CHAPTER 9: DATABASE DESIGN

1. Systems analysis establishes the need for an information system and its extent.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.440

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The term “database development” is used to describe the process of database design and implementation.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.441

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The primary objective in database design is to create complete, normalized, nonredundant, and fully integratedconceptual, logical, and physical database models.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.441

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The implementation phase of database design includes creating the database storage structure and loading thedatabase, but does not provide for data management.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.441

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The Systems Development Life Cycle (SDLC) traces the history of an information system.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The Systems Development Life Cycle (SDLC) provides the big picture within which the database design andapplication development can be mapped out and evaluated.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The Systems Development Life Cycle (SDLC) is a sequential process rather than an iterative process.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The Systems Development Life Cycle’s (SDLC’s) planning phase yields a general overview of the company and itsobjectives.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The result of analysis phase of the Systems Development Life Cycle (SDLC) should be a better understanding ofthe system’s functional areas, actual and potential problems, and opportunities.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.443

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. In the Systems Development Life Cycle (SDLC), problems defined during the planning phase are examined ingreater detail during the analysis phase.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The analysis phase of the Systems Development Life Cycle (SDLC) involves a cycle of coding, testing, and

debugging.

* 1. True
  2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Moderate REF: p.444

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Systems Development Life Cycle

1. In the Systems Development Life Cycle(SDLC), the design of the system’s processes begins in the detailed systemsdesign phase.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. In the detailed systems design phase of the Systems Development Life Cycle (SDLC), steps are laid out for theconversion of a database from an old system to a new system.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. Training principles and methodologies are planned during the implementation phase of the Systems DevelopmentLife Cycle (SDLC).
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The detailed systems design phase of the Systems Development Life Cycle (SDLC) includes all the necessarytechnical specifications for the screens, menus, reports, and other devices used to make the system more efficient.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. During the implementation phase of the Systems Development Life Cycle (SDLC), the hardware, databasemanagement system (DBMS) software, and application programs are installed, and the database design isimplemented.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The database contents might be loaded interactively or in batch mode using a variety of methods and devicesincluding customized user programs.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The system is subjected to exhaustive testing during the testing phase of the Systems Development Life Cycle(SDLC).
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Moderate REF: p.445

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Systems Development Life Cycle

1. In the Systems Development Life Cycle (SDLC), after testing is concluded, end-user training is not necessary.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Moderate REF: p.445

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Systems Development Life Cycle

1. A system is always at some stage of SDLC because every request for structural changes requires retracing thesteps of the Systems Development Life Cycle (SDLC).
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. A system maintenance activity generated in response to changes in the business environment is referred to ascorrective maintenance.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The overall purpose of the database initial study is to create the conceptual design.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. To analyze the company situation, the database designer must discover what the company’s operational componentsare, how they function, and how they interact.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. After the initial declarations in Database Life Cycle (DBLC), the database designer must carefully probe in orderto generate additional information that will help define the problem within the larger framework of companyoperations.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.448

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. In most modern relational DBMSs, a new database implementation requires the creation of special storage-relatedconstructs to house the end-user tables.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The assignment of access rights may restrict operations on predetermined objects such as databases, tables, views,queries, and reports.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Moderate REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Data integrity is enforced by the database management system (DBMS) through the proper use of primary andforeign key rules.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The testing and evaluation phase of the Database Life Cycle (DBLC) occurs after applications programming.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Database performance is one of the least important factors in all database implementations.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Evaluation of database performance is rendered easier by the fact there are no standards to measure it.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The main purpose of a backup is to guarantee database restoration following a hardware or software failure.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.455

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The database administrator must be prepared to perform routine maintenance activities within the database.
   1. True
   2. False

*ANSWER:* True

PTS: 1 DIF: Difficulty: Easy REF: p.457

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Physical design becomes simpler when data is distributed at different locations.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.473

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Physical design

1. Decentralized design is typical of relatively simple, small databases and can be successfully done by a singleperson.
   1. True
   2. False

*ANSWER:* False

PTS: 1 DIF: Difficulty: Easy REF: p.474

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Centralized Versus Decentralized Design

