Chapter 6

Multiple Choice

1. A data model is a:
a) The mathematical model of formulas and logic used in a system
b) The abstract creating of an ideal system transformation
c) The model that is produced by extreme programming
d) The expanded, thoroughly balanced and normalized use case for a system
e) A formal way of representing the data that are used and created by a business system
Ans: e

2. A data model can _____:
a) Illustrate return-on-investment, break-even point, and economic feasibility
b) Represent actions or processes that occur in the to-be system
c) Be used as a logical data model in analysis and as a physical data model in design
d) Only be used in BPR situations
e) Only be used with JAD sessions
Ans: c

3. Which of the following is NOT illustrated by a data model?
a) People
b) Places
c) Things
d) Actions
e) Nouns
Ans: d

4. Which of the following software packages does NOT provide data modeling capabilities?
a) ERwin
b) Visual Basic
c) Oracle Designer
d) Visible Analyst Workbench
e) Visio
And: b

5. ERwin, a CASE tool with data modeling features, was created by:
a) Oracle
b) Microsoft
c) Platinum Technology
d) Sun Systems
e) United Technologies
Ans: c

6. Which is NOT true about using Visible Analyst Workbench?
a) It can be used with many different databases
b) It integrates the data model with other parts of the project
c) It is a full-service CASE tool
d) Data modeling is one of many capabilities
e) It can generate Java code when the data modeling is done
Ans: e

7. ERD is an acronym for:
a) Enterprise Relationship Diagramming
b) Entity Relationship Diagramming
c) Electronic Repository Diagramming
d) Enhanced Relationship Diagramming
e) Entity Repository Design

Ans: b

8. Entity relationship diagramming (ERD) is a graphical drawing technique developed by:
a) Cole and Weston
b) Thomas Barton
c) Peter Chen
d) Alan Dennis
e) Martin and Chang

Ans: c

9. An entity relationship diagram (ERD):
a) Is a use-case diagram enhanced graphically to show data and process modeling
b) Is a high-level CASE diagram of data modeling used in business systems
c) Is an illustration of external data flows to and from a business systems
d) Is a picture that shows the information that is created, stored and used by a business system
e) Is a graphical display of the processes in a business system

Ans: d

10. An analyst can read an ERD to:
a) Discover the individual pieces of information in a system and how they are organized and related to each other
b) Find what processes use what data
c) Determine the cardinality of processes in a system and if the modality of process is 1:M; 1:1; or M:N
d) Evaluate data structure hierarchies as to processing anomalies in a business system
e) Discover how the people, places and things in a business system are generated, moved, transformed and stored

Ans: a

11. On an ERD _____:
a) Processes are listed alphabetically with relationship connections drawn between processes
b) Data elements are listed alphabetically with a cross listing to the processes that manipulate them
c) Data elements are described as singular (1:1); plurals (1:N); or didactic (M:N)
d) Data elements are grouped in a hierarchical structure that is uniquely identified by number
e) Data elements are listed together and place inside boxes called entities.

Ans: e

12. Lines on an ERD diagram indicate:
a) Hierarchies between processes
b) Relationships among the data
c) Plurality of data items
d) Uniqueness of data items
e) Primary keys

Ans: b

13. Which of the following is NOT true about ERDs?
a) Special symbols are added to show high-level business rules
b) The diagrams are drawn in a sequential order – from top to bottom
c) Similar kinds of information are listed together in entities
d) ERD's are data modeling techniques
e) Lines are drawn to show relationships among the data

Ans: b

14. Which is NOT an element of an Entity Relationship Diagram?
a) Cardinality
b) Modality
c) Attribute
d) Relationship
e) Data stores

Ans: e

15. An entity:
a) Is the association between two related processes
b) Has cardinality (1:1, 1:N, or M:N)
c) Shows if it can be null or no null
d) Is a person, place or thing
e) Is described with a verb phrase

Ans: d

16. An attribute:
a) Is some type of information that is captured about an entity
b) Is the basic building block for a data model
c) Is the association between entities
d) Is the identification of parent and child entities
e) Is drawn as a line between processes

Ans: a

17. Which would NOT likely be an attribute of an entity called "Student"?
a) Age
b) Student identification number
c) Class room number
d) Home phone
e) Gender

Ans: c

18. Which would NOT likely be an entity on a car insurance ERD?
a) Customer
b) Policy
c) Agent
d) Zip code
e) Car

Ans: d

19. You have entities of ITEM, SOLD-ITEM, SALE and PAYMENT. Which most likely is NOT a relationship?
a) SALE is paid by PAYMENT
b) PAYMENT pays for ITEM
c) ITEM is included in SOLD-ITEM
d) SALE involves SOLD-ITEM
e) PAYMENT pays for SALE

Ans: b

20. Modality refers to:
a) Relationships of one-to-one; one-to-many; or many-to-many
b) Whether a child entity can exist with or without a related instance in the parent entity
c) The hierarchical structure that was developed in process models applied to data models
d) The number of attributes generated by an entity
e) Whether the entity has a unique identifier (aka 'primary key') or a concatenated identifier (aka 'composite key')

Ans: b

21. Jack is developing an ERD for a small dental practice office patient record system. The dental practice has three dentists, six hygienists, and many patients. A patient is always assigned to the same dentist for all appointments. In particular, he is working on the relationship between dentists and patients. Should it be:
a) 1 to 1, with a modality of null
b) 1 to many with a modality of not null
c) Many to many with a modality of null
d) Many to many with a modality of not null
e) 1 to many with a modality of null

Ans: b

22. CASE tools have a(n) _____ where information about entities, attributes and relationships on the ERD are stored.
a) Information space
b) Data store
c) Meta file
d) Data flow
e) Data dictionary

Ans: e

23. Information in the data dictionary is called: _____
a) Metadata
b) Cached information
c) Compiled data
d) Data repository
e) File silo

Ans: a

24. In the IDEF1X ERD notation, an entity is drawn as:
a) A diamond with the entity name in the middle
b) A circle with the upper part of the circle with the entity name
c) A rectangle with the identifier written above (outside) the rectangle
d) A rectangle with the identifier written in a darker color inside at the top of the rectangle
e) A rectangle with the identifier written at the top of the rectangle with an asterisk

Ans: d

25. Mike is drawing an ERD diagram. He has a one-to-many relationship. To identify the end of the relationship for the main relationship, Mike should draw:
a) An oval
b) A crow's foot
c) The letter M
d) An infinity symbol ∞
e) A diamond

Ans: b

26. Entity Relationship Diagrams show relationships between entities that are _____.
a) Outputs from JAD sessions
b) Consistent with the ACM guidelines
c) In line with the business rules and processing
d) Defined by the project sponsor
e) Extensions of the process models

Ans: c

27. The three major parts of an ERD diagram are:
a) Process, data flow, data store
b) Attribute, modularity, cardinality
c) Relationship, data flow, entity
d) Relationship, attribute, entity
e) Process, entity and relationship

Ans: d

28. The basic building block of a data model is the:
a) Entity
b) Relationship
c) Attribute
d) Cardinality
e) Modality

Ans: a

29. Which would most likely NOT be an entity on an ERD?
a) Student
b) Professor
c) Class
d) Practice
e) Enroll

Ans: e

30. What is true about creating an entity relationship diagram?
a) There will be at most seven entities
b) There will be at most seven relationships
c) If you identify more than seven entities, analyze and combine until you have seven or less
d) It is an iterative process
e) Entities will have at most seven attributes

Ans: d

31. In creating ERD's, which would most likely NOT be a source for entities?
a) Use cases
b) Level 0 DFD diagrams
c) External entities
d) Data flows
e) Cost / benefit reports

Ans: e

32. In adding attributes to an ERD, which of the following might NOT be a good resource for attributes?
a) From the CASE tool
b) Data flows from DFD's
c) Requirements documents
d) The system proposal document
e) Through interviews (what users need for reports and processing)

Ans: d

33. The last step in creating basic ERD's is to:
a) Identify relationships
b) Define attributes and assign identifiers
c) Recognize entities
d) Test them with users
e) Compile them with Java

Ans: a

34. Sanjay is identifying relationships as he draws ERD's. He will need to:
a) Determine originality and functionality
b) Include cardinality and crows feet
c) Add modality and functionality
d) Determine modality and cardinality
e) Include 1:1, 1:N and M:N relationships

Ans: d

35. Ting-You is creating an ERD diagram. She knows that it is a(n) _____
a) Well defined process
b) Sequential process
c) Process defined by five steps
d) Iterative process
e) User defined process

Ans: d

36. Anthony is working on the cardinality of doctors and patients in a large urban hospital. With the large number of doctors with varying specialties and patients that may have more than one aliment, he thinks the relationship might be noted as:
a) 1 to 1
b) 1 to 2
c) 1 to many
d) Many to many
e) Many to 1

Ans: d

37. Omar has a model with 85 entities. He can:
a) Compress these into at most seven entity grouping units
b) Group these into related subject areas
c) Stop – he has all entities defined
d) Sort the entities alphabetically
e) Co-validate the entities with the level 2 DFD diagrams

Ans: b

38. The first step to building an Entity Relationship Diagram is to _____
a) Identify data flows from the level 0 DFD diagram
b) draw the relationships between the entities
c) identify the attributes for each entity
d) identify the entities
e) identify the processes, data flows and data stores

Ans: d

39. When normalizing data models, if you take attributes that have multiple values for a single instance of an entity and create separate entities for those attributes you are moving from:
a) O normal form to 1st normal form (1NF)
b) 1st normal form (1NF) to 2nd normal form (2NF)
c) 2nd normal form (2NF) to 3rd normal form (3NF)
d) Generalized normal form (GNF) to fully normalized form (FNF)
e) Dependent normal form (DNF) to Independent normal form (INF)

Ans: a

40. Independent entities are:
a) When a child requires attributes from the parent
b) When there is only one entity for a data process model
c) When an entity can exist without the help of another entity
d) Where the entity identifier is also the primary key
e) When a entity comes from an external source (aka 'external entity')

Ans: c

41. A(n) _____ entity is an entity at the "1" end of a relationship or an entity with an identifier that describes only the entity.
a) dependent
b) incomplete
c) independent
d) intersection
e) non-identifying

Ans: c

42. A(n) _____ entity cannot exist without the presence of another entity and is normally on the "many" end of a relationship or has an identifier that is based on another entity's attribute.
a. independent
b. incomplete
c. dependent
d. variable
e. non-complying

Ans: c

43. The two methods to validate that an ERD is well formed are _____.
a) Balancing with process models and following design guidelines created by Chen
b) Normalization and balancing with process models
c) Renaming theory
d) Balancing with process models and renaming theory
e) Normalization and following design guidelines created by Chen

Ans: b

44. What are the rules covering the layout of ERD components?
a) Items that are related must be grouped into subject areas
b) Items that are not related must be drawn on the bottom of the page
c) They must be placed in alphabetical order
d) They must be placed in numerical order
e) There are no rules

Ans: e

45. Andrew, an analyst for PaxMedia Inc, has just learned that the business rules for a system he has been working on have changed. This means that _____.
a) Nothing – once the ERD data models have been drawn, they are 'frozen' for the system
b) Andrew will be reassigned to a different project that is in its beginning stages
c) The ERD components will have to be changed
d) The ERD data model will have to be put on hold while new DFD diagrams are created
e) The project will have to be scrapped and restarted

