modules. Once the design criteria have been established, the lead designer assigns design subsets or modules to design groups within the team. | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | 9-9 Centralized versus Decentralized Design | | *LEARNING OBJECTIVES:* | 09.06 - Distinguish between centralized and decentralized conceptual database design | |