1. The process of creating an information system is known as .
   1. systems development b. database development

c. network development d. enterprise development

*ANSWER:* a

PTS: 1 DIF: Difficulty: Easy REF: p.440

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The traditional Systems Development Life Cycle (SDLC) is divided into phases.
   1. two b. three

c. four d. five

*ANSWER:* d

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. Discovery of user requirements, existing system evaluation, and logical system design are part of the phaseof the Systems Development Life Cycle (SDLC).
   1. planning b. analysis

c. detailed systems design d. implementation

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. Coding, testing, and debugging are part of the phase of the Systems Development Life Cycle (SDLC).
   1. planning b. analysis

c. detailed systems design d. implementation

*ANSWER:* d

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. “Should the existing system be replaced?” is a question that is asked during the stage of the Systems Development Life Cycle (SDLC).
   1. planning b. analysis

c. implementation d. maintenance

*ANSWER:* a

PTS: 1 DIF: Difficulty: Easy REF: p.443

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. “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).
   1. planning b. analysis

c. implementation d. maintenance

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.443

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The feasibility study during the planning phase of the Systems Development Life Cycle (SDLC) must address the:
   1. requirements of the current system’s end users.
   2. problems and constraints related to the company situation.
   3. questions about modification and replacement of existing system.
   4. technical aspects of hardware and software requirements.

*ANSWER:* d

PTS: 1 DIF: Difficulty: Moderate REF: p.443

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Systems Development Life Cycle

1. The logical systems design is created during the phase of the Systems Development Life Cycle (SDLC).
   1. planning b. analysis

c. implementation d. maintenance

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The database contents are loaded during the phase of the Systems Development Life Cycle (SDLC).
   1. analysis b. detailed systems design

c. implementation d. maintenance

*ANSWER:* c

PTS: 1 DIF: Difficulty: e REF: p.444

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. In DBLC, the phase after the database initial study is .
   1. operation b. database design

c. database initial study d. implementation and loading

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The implementation of applications tends to prolong the operational life of systems by making them easier toupdate and maintain.
   1. database-produced b. network-produced

c. CASE-produced d. design-produced

*ANSWER:* c

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The maintenance and evolution phase of the Database Life Cycle (DBLC) involves .
   1. defining objectives b. introducing changes

c. testing the database d. installing the DBMS

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Selecting database management system (DBMS) software is part of the phase of the Database Life Cycle(DBLC).
   1. database initial study b. database design

c. implementation and loading d. testing and evaluation

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Producing the required information flow is part of the phase of the Database Life Cycle (DBLC).
   1. database initial study b. database design

c. operation d. testing and evaluation

*ANSWER:* c

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life cycle

1. is a technique that creates logical representations of computing resources that are independent of theunderlying physical computing resources.
   1. Normalization b. Virtualization

c. Specialization d. Generalization

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.451

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The implementation and loading phase of the Database Life Cycle (DBLC) involves .
   1. defining objectives b. introducing changes

c. testing the database d. installing the DBMS

*ANSWER:* d

PTS: 1 DIF: Difficulty: Easy REF: p.451

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. In the context of the database design process, the conceptual design step that defines the fragmentation andallocation strategy is .
   1. Database analysis and requirements b. ER modeling and normalization

c. data model verification d. distributed database design

*ANSWER:* d

PTS: 1 DIF: Difficulty: Moderate REF: p.452

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Database Life Cycle

1. In the context of the database design process, the conceptual design step that determines end-user views, outputs,and transaction-processing requirements is .
   1. Data analysis and requirements b. entity relationship modeling and normalization

c. data model verification d. distributed data design

*ANSWER:* a

PTS: 1 DIF: Difficulty: Moderate REF: p.452

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s:Comprehension TOP: The Database Life Cycle