Ans: c

46. A logical data model that does not lead to repeating fields and that the data models leads to tables containing fields that are dependent on the whole identifier is in _____ normal form.
a) balanced
b) first
c) primary
d) second
e) third

Ans: d

47. When the analyst is evaluating a data model to ensure that all fields in a record depend fully on the entire primary key, which step of normalization is being performed?
a) base normal form
b) first normal form
c) second normal form
d) third normal form
e) cannot tell from the above information

Ans: c

48. If the logical data model does not contain attributes that have repeating values it is in _____.
a) base normal form
b) first normal form
c) non-normal form
d) second normal form
e) third normal form

Ans: b

49. If the logical data model contains attribute values that depend on an attribute that is not the identifier, then it is in _____.
a) base normal form
b) first normal form
c) non-normal form
d) second normal form
e) third normal form

Ans: d

50. Balance occurs between DFDs and ERDs when the data stores _____
a) Are uniquely named
b) Have only one input and one output flow
c) Are named the same as the relationships on the ERD
d) Can be compared to ERD data flows and attributes on the ERD are included in data stores on the DFD
e) Can be equated to entities on the ERD and when entities are referred to by data stores on the DFD

Ans: e

51. Data models can be either logical or physical. *True*

52. During the analysis phase, analysts create programming models to represent how the business system will operate. *False*

53. A data model is a formal way of representing the data that are used and created by a business system. *True*

54. The data that are used and created by a business system are illustrated by a process model. *False*

55. Project teams generally use either Gantt or PERT charts to draw data models. *False*

56. Project teams can use packages like ERwin or Oracle Designer or Visible Analyst Workbench to draw data models. *True*

57. Logical data models are most commonly drawn with the Data Flow Diagram technique. *False*

58. ERD is an acronym for Enterprise Reliability Diagrams. *False*

59. One of the most commonly used techniques for data modeling is ERD's. *True*

60. ERD's are drawn in several levels: Context ERD diagrams; Level 0 ERD diagrams; Level 1 ERD diagrams. *False*

61. ERD's and DFD's are two techniques for data modeling. *False*

62. ERD's and DFD's are two techniques for process modeling. *False*

63. A textbook-provided example of a 'full-service CASE' tool is Visible Analyst Workbench. *True*

64. An ERD is a picture that shows how data and information is processed and transformed by a business system.

Ans: *False*

65. A graphical illustration that shows the information that is created, stored and used by a business system would be an ERD.
True

66. An illustration of the transformation of data into business value is an ERD. *False*

67. An analyst can read an ERD to discover the individual pieces of information in a system and how they are organized and related to each other. *True*

68. On an ERD, similar kinds of information are listed together and placed inside boxes called data containers. *False*

69. An entity is the basic building block for a data model. *True*

70. An entity is described by an action verb. *False*

71. Entities are further designed with attributes. *True*

72. In an entity called STUDENT, you might find attributes of Student-ID, Last-Name, First-Name and cell-phone. *True*

73. In an entity called STUDENT, you might find attributes of PROFESSOR-ID, Last-Name, First-Name and CLASSROOM.
False

74. Relationships are some type of information that is captured about entities. *False*

75. Relationships are associations between entities. *True*

76. Relationships are drawn with lines showing cardinality and plurality. *False*

77. ERD's can be quite complex and might have hundreds or thousands of entities. *True*

78. The three steps in creating an ERD are: (1) identify the entities; (2) identify the processes; (3) identify the relationships

    False

79. Metadata is data about data. *True*

80. CASE tools have 'data repositories' *False*

81. In defining the data characteristics of Universal Product Codes, we might describe them as twelve characters made up of digits – numeric only. *True*

82. In defining LAST-NAME in the data dictionary, we might describe it as a character field having from 1 to 15 alphabetic characters. *False*

83. One of the first places to start developing Entity Relationship Diagrams is by looking at the level 0 process models (DFD) and the use cases for data flows and data stores. *True*

84. Looking at external entities can be helpful with creating entities. *True*

85. Data modeling is an iterative process. *True*

86. Most novice analysts understand quickly how to create ERD's. *False*

87. Fortunately for novice analysts, there are fairly straight-forward rules and guidelines for creating ERD's. *False*

88. The authors suggest that creating ERDs is pretty tough to do. *True*

89. Michele has an entity called "client" and an entity called "customer" and an entity called "shopper". All three names seem to refer to the same data in the business system. It is acceptable to use different names for an entity as it helps clarify the purpose of the entity. *False*

90. Following carefully prepared and numbered use cases and DFDs, Chang has named his entities ITEM-1, ITEM-2, ITEM-3, etc. Because of the documentation, this is acceptable and recommended. *False*

91. If an ERD gets too complex, it can be broken down into related subject areas. *True*

92. When validating ERD's you should balance ERD entities with the data flows and data stores from the DFD process diagrams. *True*

93. When depicting the inter-realationship between process and data models it can be useful to refer to the CRUDE matrix (create, relate, update, define, edit). *False*

94. The processes of creating process models, data models and using CASE tools are interrelated. *True*

95. CRUD stands for create, read, update and delete and can be used to verify DFDs and ERDs. *True*

96. Normalizing data models is a five step process: not-normalized; create first normal form (1NF); create second normal form (2NF); create third normal form (3NF); create fourth normal form (4NF) and finally create the fully normalized form (5NF).

    False

Chapter 7

Multiple Choice

1. In what SDLC stage do we determine the business needs for an information systems project?
a. The design phase
b. The analysis phase
c. The dissection stage
d. The installation stage
e. The big bang stage

Ans: b

2. System design is the determination of the overall system architecture-consisting of a set of physical processing components, _____, and the communication among them-that will satisfy the system's essential requirements.
a. Workmanship
b. Order entry methods, HR feedback
c. Hardware, Software, People
d. Engineering data plans, fiber optic specifications
e. None of the above

Ans: c

3. In the initial stage of design, what are business requirements converted into?
a. System Requirements
b. Work Order Summary
c. Computer Qualifications Checklist
d. Vanilla System
e. Hardware Blueprint

Ans: a

4. During the design stage, the team must create a(n) _____ by specifying access restrictions and by identifying the need for _____, authentication and virus control.
a. System, integration
b. Security breach, emergency access
c. Secure system, encryption
d. Automated program, constant testing
e. Pecking order, governmental access

Ans: c

5. Where are the decisions stored that are made regarding the hardware and software that will be purchased to support the new system?
a. Order Manifest
b. Hardware Sales Receipt
c. Suppliers' Computer System
d. President's Office
e. Hardware and Software Specification

Ans: e

6. The system inputs and outputs will be designed along with a plan or_____ of the way the system's features will be navigated.
a. Blueprint
b. Compass
c. Instructional Guide
d. Roadmap
e. FAQ

Ans: d

7.   _____ repository entries are updated to reflect specific technology decisions as they are made.
a.   DFD
b.   Sequential
c.   CASE
d.   Hardware
e.   None of the above
Ans: c

8.   Which of the following lists indicates the correct ordering of deliverables in a system specification document?
a.   System Acquisition Weighted Alternative Matrix, Interface Design, Physical Data Model Data Storage Design
b.   Data Storage Design, Interface Design, Architecture Design, Updated Crud Matrix
c.   Hardware and Software Specifications, Interface Design, Data Storage Design, Architecture Design
d.   Program Design Specifications, Physical Data Model, Data Storage Design, Architecture Design
e.   Update CASE Repository Entries, Update CRUD Matrix, Interface Design, Architecture Design
Ans: a

9.   If on a limited time budget, the best way to be sure you remain efficient and effective in designing a system is to utilize the _____.
a.   Porters 5 Forces Model
b.   Outsourcing Model
c.   RAD and Timeboxing Techniques
d.   Hire/Fire Motivational Theory
e.   Not Attempt the Project
Ans: c

10.   The system specification contains what?
a.   Design documents, hardware and software specification
b.   Physical process models, interface design
c.   Physical data model
d.   Architecture design
e.   All of the above
Ans: e

11.   How many ways does the text suggest one can approach the creation of a new system?
a.   1
b.   2
c.   3
d.   4
e.   7
Ans: c

12.   What skills are necessary when undertaking a custom software design?
a.   Technical
b.   Functional
c.   Project Management
d.   A and C
e.   A, B, and C
Ans: e

13.   For efficiency purposes, it is wise to_____ when there is a basic software need to be satisfied.
a.   Implement a company-wide project team to handle a custom software scripting
b.   Purchase a packaged system
c.   Design a blueprint and contract an outside vendor to develop a program
d.   Make do with the current software package
e.   Utilize a professional consultant to develop a system of servers7
Ans: b

14. Enterprise Resource Planning (ERP) Systems are:
a. All-encompassing systems
b. Difficult to install and can result in serious problems for a company
c. Cheaper since they are created by a third party
d. A and B
e. B and C

Ans: d

15. Workarounds are:
a. Not supported by a vendor who supplied the software
b. Designed by the vendor
c. Created to interface two software packages that are compatible with each other
d. Enterprise Wide Software Packages that are designed for satellite use
e. None of the above

Ans: a

16. Systems Integration refers to:
a. The process of synching all computers to the mainframe
b. The delivery of systems to the final destination office
c. Combining packaged software, the legacy system and new software
d. Adding the original hard drives to a newer system
e. Creating a new software to monitor power consumption

Ans: c

17. What makes systems integration so difficult?
a. Finding the original data to install on the new server
b. Creating a ghost drive to house the old information
c. Installing new software packages on older machines
d. Bringing legacy system data and new data together
e. None of the above

Ans: d

18. Another name for custom development might be:
a. Offshore outsourcing
b. In-house development
c. Vendor supplied in-house consulting
d. CASE tools
e. Package software

Ans: b

19. Which might NOT be a good package software solution?
a. Payroll at Cloverfarms dairy
b. Accounts receivable at Staples
c. Rocket control software for NASA
d. Course management system at the University of Nebraska
e. Scanning software for Kroger grocery stores

Ans: c

20. Which is probably true about packaged software
a. In most cases, the software is a perfect fit for the companies need
b. Packaged software works best where the company has a unique need
c. The time frame is flexible to long
d. The business need is common
e. The project has a highly skills project manager who has been with the company for many years and has an excellent relationship with both business users and the IT development staff

Ans: d

21. Outsourcing can include:
a. Hiring an external vendor
b. Hiring an external developer
c. Hiring an external service provider
d. A and C
e. A, B and C

Ans: e

22. Outsourcing firms called _____ supply software applications and/or software related services through the Internet.
a. Application Service Providers (ASPs)
b. Enterprise Resource Providers (ERPs)
c. System Development Life Cycle Companies (SDLCs)
d. Information Technology Developers (ITDs)
e. None of the above

Ans: a

23. A time and arrangements deal is considered:
a. Very flexible
b. Very rigid
c. Cheaper than any other option
d. Useless when considering a systems design
e. Always the best option for any project

Ans: a

24. Fixed-price contracts are considered:
a. Very flexible
b. Very rigid
c. Always cheaper than any other option
d. Useless when considering a systems design
e. Always the best option for any project

Ans: b

25. Value-added projects are:
a. When the outsourcer earns a percentage of the completed systems benefits
b. Not a feasible option for any project at any time
c. Gaining popularity
d. A and C
e. None of the above

Ans: d

26. Custom development is used when:
a. The business need is unique
b. The business need is not core to the business
c. The project has a project manager who can coordinate vendor efforts
d. The time frame is short
e. The skills are not strategic

Ans: a

27. Packaged systems are used when:
a. The business need is not core to the business
b. There is a desire to build in-house skills
c. The time frame is flexible
d. The project has a project manager who can coordinate vendor efforts
e. The decision to outsource is strategic

Ans: d

28. Application service providers might be best associated with:
a. In-house development
b. Packaged software
c. Unique and strategic systems
d. Outsourcing
e. Internet Service Providers

Ans: d

29. Matt is an analyst for the Pauxtis Media Company. He is in his office at 5:00 a.m. every Tuesday morning for a project update videoconference. He is probably involved in:
a. In-house development
b. Working with vendors on an RFP
c. Customizing a package to fit Pauxtis
d. Working with his regional Ernst and Young consulting team
e. Offshore outsourcing

Ans: e

30. Outsourcing is used when:
a. The project has a project manager who can coordinate vendor efforts
b. There is a desire to build in-house skills
c. In-house functional and technical skills exist
d. The business need is not core to the business
e. None of the above

Ans: d

31. What can push a project off track?
a. Funding
b. Staffing
c. Business users
d. A and B
e. A, B and C

Ans: e

32. Requests for Proposals (RFPs) serve what purpose?
a. Integrate systems with one another
b. Create synergy amongst staff members
c. Solicit information from providers
d. Engage mobile computers with mainframe technology
e. Develop morale amongst managers

Ans: c

33. Becky is preparing a document that has detailed description of needs, special technical factors, evaluation criteria, timetable and more. She is probably working on a(n):
a. CRUD matrix
b. Alternative Matrix
c. RFP
d. ERP
e. DFD

Ans: c

34. Requests for Proposals (RFPs) should contain
a. Detailed description of needs
b. Special technical needs
c. Evaluation criteria
d. A and B
e. A, B and C

Ans: e

35. When only a price is needed from a vendor, the following will likely be requested from the possible vendors:
a. Request for Proposal (RFP)
b. Request for Information (RFI)
c. Request for Quote (RFQ)
d. Request for Efficient Information Distribution (REID)
e. More Optimal Desires (MOD)

Ans: c

36. The following document is utilized with possible vendors on projects with smaller budgets, instead of sending a lengthy document to all possible vendors:
a. Request for Proposal (RFP)
b. Request for Information (RFI)
c. Request for Quote (RFQ)
d. Request for Efficient Information Distribution (REID)
e. More Optimal Desires (MOD)

Ans: b

37. A Request for Information (RFI) is used with vendors when there is a need for _____?
a. Pricing
b. Data Analysis
c. Information
d. Network Associate Password Help
e. None of the above

Ans: c

38. The score column in the Alternative Matrix represents what?
a. How expensive the install will be
b. How easy the install will be
c. How well the criteria are met by the alternative
d. How long the coded page will be
e. A and D

Ans: c

39. The design phase of the SDLC:
a. Produces a user's manual, does users training and creates online documentation for the new system
b. Involves writing of code (generally in an object oriented language)
c. Uses the output of JAD sessions to create logical use cases and DFDs
d. Involves interviewing of users to determine requirements
e. Uses the requirements that were gathered during analysis to create a blueprint for the future system

Ans: e

40. CRUD matrix can be used in the design phase to work with tables and possible user interaction with those tables. The letter "C" in CRUD stands for:
a. Computer
b. Create
c. Communicate
d. Complete
e. Constant

Ans: b

41. The letter 'R' in CRUD matrix (for tables and user involvement) stands for:
a. Replace
b. Replicate
c. Relationship
d. Read
e. Read-only

Ans: d

42. The letter "D" in CRUD matrix stands for:
a. Delete
b. Deny use
c. Deliver
d. Document
e. Denormalize

Ans: a

43. Which of the following is normally NOT done in the design phase of the SDLC?
a. Decisions for hardware and software purchases are made
b. User interactions are planned out (inputs, outputs, user interfaces)
c. Cost / Benefits of the new system are carefully calculated
d. Logical DFDs and ERDs are converted into physical DFDs and ERDs
e. The physical data model is created

Ans: c

44. Which is NOT a part of the System Specification document?
a. Use Cases
b. Physical Data Model
c. Updated CRUD matrix
d. Architecture Design
e. System Acquisition Weighted alternative Matrix

Ans: a

45. Which of the following is NOT a system acquisition strategy as presented in the book?
a. Custom development
b. Outsourcing to a regional consultant (like IBM)
c. Use a JAD session to acquire the system
d. Using the company's programming staff to write the code (aka 'in-house development')
e. Buying a pre-written software package

Ans: c

46. If (a) the business need is unique, (b) there is a desire to build in-house skills; (c) the time frame is flexible, it might be best to:
a. Do in-house / custom development
b. Buy an ERP system
c. Outsource to India
d. Purchase a software package
e. Hire a consultant

Ans: a

47. If (a) the business need is common; (b) the skills needed are not strategic; (c) the time frame is short; it might be best to:
a. Use in-house / custom development
b. Hire a vendor to write the code for you
c. Outsource to India
d. Purchase a software package
e. Hire a consultant

Ans: d

48. If (a) the business need is not core to the business; (b) the project has a highly skilled project manager; (c) in-house functional or technical experience does not exist; it might be best to:
a. Use in-house / custom development
b. Buy an ERP system
c. Outsource to a company specializing in that technology
d. Purchase a software package
e. Hire a consultant

Ans: c

49. One problem with using packages software systems is:
a. It takes a very long time to get the system and get it installed
b. The company has to accept the functionality that is provided with the system
c. Many common software packages have been written and tested and are readily available
d. There are many good software packages that are reasonable in price
e. Most software packages allow for some customization

Ans: b

50. An advantage of custom development might be:
a. You get a system that is tailored to the current business and meets specific needs
b. The rapid development of custom systems
c. The low cost (as compared to buying a package)
d. The low risk factor
e. The ability for in-house developers to work on systems that are in new programming languages and in technologies that are unknown to them prior to the development

Ans: a

51. Which is NOT true of outsourcing?
a. It can be done offshore
b. It can be done by an ASP
c. There can be a low cost of entry
d. It requires a large in-house staff
e. It can reduce internal IT costs

Ans: d

52. Which is NOT one of the primary contract types made with outsourcing?
a. Time and arrangements
b. Fixed-price contract
c. Distance and confluence contract
d. Value-added contract
e. Paying for the expenses and time to get the job done

Ans: c

53. Which is NOT a recommended guideline for managing outsourcing?
a. Define and stabilize requirements before signing a contract
b. Don't outsource what you don't understand
c. Emphasize rigid expectations and short-term relationships
d. Select the vendor, developer or service provider carefully
e. Keep the lines of communication open between you and your outsourcer

Ans: c

54. Which is NOT a factor in choosing a development option?
a. Data base normalization
b. In-house experience
c. Time frame
d. Project skills
e. Project management

Ans: a

55. What percentage of companies on the InformationWeek 500 list of business technology innovators say they engage in offshore IT outsourcing?
a. 0 to 10%
b. 10% to 25%
c. 25% to 40%
d. 40% to 60%
e. Over 60%

Ans: e

56. In terms of project management, which option might require excellent project management skills and a proven methodology?
a. Outsourcing to Nebraska
b. Outsourcing to India
c. Buying a packaged solution
d. Doing custom development
e. Buying an ERP system

Ans: d

57. RFP is an acronym for:
a. Reason for Programming
b. Request for Proposal
c. Rational Forensics Platform
d. Relationship with Foreign Providers
e. Real Forecast Project

Ans: b

58. Which of the following will probably NOT be part of a Request for Proposal (RFP)?
a. Certain key facts that the vendor requires
b. Special technical needs
c. Procedures to follow
d. Project timetable
e. Use case diagrams

Ans: e

59. A Request for Proposal (RFP) will result in a:
a. Vendor proposal that is a binding offer to accomplish the tasks described in the RFP
b. Gentleman's agreement on the offer
c. Substantially more expensive project
d. Custom development
e. Reduction in in-house programming effort

Ans: a

60. A table that can be used to look at various design options is a(n):
a. RFP
b. CRUD
c. Gantt Chart
d. Alternative Matrix
e. SQL query

Ans: d

61. When using an alternative matrix, frequently analysts will assign _____ to certain factors to signify the importance of the factor in the decision.
a. Probabilities
b. Reluctance factors
c. Weights
d. Project sponsors
e. Data stores

Ans: c

62. An outsourcing arrangement where you pay no more than what was expected is known as a(n):
a. Time and arrangements contract
b. Fixed-price contract
c. Value-added contract
d. Distance and time contract
e. Billing operational contract

Ans: b

63. System requirements are communicated through a collection of design documents and physical processes and data models.

    True

64. Business requirements are communicated through a collection of design documents and physical processes and data models

    False

65. The decision to make, to buy, or to outsource influences the design tasks that are performed throughout the rest of the design phase. *True*

66. There is no need to determine the reliability or performance of a new system due to the inherent dangers all technologies pose. *False*

67. CASE repository entries are updated to reflect specific technology decisions as they are made. *True*

68. Prototyping is the interface design step that often uncovers additional information that is needed in the system, leading to a revision of the physical DFDs or ERPs. *False*

69. There is absolutely no need for designing a custom system since there are already so many pre-packaged systems available to any company regardless of its size. *False*

70. Building a system in-house builds technical skills and functional knowledge that one may not want to allow to walk out of the door. *True*

71. Highly skilled IS Professionals are easy to hire and retain. *False*

72. In a custom software case, all parts of the system need to be completely customized and scripted to the company's specifications including ancillary software to the current system. *False*

73. Letting technology drive a business can be dangerous. *True*

74. A workaround is a custom-built add-on program that interfaces with packaged applications to handle specific needs. *True*

75. The key challenge in systems integration is avoiding a system wide crash upon installation of legacy software. *False*

76. Outsourcing requires the least in-house resources. *True*

77. Outsourcing firms called Application Software Providers (ASPs) supply software applications and/or software related services through the Internet. *True*

78. Application Software Providers (ASPs) should be utilized when considering non-core programming and/custom needs. *True*

79. Time and arrangements deals are potentially more expensive if the service provider requires unforeseen resources to complete the project on time. *True*

80. If the business need is core to the business then it is best to outsource the system development. *False*

81. A common need to the business should be satisfied by contracting with an Application Service Provider (ASP). *True*

82. Custom development that can be achieved by the in-house team and core business practices are both examples of times when outsourcing is not an option. *True*

83. The only skills that are applied during systems projects are technical. *False*

84. The only skills that are applied during systems projects are functional. *False*

85. The score column in the Alternative Matrix represents how easily specific criteria are met by the alternative. *True*