1. can render data useless to unauthorized users who might have violated some of the database securitylayers.
   1. Data encryption b. Access rights

c. Physical security d. Password security

*ANSWER:* a

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Once the data has been loaded into the database, the tests and fine-tunes the database for performance,integrity, concurrent access, and security constraints.
   1. programmer b. manager

c. database administrator d. systems administrator

*ANSWER:* c

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. In a(n) , only the objects that have been updated or modified since the last full backup are backed up.
   1. transaction log backup b. conservative backup

c. differential backup d. adaptive backup

*ANSWER:* c

PTS: 1 DIF: Difficulty: Easy REF: p.455

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Which of the following is a hardware-induced database failure?
   1. memory chip errors b. viruses

c. malware d. abortion due to deadlock

*ANSWER:* a

PTS: 1 DIF: Difficulty: Easy REF: p.456

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The last step in the Database Life Cycle (DBLC) is .
   1. maintenance and evolution b. operation

c. testing and evaluation d. implementation and loading

*ANSWER:* a

PTS: 1 DIF: Difficulty: Easy REF: p.457

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The first step in developing the conceptual model using ER diagrams is to .
   1. normalize the entities
   2. complete the initial ER diagram
   3. identify, analyze, and refine the business rules
   4. define the attributes, primary keys, and foreign keys for each of the entities

*ANSWER:* c

PTS: 1 DIF: Difficulty: Easy REF: p.461

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. The first step in the ER model verification process is to .
   1. identify each module and its components
   2. identify the ER model’s central entity
   3. verify all processes against the ER model
   4. identify each module’s internal transaction requirements

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.465

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. is the process of determining the data storage organization and data access characteristics of the databaseto ensure its integrity, security, and performance.
   1. Conceptual design b. Network design

c. Logical design d. Physical design

*ANSWER:* d

PTS: 1 DIF: Difficulty: Easy REF: p.471

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Physical design

1. During decentralized design, after the has been completed, all modules are integrated into one conceptualmodel.
   1. declaration process b. verification process

c. conceptual process d. logical process

*ANSWER:* b

PTS: 1 DIF: Difficulty: Easy REF: p.476

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Central Versus Decentralized Design

1. A(n) is a carefully designed and constructed repository of facts that is a part of a larger whole known as aninformation system.

*ANSWER:* database

PTS: 1 DIF: Difficulty: Easy REF: p.440

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. is the process that establishes the need for, and the extent of, an information system.

*ANSWER:* Systems analysis

PTS: 1 DIF: Difficulty: Easy REF: p.440

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Information System

1. The traditional Systems Development Life Cycle (SDLC) phases are , analysis, detailed systems design,implementation, and maintenance.

*ANSWER:* planning

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. An initial assessment of the information flow-and-extent requirements must be made during the portion ofthe Systems Development Life Cycle (SDLC).

*ANSWER:* discovery

PTS: 1 DIF: Difficulty: Easy REF: p.442

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. After testing is concluded, the final is reviewed and printed and end users are trained.

*ANSWER:* documentation

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The advent of very sophisticated application generators and has substantially decreased coding and testingtime.

*ANSWER:* debugging tools

PTS: 1 DIF: Difficulty: Easy REF: p.445

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Systems Development Life Cycle

1. The system’s defines the extent of the design according to operational requirements.

*ANSWER:* scope

PTS: 1 DIF: Difficulty: Easy REF: p.446

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The proposed system is subject to limits known as , which are external to the system.

*ANSWER:* boundaries

PTS: 1 DIF: Difficulty: Easy REF: p.450

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Making sure that the final product meets user and system requirements is the most critical phase.

*ANSWER:* Database Life Cycle (DBLC)

PTS: 1 DIF: Difficulty: Easy REF: p.450

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. are usually provided by the database management system (DBMS) to check for access violations.

*ANSWER:* Audit trails

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. Programmers use database tools to the applications during coding of the programs.

*ANSWER:* prototype

PTS: 1 DIF: Difficulty: Moderate REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. allow end users to access the database without being able to download the information from theirworkstations.

*ANSWER:* Diskless workstations

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. allows the assignment of access rights to specific authorized users.

*ANSWER:* Password security

PTS: 1 DIF: Difficulty: Easy REF: p.454

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: The Database Life Cycle

1. The stage uses data modeling to create an abstract database structure that represents real-world objects inthe most realistic way possible.

*ANSWER:* conceptual design

PTS: 1 DIF: Difficulty: Easy REF: p.457

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. The first step in is to discover the data element characteristics.

*ANSWER:* conceptual design

PTS: 1 DIF: Difficulty: Easy REF: p.459

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. A designer must have a thorough understanding of the company’s data types, extent, and uses in order to developan accurate \_\_\_\_\_.