86. An IT department has just received its newest onslaught of system maintenance requests from the finance, marketing and accounting divisions and has added them to the growing list of fixes needed. Tomorrow, there will be a request placed by the CTO that there is to be a new processing system put into place that will take the place of the current MS Word system. The best alternative is to utilize a custom program that will replace the original program. *False*

87. A department head is apprehensive as to what implementation system he should employ. The best method of ensuring a successful and efficient installation of the new systems would be to utilize an alternative matrix. *True*

88. The Design phase of the SDLC uses the requirements that were gathered during analysis to actually build (and code if necessary) the final system. *False*

89. The Design phase of the SDLC builds on the logical designs from the analysis phase (like logical ERDs and logical DFDs) *True*

90. The design phase decides how the new system will operate. *True*

91. During the initial part of design, the project team converts the business requirements for the system into system requirements. *True*

92. During the design phase, physical aspects of the system (like physical DFDs and physical ERDs) are converted and rebuilt into logical aspects. *False*

93. One systems development option is to build a system from scratch. *True*

94. One systems development option is to have a system developed by using an outsourcing strategy. *True*

95. One systems development option is to let users build their own system using tools like Excel and Access, with support from the Microsoft help desk. *False*

96. CRUD stands for Create, Redesign, Update and Deploy – and is a matrix of table functions in databases. *False*

97. During the design phase, the project team carefully considers the nonfunctional business requirements (such as performance, cultural and political aspects). *True*

98. In the analysis phase, architecture decisions are made and written up in the 'hardware and software specifications'. *False*

Chapter 8

Multiple Choice

1. Designing an architecture can be_____.
   a. Tedious and therefore younger members of the team are usually urged to take the lead.
   b. Easy and therefore more experienced members of the department take the lead.
   c. Difficult and therefore outside consultants are often sourced to do the task.
   d. Difficult and therefore experienced internal members are sourced to the task
   e. C and D

   Ans: e

2. The objective of architecture design is to determine_____.
   a. How aesthetically pleasing the server system will be
   b. What parts of the application software will be assigned to what hardware
   c. How the computers will be arranged to provide ample storage
   d. Where the mainframe will be situated
   e. None of the above

   Ans: b

3. The major architectural components of any system are the_____.
   a. IT Department
   b. Hardware
   c. Software
   d. A and B
   e. B and C

   Ans: e

4. Software systems can be divided into how many basic functions?
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5

   Ans: d

5. There are _____ primary hardware components of a system.
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5

   Ans: c

6. The primary hardware components of a system consist of:
   a. Client Computers
   b. Servers
   c. Network
   d. A and B
   e. A, B and C

   Ans: e

7. Servers can take on what "flavors"?
   a. Mainframes
   b. Minicomputers
   c. Microcomputers
   d. A and B
   e. A, B and C

   Ans: e

8. Form(s) of network connection(s) in a system include:
a. ATM
b. T2
c. DSL
d. A and C
e. B and C

Ans: d

9. Server-based architecture is:
a. When the clients capture keystrokes
b. The very first architecture system
c. Outdated and never used
d. A and B
e. A, B and C

Ans: d

10. Client-based architectures are where the:
a. Client computer is responsible for presentation logic
b. Client computer is responsible for application logic
c. Client computer is responsible for data access logic
d. The server stores the data
e. All of the above

Ans: e

11. Client-server architecture holds the client responsible for_____ and server is only responsible for _____.
a. Application Logic; Presentation Logic
b. Presentation Logic; Data Access Logic and Data Storage
c. Data Access Logic and Presentation Logic; Data Storage
d. Application Logic; Data Storage
e. Data Storage; Application Logic

Ans: b

12. Thick clients contain:
a. Enormous storage abilities
b. Almost all or most of the application logic
c. Almost none or less than half of the application logic
d. Almost all of the data logic
e. None of the above

Ans: b

13. Which of the following is an advantage of client-server architectures?
a. They are scalable
b. They can support different types of systems
c. It is easy to separate different logic functions
d. Reliability
e. All of the above

Ans: e

14. How many advantages are client-server based architectures known for?
a. 2
b. 3
c. 4
d. 5
e. 7

Ans: c

15. An n-tiered architecture is distinguished by:
a. The number of drives installed
b. The number of logics on the local server
c. The number of terminals on the network
d. The number of specialized server computers
e. None of the above

Ans: d

16. What is/are the disadvantage(s) associated with n-tiered architecture?
a. Great load on the network
b. Difficult to program
c. They are always slower
d. B and C
e. A and B

Ans: e

17. The cost of infrastructure associated with Server-Based systems is:
a. Low
b. Low-Medium
c. High-medium
d. High
e. Very High

Ans: e

18. The cost of development associated with Client-Based systems is:
a. Low
b. Low-Medium
c. High-medium
d. High
e. Very High

Ans: a

19. The scalability associated with Client-Server systems is:
a. Low
b. Low-Medium
c. High-medium
d. High
e. Very High

Ans: d

20. Client-server architectures tend to be:
a. More expensive than client-based architectures
b. Less expensive than client-based architectures
c. More less secure than client-based architectures
d. A and C
e. None of the above

Ans: b

21. Maintaining a client-server architecture is:
a. Easy
b. Four to Five times more expensive than server-based applications
c. Completely manageable with in-house expertise from the onset
d. Easy since the maturity of the application is more developed
e. None of the above

Ans: b

22. The development tools used to create mainframe-based systems are:
a. Very user friendly
b. Not very user friendly
c. Require no special skills to maintain
d. Difficult at first, but the skills are easy to acquire
e. None of the above
Ans: b

23. Project teams often _____ the _____ associated with creating secure, efficient client-server applications.
a. Overestimate; Difficulty
b. Overestimate; Simplicity
c. Underestimate; Difficulty
d. Underestimate; Simplicity
e. None of the above
Ans: c

24. Server-based applications typically utilize a _____, character-based interface that can be quite powerful for the _____ user.
a. Complex; Basic
b. Plain; Skilled
c. Complex; Skilled
d. Plain; Basic
e. None of the above
Ans: b

25. The current generation of system users expect a(n)_____ to access the system.
a. GUI
b. Web-based interface
c. ERP
d. A or B
e. None of the above
Ans: d

26. An example of a technical environment requirement would be:
a. The system must be able to import/export spreadsheets
b. The system needs to operate with a Blackberry
c. New versions of the system will be released every six months
d. The system must be able to operate with a different operating systems
e. The system will operate over the web environment using Internet Explorer
Ans: e

27. An example of a capacity requirement would be:
a. Transmissions require 287K of data
b. The systems uptime will be 99%
c. Response time must be <2.8 seconds for any transactions
d. The inventory database will be updated in real time
e. None of the above
Ans: a

28. A sample access control requirement would be:
a. Customer service reps can modify customer files but not delete them
b. Data will be encrypted for secure ordering
c. All uploaded files will be checked for viruses
d. The system will cost $38,900 per minute of downtime in lost revenues
e. None of the above
Ans: a

29. DES is an example of:
a. Asymmetric Encryption Algorithm
b. Symmetric Encryption Algorithm
c. Bi-Adjusted Encryption Algorithm
d. Dynamic Encryption System
e. Alternative Systems Security Algorithms

Ans: b

30. An example of a multilingual requirement is:
a. The system will operate in English, French and Spanish
b. Country managers can define custom fields
c. All date fields will be presented in a uniform format
d. Personal information about English customers cannot be sent to Chinese systems
e. Country managers are able to change telephone number formats

Ans: a

31. An example of a standard web server operating system in a hardware specification is:
a. Windows
b. Linux
c. OSX
d. Mac OS
e. Mozilla

Ans: b

True/False

33. Most information systems are comprised of one computer.   *False*

34. The objective of architecture design is to determine what parts of the application software will be assigned to what hardware.

   True

35. The architectural components of any system are the network and the hardware.   *False*

36. Data storage, Data Access Logic, Application Logic and Presentation Logic are the four basic functions of software systems.

   True

37. The processing language required to activate data access logic is referred to as ERDs. *False*

38. Client computers, Servers and Networks are the three primary hardware components of a system. *True*

39. Client computers are the input devices and are only desktop computers.   *False*

40. An ATM dialing a network provides the IT department with a quick cash withdrawal for emergency purposes. *False*

41. The very first computing architectures were terminal based.   *False*

42. Client-based architecture is complex and there is minimal chance of network circuits being overloaded due to growing

   network applications.   *False*

43. Client-server architecture attempts to balance the processing between the client and the server by allowing the client to host

   the presentation logic and the server is responsible only for the data access logic and application logic.   *False*

44. There are three advantages associated with client-server architecture.   *False*

45. There are four advantages associated with client-server architecture. *True*

46. Server-based architecture is more secure than client-based architecture. *True*

47. Server-based architecture is not more secure than client-based architecture. *False*

48. Client-based interface capabilities are greater than client-server architectures. *False*

49. Client-server scalability is less than server-based scalability. *False*

50. Client-server scalability is greater than server-based scalability. *True*

51. The infrastructure cost of client-server architectures is low due to the advancement in processing power of today's personal computers. *True*

52. The infrastructure cost of client-server architectures is high due to the advancement in processing power of today's personal computers. *False*

53. The cost differential between maintaining client-server applications and server-based applications will be offset with organizational experience. *True*

54. The cost differential between maintaining client-server applications and server-based applications cannot be offset with organizational experience. *False*

55. DES stands for Dynamic Encryption System. *False*

56. An example of an asymmetric encryption algorithm is public key encryption. *True*

57. An example of a cultural requirement would be offering the system in English and Spanish. *True*

58. An example of making an unstated norm explicit would be to make a field modifiable by a manager to represent the local format. *False*

59. An example of making an unstated norm explicit would be to make an input field explicitly defined, such as a date will use month-day-year format. *True*

60. It is not uncommon for the cost of a power disruption to be hundreds or thousands of times the cost of failed components. *True*

61. Generally speaking, information systems do not have high performance requirements due to their stable and predictable nature. *False*

62. The design phase is the time to select the specific software that will operate the hardware. *True*

63. Oracle is a standard type of special software for application servers and web servers. *False*

Multiple Choice:

1.   A user interface is _____
a)   Where users interact with analysts in a JAD session
b)   An online forum for users for discussion and comments relating to system proposals
c)   Where users interact with the system , for example: screen displays with navigation mechanisms, forms that capture data and reports generated by the system
d)   An extension of use-cases
e)   Carefully crafted monitoring devices that keep a log of all user on-line activities, web sites and applications that have been used and quantity of time spent.
Ans: c

2.   Interface design is _____
a)   The process of defining how the system will interact with external entities (most frequently users)
b)   The process of safeguarding the system from denial of service attacks
c)   An extension of entity-relationship diagramming
d)   The process of analyzing key-strokes with the four-click rule to minimize printed output
e)   The study of three-tiered client-server architecture for interface connections between the various tiers and servers
Ans: a

3.   This system design element defines the way in which the users will interact with the system and the nature of the inputs and outputs that the system accepts and produces.
a)   Pagination control
b)   Hierarchical structure
c)   Input-processing-output (IPO) chart
d)   User interface design
e)   Gantt chart
Ans: d

4.   User and/or system interface design may have been first discussed _____
a)   In the Waterfall methodology
b)   In the economic feasibility analysis
c)   In the process modeling process
d)   In the data modeling process
e)   In the nonfunctional requirements of creating the system proposal
Ans: e

5.   The three fundamental parts to a user interface design are:
a)   Input mechanism, the internal processing and the output mechanism
b)   Input mechanism, navigation mechanism and the output mechanism
c)   Entities, attributes and relationships
d)   Processes, data flows and data stores
e)   Entities, triggers, and processes
Ans: b

6.   The user of 'forms' for adding new customers would probably be a part of the _____ portion of the user interface design.
a)   Input mechanism
b)   Navigation mechanism
c)   Output mechanism
d)   Report mechanism
e)   Structure formation
Ans: a

7. Reports and web pages might be part of the _____ portion of the user interface design.
a) Input mechanism
b) Navigation mechanism
c) Output mechanism
d) Report mechanism
e) Structure formation

Ans: c

8. Menus and buttons might be part of the _____ portion of the user interface design.
a) Input mechanism
b) Navigation mechanism
c) Output mechanism
d) Report mechanism
e) Structure formation

Ans: b

9. Navigation design, input design and output design are _____
a) Loosely coupled
b) Not related
c) Cohesive
d) Incidentally coupled
e) Tightly coupled

Ans: e

10. When using a web browser (like Internet Explorer, Google Chrome or Firefox), you will always have:
a) Input forms
b) Output reports
c) Security processes
d) Navigational controls
e) Data flows

Ans: d

11. HCI is an acronym for:
a) Human-computer interaction
b) Hierarchical Computation Interface
c) Human-computer input
d) Hardware control interface
e) Handling common input

Ans: a

12. HCI focuses on:
a) Making calculations faster by using high speed memory for calculations
b) Compressing input to better utilize memory
c) Handling common input errors
d) Improving the interactions between users and computers
e) Normalizing input into third normal form

Ans: d

13. Professional HCI designers _____
a) Are certified by the National Association of HCI (NAHCI) association
b) Are licensed by the National Association of HCI (NAHCI) professionals
c) Specialize in applying design processes to the creation of graphical user interfaces
d) Are HTML experts specializing in web design and implementation
e) More than one of the above

Ans: c

14. GUI is the acronym for _____
a) Golden user interface (award given by the International Society of Web Designer)
b) Graphical User Interface
c) Guaranteed Usability Interaction
d) Graphical Usability Interaction
e) Gigahertz User Input

Ans: b

15. An interface that uses windows, icons, menus and a pointing device (mouse) is a ____
a) SUI (screen user interface)
b) GUI (graphical usability input)
c) MUI (mouse user interface)
d) GUI (graphical user interface)
e) HCI (human computer interaction)

Ans: d

16. In many ways, user interface design is _____
a) Art
b) Tedious
c) Computer generated
d) CASE implementation
e) The most time consuming part of the analysis phase

Ans: a

17. Which is NOT a user interface design principle?
a) Content awareness
b) Consistency
c) Minimize user effort
d) Aesthetics
e) Four click rule

Ans: e

18. The greatest problem facing experienced user interface designers is using _____
a) Colors effectively
b) Space effectively
c) Navigation controls effectively
d) Black-and-white controls for color blind individuals
e) Menu controls

Ans: b

19. Layout refers to:
a) The color combinations – such as red for warning messages, pastel colors for backgrounds and black (or dark colors) for screen text
b) Structure charts for prioritizing input, processing and output
c) Normalizing data models so that all entities are laid out in third normal form
d) Organizing areas of the screen or document for different purposes
e) Getting a suntan

Ans: d

20. The standard screen layout has:
a) Top area for navigation; middle area for user's work; bottom area for status
b) Top area for navigation; middle area for status; bottom area for calculations
c) Top area for status; middle area for user's work; bottom area for navigation
d) Top area for identification (name); middle area for attributes; bottom area for summary
e) Top area for menu items; middle area for buttons and controls; bottom area for user's work

Ans: a

21. People in western nations tend to:
a) Read from top to bottom then right to left
b) Read from left to right then bottom to top
c) Read from right to left then top to bottom
d) Read from top to bottom and left to right
e) Read from bottom to top and left to right
Ans: d

22. Which layout order for entering customer information would you likely encounter on an input form used by U.S. customers?
a) Name, street address, state, city, zipcode
b) Name, street address, city, state, zipcode
c) Name, city, state, zip, street address
d) Street address, city, state, zipcode, name
e) Name, city, state, zipcode
Ans: b

23. Which design consideration refers to the ability of an interface to make the user conscious of the information it contains with the least amount of user effort?
a) Layout
b) Navigation
c) Consistency
d) Content Awareness
e) Aesthetics
Ans: d

24. Which is NOT true about the content awareness design principle?
a) Menus should show the where the users is
b) All areas should be clear and well defined
c) All interfaces should have titles (on the screen frame of a web page for example)
d) Field labels should be short and specific
e) Field labels should be in a dark green or a dark blue for readability
Ans: e

25. Which is NOT true about the content awareness design principle?
a) A date of 8/6/09 will be understood internationally
b) Drawing boxes around related items (like name / address / city / state / zip) will help users
c) Field labels should be fairly short, yet with long enough so that users can not be confused
d) Input fields should follow a logical progression that is familiar to users
e) All printed forms should have version numbers for better control
Ans: a

26. Designing interfaces that are pleasing to the eye is known as:
a) Layout
b) Content awareness
c) Aesthetics
d) Consistency
e) Minimal user effort
Ans: c

27. Which of the following is NOT true regarding the aesthetics design principle in user interface design?
a) Interfaces should be works of art
b) Interfaces need to be functional
c) Interfaces need to be inviting to use
d) In many cases, 'less is more' is true
e) Some 'white space' is valuable on forms as compared forms that are too dense
Ans:a

28. The concept of having some blank areas on an interface is called _____
a) Content awareness
b) Minimal user effort
c) White space
d) Density
e) Normalization

Ans: c

29. Studies have shown that for novice or infrequent users of forms, _____
a) A density of 50% to 65% is preferred
b) A density under 50% is preferred
c) A density of 80% to 100% is preferred
d) A density of 65% to 80% is preferred
e) There was no preference in the amount of white space on a form

Ans: a

30. Which of the following is NOT true (in general) about the design of text on an interface:
a) For printed reports, san serif fonts are best
b) For screen forms, sans serif fonts are preferred
c) For screen forms, you should avoid using all capital letters (except possibly for headings)
d) For printed reports, a minimum of 10 point fonts is preferred for older users
e) For screen forms, a 12 point font is acceptable

Ans: a

31. Which is a poor choice when designing reports?
a) Color and patterns should be used carefully
b) Multiple fonts and font sizes should be used on different parts of the report for readability
c) Color is best used to separate and categorize items (like headings and regular text)
d) Serif fonts are better for printed reports
e) Some 'white space' is beneficial (especially for infrequent users)

Ans: b

32. Approximately _____ percent of men are color blind (and thus improper use of color can impair their ability to read information)
a) 5%
b) 10%
c) 15%
d) 20%
e) More than 20%

Ans: b

33. When you design the user interface with the user's level of computer experience in mind, you are using the concept of _____
a) Layout
b) Aesthetics
c) Content Awareness
d) Minimal User Effort
e) User Experience

Ans: e

34. Beginning users are more interested in:
a) Ease of use
b) Ease of learning
c) Higher density on forms
d) Bright color combinations
e) Normalization

Ans: b

35. Shortcuts (like ctrl-C for cut, ctrl-V for paste, ctrl-A for select all) are more valuable to:
a) Business analysts
b) Systems analysts
c) Project manager
d) Novice users
e) Experienced users

Ans: e

36. Systems that are used on a daily basis by many people are more likely to have:
a) More novice users
b) More beginning users
c) More experienced users
d) More white space
e) More font sizes and colors

Ans: c

37. Some systems that are used infrequently (like decision support systems) should probably emphasize:
a) Ease of learning
b) Higher user flexibility
c) Ease of use
d) More short-cut keys and built in keyboard functions
e) Organizational feasibility

Ans: a

38. According to research studies, the single most important factor in making a system simple to use is: _____
a) Layout
b) Content awareness
c) Aesthetics
d) Consistency
e) User Experience

Ans: d

39. Which of the following might be a good choice of an icon for saving on a user interface?
a) A piggy bank
b) A dollar sign
c) A computer diskette
d) A hard drive image
e) A green "S"

Ans: c

40. Using the fewest keystrokes is part of the _____ principle of user interface design.
a) Layout
b) Consistency
c) Content Awareness
d) User Experience
e) Minimal User Effort

Ans: e

41. When implementing the 'minimize user effort' factor, most interface designers follow the _____.
a) Two-clicks rule
b) Three-clicks rule
c) Four-clicks rule
d) User Experience rule
e) The menu option rule

Ans: b

42. User interface design is a _____ step process.
a) Three
b) Four
c) Five
d) Six
e) Ten

Ans: c

43. Typically, the first step in the user interface design process is:
a) Design interface standards
b) Creating an interface design prototype
c) Do an interface evaluation
d) Examine DFDs and use cases to develop use scenarios
e) Develop the interface structure diagram (ISD)

Ans: d

44. Typically, the second step in the user interface design process is:
a) Design interface standards
b) Creating an interface design prototype
c) Do an interface evaluation
d) Examine DFDs and use cases to develop use scenarios
e) Develop the interface structure diagram (ISD)

Ans: e

45. Typically, the third step in the user interface design process is:
a) Design interface standards
b) Creating an interface design prototype
c) Do an interface evaluation
d) Examine DFDs and use cases to develop use scenarios
e) Develop the interface structure diagram (ISD)

Ans: a

46. Typically, the fourth step in the user interface design process is:
a) Design interface standards
b) Creating an interface design prototype
c) Do an interface evaluation
d) Examine DFDs and use cases to develop use scenarios
e) Develop the interface structure diagram (ISD)

Ans: b

47. Typically, the fifth step in the user interface design process is:
a) Design interface standards
b) Creating an interface design prototype
c) Do an interface evaluation
d) Examine DFDs and use cases to develop use scenarios
e) Develop the interface structure diagram (ISD)

Ans: c

48. Interface evaluations almost always _____.
a) Identify improvements
b) Are conducted with other analysts in a structured walkthrough
c) Find coding errors
d) Are part of the training and implementation process
e) Cause additional scope creep in the project

Ans: a

49. Which is generally NOT true for interface evaluations?
a) It is iterative
b) It almost always identifies improvements
c) It generally involves users working with analysts
d) It is cyclic
e) It is built on ERDs

Ans: e

50. A _____ is an outline of the steps that the users perform to accomplish some part of their work.
a) Step walkthrough
b) User design flow
c) Use scenario
d) Process model
e) Layout verification

Ans: c

51. Use scenarios builds upon _____.
a) Entity relationship diagrams
b) JAD sessions
c) PERT charts
d) Use cases
e) HIPO charts

Ans: d

52. A use scenario is one commonly used _____.
a) Path through a use case
b) Normalized ERD structure
c) Context diagram
d) Buy-in flowchart
e) Throwaway prototyping tool

Ans: a

53. The _____ defines the basic components of the interface and how they work together to provide functionality to users.
a) User Scenario plan
b) Layout schema
c) Consistency structure design
d) Interface structure design
e) Completeness diagrams