*ANSWER:* data model

PTS: 1 DIF: Difficulty: Easy REF: p.459

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. A rule is a brief and precise narrative of a policy, procedure, or principle within a specific organization’senvironment.

*ANSWER:* business rule

PTS: 1 DIF: Difficulty: Easy REF: p.459

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. Because real-world database design is generally done by teams, the database design is probably divided into majorcomponents known as .

*ANSWER:* modules

PTS: 1 DIF: Difficulty: Easy REF: p.464

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. A is an information system component that handles a specific business function, such as inventory, orders,or payroll.

*ANSWER:* module

PTS: 1 DIF: Difficulty: Easy REF: p.464

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. The term describes the strength of the relationships found among a module’s entities.

*ANSWER:* cohesivity

PTS: 1 DIF: Difficulty: Easy REF: p.466

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Conceptual Design

1. When selecting DBMS , items to consider include processors, RAM, and disk space.

*ANSWER:* hardware

PTS: 1 DIF: Difficulty: Easy REF: p.467

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: DBMS Software Selection

1. The goal is to design an enterprise-wide database based on a specific data model but independent ofphysical-level details.

*ANSWER:* logical design

PTS: 1 DIF: Difficulty: Easy REF: p.468

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Logical Design

1. 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

PTS: 1 DIF: Difficulty: Easy REF: p.471

NAT: BUSPROG: Technology STATE: DISC: Information Technology

KEY: Bloom’s: Knowledge TOP: Physical Design

1. 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.

PTS: 1 DIF: Difficulty: Moderate REF: p.445

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Systems Development Life Cycle

1. 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 theirentirety.

A differential backup of the database, in which only the objects that have been updated or modifiedsince the last full backup are backed up.

A transaction log backup, which backs up only the transaction log operations that are not reflected in aprevious backup copy of the database. In this case, no other database objects are backed up.

PTS: 1 DIF: Difficulty: Moderate REF: p.455

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: The Database Life Cycle

1. 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 applicationdevelopment. For example, the availability of query by example (QBE), screen painters, reportgenerators, application generators, and data dictionaries helps to create a more pleasant workenvironment for both the end user and the application programmer. Database administrator facilities,query facilities, ease of use, performance, security, concurrency control, transaction processing, andthird-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.

PTS: 1 DIF: Difficulty: Moderate REF: p.467

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: DBMS Software Selection

1. 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 designan enterprise-wide database that is based on a specific data model but independent of physical-leveldetails. Logical design requires that all objects in the conceptual model be mapped to the specificconstructs 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

PTS: 1 DIF: Difficulty: Moderate REF: p.468

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: Logical Design

1. What are the classical approaches to database design?

*ANSWER:* There are two classical approaches to database design:

1. Top-down design starts by identifying the data sets and then defines the data elements for eachof those sets. This process involves the identification of different entity types and the definitionof each entity’s attributes.
2. Bottom-up design first identifies the data elements (items) and then groups them together in datasets. In other words, it first defines attributes, and then groups them to form entities.

PTS: 1 DIF: Difficulty: Moderate REF: p.473

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension OP: Database Design Strategies

1. 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 andprocedures. The design can be carried out and represented in a fairly simple database. Centralizeddesign is typical of relatively simple, small databases and can be successfully done by a single databaseadministrator or by a small, informal design team. The company operations and the scope of theproblem are sufficiently limited to allow even a single designer to define the problem(s), create theconceptual design, verify the conceptual design with the user views, define system processes and dataconstraints to ensure the efficacy of the design, and ensure that the design will comply with all therequirements.

On the other hand, decentralized design might be used when the system’s data component has aconsiderable number of entities and complex relations on which very complex operations areperformed. Decentralized design is also often used when the problem itself is spread across severaloperational sites and each element is a subset of the entire data set. In large and complex projects, thedatabase typically cannot be designed by only one person. Instead, a carefully selected team ofdatabase designers tackles a complex database project. Within the decentralized design framework, thedatabase design task is divided into several modules. Once the design criteria have been established, thelead designer assigns design subsets or modules to design groups within the team.

PTS: 1 DIF: Difficulty: Moderate REF: p.474-475

NAT: BUSPROG: Analytic STATE: DISC: Information Technology

KEY: Bloom’s: Comprehension TOP: Centralized Versus Decentralized Design