Ans: d

54. In Use Scenario Development, the goal is:
a) To describe all possible use scenarios within a use case
b) To describe the most commonly occurring use scenarios
c) To accurately model all possible DFDs
d) To give complex and complete narrative descriptions of all scenarios
e) To effectively model all data flows and data models

Ans: b

55. The _____ defines the basic components of the interface and how they work together to provide functionality to users.
a) Use Scenario Design
b) Interface Standards Design
c) Interface Metaphor
d) Interface Structure Design
e) Interface Template Design

Ans: d

56. The interface structure diagram (ISD) is used to show _____
a) How all of the screens, forms, and reports used by the system are related and how the user moves from one to another
b) How all the use cases map to use scenarios
c) How all the layout meets the users requirements and solves the nonfunctional business requirements
d) The interrelationship between use cases, DFDs, ERDs and normalization
e) The flow of data from screen to screen, form to form and report to report

Ans: a

57. In an ISD (Interface Structure Design), a common approach is to draw numbered boxes in a tree-type structure. This structure indicates _____
a) A strict hierarchy of parent / child processes (as shown on Level 0 / Level 1 and Level 2 DFDs)
b) An adherence to the use cases with all possible paths
c) A relationship between menus and submenus
d) A structural functionality as established on the use scenario
e) Commonly occurring use cases

Ans: c

58. On an ISD (Interface Structure Design), there may be
a) An interface structure on one tree linked to another interface structure on another tree
b) An exceptions interface that stands alone
c) A one-to-one (1:1) relationship between the basic element and the interface structure
d) A completeness violation if an interface structure on one tree is linked to another tree interface structure
e) A minimal user effort violation if the tree has more than seven trunks

Ans: a

59. On an ISD (Interface Structure Design), you have a box numbered 1.3.2.2. This numbering would indicate that this box:
a) Is a submenu interface structure of the 1.3 menu
b) Is a submenu interface structure of the 3.3.2 menu
c) Is a submenu interface structure of the 1.3.2 menu
d) Is a submenu interface structure of the 1 menu
e) Is an exception processing interface structure

Ans: c

60. The basic design elements that are common across the individual screens, forms and reports within a system are _____
a) Use Scenario Standards
b) Use Case Prototypes
c) Interface Scenario Standards
d) Interface Standards Design
e) Interface Structure Designs

Ans: d

61. Which of the following is NOT true about Interface Standards Design?
a) There may be several sets of interface standards for different parts of the system
b) A data-entry screen for one application will mirror data-entry screens used in other applications in the company
c) Each individual interface may not contain all the elements in the standards
d) They may contain additional characteristics beyond the standard ones
e) They must adhere to the Use Scenario Prototypes

Ans: e

62. An _____ is a concept from the real world that is used as a model for the computer system and defines how the interface will work.
a) Interface diagram
b) Interface metaphor
c) Interface case structure
d) Interface prototype
e) Interface silo

Ans: b

63. The use of a checkbook or a shopping cart is an example of a(n): _____.
a) Interface prototype
b) Use scenario diagram
c) Interface structure design
d) Relational use design
e) Interface metaphor

Ans: e

64. The _____ defines the general appearance of all screens in the information system and the paper-based forms and reports that are used in the system.
a) Interface template
b) Interface metaphor
c) Interface use prototype
d) Use scenario diagram
e) Interface structure design

Ans: a

65. The _____ are the fundamental building blocks that the interface uses to permit user access to the underlying data of the system (e.g., entities and data stores in the system design).
a) ERDs
b) DFDs
c) Interface metaphors
d) Interface Objects
e) Interface Templates

Ans: d

66. Interface Icons are _____.
a) Pictures that will appear on command buttons as well as in reports and forms to highlight important information
b) Data flow arrows between the elements of an interface standards scenario
c) GUIs representing the major use cases and DFDs
d) Pictures for aesthetics within a screen system
e) More than one of the above

Ans: a

67. Interface design prototyping may include:
a) Storyboards
b) HTML prototypes
c) Interface icons
d) Language prototypes
e) More than one of the above

Ans: e

68. The objective of an interface evaluation is _____.
a) To measure the processing speed of an interface design
b) To determine the database processing requirements for an interface
c) To understand how to improve the interface design
d) To get users input on colors, menu names and flexibility
e) To determine if all use cases and ERDs have been built into the interface

Ans: c

69. Which of the following is not a common Interface Evaluation technique?
a) Interactive evaluation
b) Walk-through evaluation
c) Heuristic evaluation
d) Use scenario normalization
e) Formal usability testing

Ans: d

70. When designing navigational controls, which is NOT commonly assumed?
a) That users have not read the manual
b) That users have not attended training
c) That users do not have help readily at hand
d) That users have knowledge of the system and the interface
e) That users have not read the documentation

Ans: d

71. The first principle of designing navigation controls is _____.
a) It was tough to build, it should be tough to use
b) Users have attended training
c) To prevent users from making mistakes
d) See that all screens can be reached in the four-click rule
e) Build appropriate icons (like a blank page for new document or form)

Ans: c

72. Which of the following is NOT a suggestion for preventing mistakes?
a) Label commands and actions appropriately
b) Place menu items in alphabetical order
c) Limiting choices
d) Gray-out commands that cannot be used
e) Create secondary menus when there are many similar choices on a menu

Ans: b

73. One strong suggestion for navigation design is:
a) Limit menu items to at most ten items
b) Color code common menu items with green (go) and red (stop)
c) Simplify recovery from mistakes (like having an undo button)
d) Lock the user's computer when a mistake has been made
e) Log all mistakes, and log the user's computer when 1000 mistakes have been made

Ans: c

74. The two common traditional hardware devices that can be used to control the user interface are:
a) Mouse and keyboard
b) Mouse and touchpad
c) Keyboard and hard drive
d) Hard drive and touchpad
e) keyboard and touchscreen

Ans: a

75. The most common type of navigation system today is _____.
a) Command language prompt
b) Unix
c) Menu
d) Mouse
e) Keyboard

Ans: c

76. It is better to make menus _____.
a) Broad and shallow
b) Narrow and deep
c) Broad and deep
d) Narrow and shallow
e) Wide and tall

Ans: a

77. Research suggests that any one menu should contain no more than _____ items.
a) Four
b) Five
c) Six
d) Seven
e) Eight

Ans: e

78. From a main menu, it should only take at most _____ to perform an action.
a) Three mouse clicks or keystrokes
b) Four mouse clicks or keystrokes
c) Five mouse clicks or keystrokes
d) Six mouse clicks or keystrokes
e) Depends on the complexity of the system interface and experience of the users

Ans: a

79. A method that lets experienced users invoke a command with keystrokes is called:
a) Keystroking
b) Hot keys
c) Master keys
d) Function jumping
e) Command line

Ans: b

80. Which is NOT a common menu type?
a) Pop-up menu
b) Drop-down menu
c) Text menu
d) Tab menu
e) Menu bars

Ans: c

81. The way in which the system responds to a user and informs him or her of the status of an operation is a(n)_____.
a) Command
b) Mouse
c) Interruption
d) Status bar
e) Message

Ans: e

82. All but one of the following should be avoided in a message. Which one is it?
a) Humor
b) Jargon
c) Acknowledgement of a delay
d) Abbreviations
e) Negatives

Ans: c

83. Which is NOT a common message?
a) Error message
b) Success message
c) Delay message
d) Acknowledgement message
e) Confirmation message

Ans: b

84. The type of message that shows up when a user chooses a potentially damaging option is a(n):
a) Error message
b) Success message
c) Delay message
d) Acknowledgement message
e) Confirmation message

Ans: e

85. The type of message that should seldom be used is a(n):
a) Error message
b) Success message
c) Delay message
d) Acknowledgement message
e) Confirmation message

Ans: d

86. The basic goal of input design is to:
a) Require strong data entry skills for the user
b) Slow input down so that the user has to think about what he/she is doing
c) Capture accurate information for the system simply and easily
d) Format the input data quickly (text in proper form, numbers in currency form)
e) Allow hot-keys

Ans: c

87. The type of processing where inputs are gathered together and entered at one time is called:
a) Transaction
b) Batch
c) Dynamic
d) Group
e) Online

Ans: b

88. Perhaps the most important principle of input design is:
a) Require two data-entry clerks to type the data for verification
b) Save rarely used input forms for batch processing
c) Use client-server technologies for more efficient input
d) Capture data at the source in an electronic format
e) Use voice recognition systems

Ans: d

89. Which is not a common input entry system for transaction processing?
a) Bar code readers
b) Optical character recognition
c) Magnetic stripe readers
d) Smart cards
e) Keyboards

Ans: e

90. Which is NOT true of obtaining information?
a) The system should minimize keystrokes
b) The system should not ask for information that can be gotten in another fashion
c) The system should use only textboxes
d) The system should use drop-down menus
e) The system should have default values for certain fields

Ans: c

91. Which is NOT a common selection box for input?
a) Check box
b) Radio button
c) Drop-down list box
d) Text box
e) Combo box

Ans: d

92. Which selection box would you use if only one possible answer was correct for the item being input (like freshman, sophomore, junior or senior for undergraduate class standing)?
a) Check box
b) Radio button
c) Scroll bar
d) Text box
e) Database box

Ans: b

93. Which selection box might let a user select more than one option?
a) Check box
b) Radio button
c) Scroll bar
d) Text box
e) Database box

Ans: a

94. A _____ is used when several fields must be entered before the form can be processed.
a) Completeness check
b) Format check
c) Range check
d) Check digit check
e) Consistency check

Ans: a

95. A _____ is used when fields are numeric or contain coded data.
a) Completeness check
b) Format check
c) Range check
d) Check digit check
e) Consistency check

Ans: b

96. A _____ is used when you want to verify that data fits within correct minimum and maximum values.
a) Completeness check
b) Format check
c) Range check
d) Check digit check
e) Consistency check

Ans: c

97. A _____ is used when an extra digit is added to a coded field to make sure it the entered data is correct (like social security numbers).
a) Completeness check
b) Format check
c) Range check
d) Check digit check
e) Consistency check

Ans: d

98. A _____ is used when all combinations of data are valid (like birth year is prior to marriage year).
a) Completeness check
b) Format check
c) Range check
d) Check digit check
e) Consistency check

Ans: e

99. Which is NOT a standard report output?
a) Detail report
b) Summary report
c) Exception report
d) Turnaround report
e) Random report

Ans: e

100. This report is a good choice when users want full information about the items.
a) Detail report
b) Summary report
c) Exception report
d) Turnabout report
e) Graphs

Ans: a

101. This report is a good choice when users want an overview of the information but not all the information.
a) Detail report
b) Summary report
c) Exception report
d) Turnabout report
e) Graphs

Ans: b

102. This report is a good choice when users want to identify something that went wrong (or in an anomaly like an overdrawn account).
a) Detail report
b) Summary report
c) Exception report
d) Turnabout report
e) Graphs

Ans: c

103. This report is a good choice when the output of the report will be input to another process.
a) Detail report
b) Summary report
c) Exception report
d) Turnabout report
e) Graphs

Ans: d

104. This report is a good choice when users want to compare data.
a) Detail report
b) Summary report
c) Exception report
d) Turnabout report
e) Graphs

Ans: e

True / False

105. Interface design is the process of defining how the system will interact with external entities. *True*

106. User interfaces are defined in the nonfunctional requirements during the analysis phases of the SDLC. *True*

107. The user interface defines the way in which the users will interact with the system and the nature of the inputs and output that the system accepts and produces. *True*

108. There are three fundamental parts to a user interface: navigation mechanism, input mechanism and output mechanism. *True*

109. There are three fundamental parts to a user interface: input mechanism; processing; and output mechanism. *False*

110. The navigation mechanism describes how the user gives instructions to the system. *True*

111. The input mechanism describes how the system captures information. *True*

112. The output mechanism specifies how the system will provide information to the user (web pages, reports) or to another system. *True*

113. HCI is an acronym for Hierarchy Control Interface, the command structure behind the user interface. *False*

114. HCI is an acronym for Human-Computer Interaction. *True*

115. GUI is an acronym for graphical user interface. *True*

116. Web based interfaces that use windows, icons, menus and pointers (mouse) are called HIM (hierarchical interface mechanisms). *False*

117. User interface design is an art. *True*

118. User interface design is very controlled by CASE tools, and specific rules and guidelines set by the W3C (world wide web consortium). *False*

119. The authors mention that the greatest problem facing experienced designers is using colors and fonts appropriately. *False*

120. The seven principles for user input design include: layout, content awareness, aesthetics, user experience, consistency and minimize user effort. *True*

121. The seven principles for user input design include: layout, correctness, white space, readability, font/color selection, storyboard, and minimize user effort. *False*

122. The concern from user experience is two-fold: ease of use and ease of learning. *True*

123. Interfaces should be functional and inviting to users through careful use of white space, colors and fonts. This is part of the 'layout' principle of user interface design. *False*

124. Most screen designs (like for Windows or Macintosh) follow the concept of three areas: top for navigation, the middle for display of the user's work, and the bottom for status information. *True*

125. Microsoft has common menu items for their Office 2007 package. For example, on the navigational area on a Microsoft Office 2007 Word document, you will have menu items (like Home, Insert, Page Layout) and in Microsoft Office 2007 Excel, you also have menu items (like Home, Insert, Page Layout). *True*

126. People in western nations tend to read from top to bottom and left to right. *True*

127. User interface design is completed by users under the direction of the project sponsor. *False*

128. Content Awareness refers to the ability of an interface to make the user aware of the information it contains with the least amount of effort by the user. *True*

129. When designing forms, it is better to get more information on the form as fewer forms with more information is better than several pages of forms covering the same information. *False*

130. Ting-you has been assigned to create a new customer input screen. There is a lot of information to be captured and not much room. She is using abbreviated field name labels – like LName or FName or ADDR or ST. This is a sagacious use of such abbreviations. *False*

131. Forms should have version numbers so that users, analysts and programmers can identify outdated materials. *True*

132. Aesthetics refers to designing information that can be navigated in three-clicks or less. *False*

133. Space is generally at a premium on forms and reports , thus squeezing information onto forms is considered a wise business decision. *False*

134. If the density on a single page form is too high, it might not be as effective for some users as creating a two-page form. *True*

135. Novice or infrequent users of an interface (both paper and screen) prefer interfaces with low density like under 25%. *False*

136. Generally headings on a paper form should be with Arial size 24 bold; the main text should be Times New Roman size 12. Subheadings should be Tahoma size 14, bold and italic and underlined. This makes a form easier to read and to delineate sections. *False*

137. Omar has designed a paper form using 'sans serif' fonts and for his screen (or web) forms he has used 'serif' fonts. He is exercising good user interface design practices. *False*

138. For screen forms and reports, you should use a font of at least size 12. *True*

139. Colors and patterns add pizzazz to a screen form and aid in its readability. *False*

140. The goal of screen creation is to have pleasant readability. *True*

141. Colors have been shown to affect emotion – red for intense emotion (anger) and blue for lower emotions (drowsiness). *True*

142. User experience refers to minimizing the number of clicks or commands to go from one field to another. *False*

143. User experience generally has two opposing concepts: ease of learning and ease of use. *True*

144. Novices prefer user interfaces with 'ease of learning' features (like more explicit menu choices, clear directions). *True*

145. Experienced users prefer user interfaces with 'ease of learning' features. *False*

146. Experienced users prefer 'ease of use' features of user interfaces – such as Ctrl-C for 'copy' and Ctrl-V for 'paste' operations. *True*

147. If a particular form or screen is used by a cadre of experienced users very frequently (like an accounting entry system), 'ease of use' should be a high priority on these system interfaces. *True*

148. Bob is designing input screens for a re-designed system for the shipping and inventory department. For order forms, he puts Zip code first (as the database will take the zip code and look up the city and state); for receiving forms, he puts them in the order of city, then state, then zip code. His design choices will help experienced users be more productive. *False*

149. Consistency is probably the single most important factor in making a screen simple to use. *True*

150. Layout is probably the single most important factor in making a screen simple to use. *False*

151. Content Awareness is probably the single most important factor in making a screen simple to use. *False*

152. Aesthetics is probably the single most important factor in making a screen simple to use. *False*

153. Alice puts a piggy bank icon on her interactive forms to represent the 'save' operation. This is a reasonable choice. *False*

154. Juan uses the term 'patient' on an appointment form; but uses the word 'client' on the payment entry screen. This violates the consistency principle of user interface design. *True*

155. At least one study suggests that some variation be appropriate in user interface design as the study suggests that when all forms tend to look the same, it can be confusing to some users. *True*

156. Most interface designers follow the four-clicks rule. *False*

157. User interface design is a three-step process: (1) analyze the DFDs and use cases; (2) develop the interface diagrams; and (3) create the interface design prototype. *False*

158. When creating user interfaces, analysts should examine DFDs and use cases to see how users commonly perform various processes. *True*

159. Andrea is designing a series of user interfaces for a CRM system. As part of the process of developing the user interfaces, she can go back and forth between various steps of use scenarios, interface structure diagrams, interface standards, interface design prototypes, and interface evaluations. *True*

160. Michelle is designing a series of user interfaces for a CRM system. She goes back and forth between various steps of use cases, DFDs, ERDs and JAD session notes. *False*

161. An outline of the steps that the users perform to accomplish some part of their work is called 'a use scenario'. *True*

162. A use scenario is one commonly used path through a use case. *True*

163. In use scenarios, the goal is to describe the handful of most commonly occurring use scenarios so that the interface can be designed to enable the most common uses to be performed simply and easily. *True*

164. Interface Structure Design defines the application coding structure used (such as developing prototypes in Visual Basic). *False*

165. Describing how basic interface components and how those components work together is the interface structure design. *True*

166. An ISD is somewhat similar to a DFD. *True*

167. The Interface Structure Design generally shows how menus and submenus are related. *True*

168. Interface Structures (shown with boxes in the textbook) cannot directly interface with other interface structures on other menus and submenus, only the interface structures on the same menu or submenu. *False*

169. The basic design elements that are common across the individual screens, forms and reports within the system are called 'the interface standards'. *True*

170. There may be different interface standards for different parts of a system (such as web screens, paper reports, input screens, etc.). *True*

171. Roxie is developing an interface for a web e-commerce site. She has chosen a 'shopping cart' as the metaphor. That is a good choice. *True*

172. Ramesh has chosen a swing for an interface metaphor for an accounting application. When debits are entered, the swing is lower on the left; when credits are entered, the swing is lower on the right. This is a good choice. *False*

173. Thom has created an icon of a person walking out of a door to stand for 'exit' from a form. This is a good choice for an interface icon. *False*

174. The three most common approaches to interface design prototyping are: Storyboard, HTTP prototype, and Language Prototype. *False*

175. Using an HTML prototype lets users see what a screen form might look like. *True*

176. Ralph used Visual Basic to create an input form prototype. He has several screens (forms) so that when the user clicks 'submit' the other forms show up. This is a good way to demonstrate possible forms to users. *True*

177. Of the three interface design prototypes, Storyboarding is generally the least expensive and also provides the least amount of details. *True*

178. Language prototyping (like using Visual Basic to layout screens and forms) is generally the fastest, cheapest and most effective way to show users how screens and forms will look. *False*

179. The objective of interface evaluations is to understand how to improve the interface design. *True*

180. A walk-through evaluation is a meeting conducted with users to present the prototype to them and walk through how the prototype will be implemented. *True*

181. Formal usability testing can be very expensive. *True*

182. A 'hierarchical evaluation' examines the interface prototype by comparing it to a set of 'hierarchies' or principles for interface design (i.e. the prototype is compared to a list of expectations). *False*

183. When creating navigational controls for an interface, analysts should assume that all users will (a) be given training; (b) have a user's manual for the new interface and (c) will have experts available to help them (like help desk personnel). *False*

184. The first principle of designing navigational controls is to prevent users from making mistakes. *True*

185. When creating navigational controls, you should either not display a command that cannot be used or 'gray' it out (where it shows, but cannot be used). *True*

186. Jamal is creating a user interface. He wants what he calls an 'oops' button on every screen and form (or an 'undo' button). This is a good design consideration. *True*

187. The most common type of navigation system today is the menu. *True*

188. Research shows that in an ideal world a menu should contain no more than four items and submenus should contain no fewer than six items. *False*

189. Menus frequently have 'hot keys' – like ctrl-F for find; ctrl-X for cut. *True*

190. Messages are the way in which the system responds to a user and informs him or her of the status of the interaction. *True*

191. An error message should use humor like "Hey – are you sure you want to do this – it might hurt you more than it hurts me". *False*

192. Delay messages frequently are only icons (like hourglasses or revolving circles when the system is busy). *True*

193. Confirmation messages might be used when a user is about to permanently delete a file. *True*

194. Acknowledgement messages should be used rarely as they can become annoying. *True*

195. Error messages inform the user that he or she has attempted to do something that cannot be done. They should explain the situation and suggest corrective action. *True*

196. The basic goal of input design is to capture accurate information for the system simply and easily. *True*

197. Capturing data at the source is highly recommended. *True*

198. Barcode readers are one way of doing batch processing. *False*

199. Magnetic stripe readers (like for credit cards) are a good way to capture data at the source. *True*

200. Radio buttons allow users to select multiple options. *False*

201. Check boxes allow users to select multiple options. *True*

202. Drop-down lists are good for when there is a large amount of possible options and little space (like selecting one of the 50 United States from a list of states). *True*

203. Combo boxes are a combination of list boxes or input text boxes. *True*

204. A scroll bar for input allows the user to easily input text and numbers. *False*

205. Using textboxes for input of limited items (like age, gender, month/day/year) is recommended over radio buttons, or list-boxes. *False*

206. A completeness check is like using a web form and verifying that the user put something in all of the important boxes. *True*

207. A format check is to verify that data is entered in the correct format – like MM/DD/YYYY. *True*

208. Consistency checks would verify that a date of February 31st is invalid. *True*

209. Range checks will validate if the data is numeric with two decimal places. *False*

210. A detail report gives only information about problems and errors that have occurred. *False*

211. Summary reports are the same as exception reports. *False*

Multiple Choice

1. Program Design
a) Is left to programming / development staff (not systems analysts)
b) Is done in the implementation phase of the SDLC
c) Is done with CASE tools that automate the various process models, data models and user interface design into Visual Basic code
d) Is done by analysts and then the design is passed on to programmers to code
e) Consists of icons, metaphors and structures

Ans: d

2. Program design is part of which SDLC phase?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Evaluation

Ans: c

3. In program design, which NOT an activity done by analysts?
a) Determine what program will be written
b) Create instructions for the programmers about how the code should be written
c) Identify how the pieces of code will fit together
d) Create physical data flow diagrams
e) Develop the database schema

Ans: e

4. Several things must be done by analysts during Program Design. Which of the following is NOT an activity done by analysts during Program Design?
a) Hardware is purchased in order to arrive prior to coding and implementation
b) Deciding what programming language(s) will be used
c) Data flow diagrams are adapted into physical DFDs
d) Structure charts are created
e) Program specifications are developed

Ans: a

5. As analysts move from logical design to physical design, one of the actions they will do is:
a) Create physical use cases, with real triggers and processes
b) Create physical DFDs
c) Create actual programs
d) Develop HIPO charts
e) Develop Gantt diagrams

Ans: b

6. Physical DFDs will be shared with ___
a) Project sponsors
b) Users
c) Programmers / Designers
d) Business managers
e) External entities

Ans: c

7. The first step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows

Ans: c

8. The second step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows

Ans: b

9. The third step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows

Ans: d

10. The fourth step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows

Ans: e

11. The fifth step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows

Ans: a

12. In adding implementation references (when converting logical DFDs into physical DFDs) analysts will NOT do which of the following?
a) Add references to the ways the actual databases will be implemented
b) Develop links to the user interface for the metadata
c) Build structures for how the processes will be implemented
d) Determine the physical media for the data (part, bar code scanning, etc.)
e) Create final physical names for the various components

Ans: b

13. The Human-Machine Boundary
a) Is the keyboard and screen
b) Builds on research in ergonometry
c) Is a line drawn on the physical DFD to separate human action from automated processes
d) Is a part of developing the HCI interface
e) Separates where manual processes are separated by human completed processes

Ans: c

14. In most automated cases, data stores from logical DFDs will be converted to:
a) Binary tables
b) CD Rom disks
c) Paper files
d) Into database files / tables
e) Encrypted hexadecimal values

Ans: d

15. By definition, external entities on the DFD:
a) Are used as the starting point for the physical data flow diagram
b) Are outside the scope of the system
c) Will be the top of the structure chart
d) Will become database table entries
e) Are updated with metadata to become part of the physical DFD

Ans: b

16. Every part of a system that is not automated will:
a) Be ignored in the implementation of the system
b) Be drawn as only logical DFDs not physical DFDs
c) Be outside the human-machine boundary
d) Go back through the analysis phase to become automated
e) Will be drawn as diamond shapes on the structure charts

Ans: c

17. Processes from logical DFDs might show up on a physical data flow diagram as:
a) Tables in a database
b) External entities
c) Outside the human-machine boundary
d) Audit log files
e) HTML screens or Visual Basic forms

Ans: e

18. In determining if a process is to be automated, the project team will do all of the following EXCEPT:
a) Weigh the costs
b) Redraw the logical DFD as a combined logical/physical DFD
c) Determine benefits
d) Evaluate the efficiency
e) Consider the integrity of the process to the system

Ans: b

19. Beth is considering a simple process for immediate orders. When processing an immediate order, a phone clerk writes the order on a paper form. Which of the following might be a reason NOT to automate this process?
a) The clerk could make errors when writing the information wrong on the paper form
b) The paper form could be lost when sent to the order filling /shipping area
c) The writing on the paper form could be hard to decipher
d) The costs to automate might be significantly higher than doing it manually
e) The time to get the paper form from the clerk's desk to the order filling / shipping area is one day or longer

Ans: d

20. When changing a logical DFD into a physical DFD, it might be necessary to _____.
a) Add system-related data stores, data flows and processes
b) Normalize the logical DFD into 3NF
c) Create the user-interface with smaller fonts
d) Change the system architecture to three-tiered architecture
e) Delete extraneous data stores and delete extraneous data flows

Ans: a

21. When you are updating the data elements in the data flows (when creating a physical DFD) you might need to:
a) Return to users to interview them about the physical data flows
b) Update the original cost/benefit analysis to reflect the physical storage
c) Do a technology analysis
d) Add physical data elements to the metadata descriptions in the CASE repository
e) Do formal benchmarking of the data flows

Ans: d

22. A temptation that is common in the program design phase is:
a) To add additional modules, and processes
b) To jump into actual coding and programming without much thought or planning
c) To delete manual processes from implementation
d) To automate all processes, even ones that are best left as manual processes
e) Create user interfaces with lots of colors, fonts, and enhanced graphics

Ans: b

23. Which is NOT a consideration when designing programs in the program design step?
a) Create maintainable systems
b) Have designs that are modular
c) Include flexibility
d) Use COBOL for pseudocoding
e) Use top-down modular approaches

Ans: d

24. Pseudocode is:
a) The same as structured English
b) A technique similar to structured English
c) A subset of the Java programming language
d) A coding environment sponsored by Oracle
e) The term for designing language prototyping screens with Visual Basic or HTML

Ans: b

25. Which of the following is NOT true?
a) Analysts design programs in the design phase of the SDLC, programmers code programs in the Implementation phase
b) Analysts can use structure charts to design programming logic
c) Analysts can build in the three structures of sequence, selection and iteration into structure charts
d) Programmers can take the logical DFDs and directly implement into code by compiling the metadata in the CASE tools
e) Physical DFDs show additional details, such as what tables in the database replace data stores on the logical DFD

Ans: d

26. Which is NOT true of structure charts?
a) They show sequence
b) They show the user interface
c) They show couples
d) They show selection
e) They emphasize structure and reusability

Ans: b

27. Which is NOT true of Structure Charts when designing programs?
a) They show all the components of code that must be included in a program at a high level
b) They are arranged in a hierarchical format that implies sequence
c) They help analysts create programs that are easy to understand and maintain
d) They are generally implemented with control flags that pass from the control modules to the subordinate modules
e) They may have on-page and off-page connectors

Ans: d

28. Which is NOT a symbol used in drawing structure charts?
a) A two-headed data flow arrow
b) A data couple indicated by an arrow and an empty circle
c) A loop arc showing iteration
d) An off-page connector (which looks like home-plate in baseball)
e) A line with a diamond indicating a conditional activity

Ans: a

29. A general suggestion about using couples in drawing structure charts is:
a) The use of many couples clarify the processing
b) It is best to be conservative when applying couples to your diagram
c) To use 'combination' couples when both data couples and control couples are needed
d) You should have at least twice as many afferent couples as efferent couples
e) Use only data couples and no control couples

Ans: b

30. The three types of basic processes on a process model:
a) Sequence, selection and iteration processes
b) Navigation, status and work processes
c) Afferent, central and efferent processes
d) Batch, online and real time processes
e) Singular, bilateral and library processes

Ans: c

31. Generally, transaction structures on a structure chard will have:
a) Many afferent processes
b) Many efferent processes
c) Many data couples
d) Many control couples
e) Many conditional couples

Ans: b

32. Generally, transform structures on a structure chart will have:
a) Many afferent processes
b) Many efferent processes
c) Many data couples
d) Many control couples
e) Many conditional couples

Ans: a

33. As a structure chart is constructed, it is generally best to build modules with:
a) High cohesion
b) Highly coupled
c) High fan-out
d) Have the word "and" in the module title
e) A high level of coincidental cohesion

Ans: a

34. As a structure chart is constructed, it is generally best to build modules with:
a) Low cohesion
b) Low coupling
c) Low fan-out
d) Low fan-in
e) Low use of data coupling

Ans: b

35. Which of the following cohesion types would be considered "better" for a program module?
a) Coincidental
b) Logical
c) Temporal
d) Procedural
e) Functional

Ans: e

36. Which of the following cohesion types would be considered 'bad' for a program module?
a) Coincidental
b) Logical
c) Temporal
d) Procedural
e) Functional

Ans: a

37. Which of the following coupling types would be considered 'good' for a program module?
a) Stamp
b) Content
c) Common
d) Data
e) Control

Ans: d

38. Which of the following coupling types would be considered 'bad' for a program module?
a) Stamp
b) Content
c) Common
d) Data
e) Control

Ans: d

39. For a program module on a structure chart, fan-in:
a) Describes the number of control modules that communicate with a subordinate
b) Describes how well the lines of code within each structure chart module relate to each other.
c) Describes how closely modules are interrelated
d) Describes the use of empirical data linked lists
e) An attribute that can be described in pseudocode

Ans: a

40. Pseudocode is:
a) A language popularized by Feinstein and Longenecker in the 1990's
b) A detailed outline of the lines of code that need to be written
c) A 'pretend' syntax inherent in all CASE tools
d) The translation of code into ASCII
e) A dialect of Visual Basic only used in program design

Ans: b

41. A higher-level component that contains the logic for performing other modules and the components that it calls and controls is called a _____.
a) control module
b) structure chart
c) subordinate module
d) super-ordinate
e) top-down module chart

Ans: a

42. Reusable modules, which are represented in the structure chart as rectangles with vertical lines on both sides, may often appear several times in a structure chart. These are called _____ modules.
a) conditional
b) control
c) library
d) loop
e) off-page connector
Ans: c

43. There are two symbols that describe special types of control in a structure chart. They are a curved arrow and a diamond. These symbols represent _____ and _____.
a) connector, conditional line
b) control, subordinate
c) library module, conditional line
d) loop, conditional line
e) loop, connector
Ans: d

44. In a structure chart, the element that communicates that a message or a system flag is being passed from one module to another is known as a(n) _____.
a) conditional line
b) connector
c) control couple
d) data couple
e) loop
Ans: c

45. In a structure chart, the purpose of a control couple is to:
a) Pass parameters from a subordinate module to the control module
b) Pass parameters from the control modules to a subordinate module
c) Pass data from a subordinate module to the control module
d) Pass data from the control module to a subordinate module
e) Chaperone the dance for programmers on the project
Ans: a

46. _____ refers to how well the lines of code within each module in a structure chart relate to each other.
a) calculation
b) cohesion
c) control
d) coupling
e) fan-in
Ans: b

47. In a structure chart, the element that is drawn as an empty circle with an attached arrow is known as a(n) _____.
a) conditional line
b) connector
c) control couple
d) data couple
e) module
Ans: d

48. In a structure chart, a transaction structure _____.
a) contains a control module that calls several subordinate modules in sequence, after which something "happens"
b) contains a control module that calls subordinate modules, each handling a particular transaction
c) contains a transactional loop
d) is a subordinate module that handles a particular transaction
e) is subordinate to subordinal modules
Ans: b

True / False

49. Because project teams rely more on packaged software, program design is no longer needed. *False*

50. Program design is part of the Implementation phase of the SDLC. *False*

51. During program design, analysts write programming code. *False*

52. During program design, analysts write instructions for programmers about how the code should be written. *True*

53. During program design, analysts determine what programs will be written. *True*

54. Because (a) preexisting code needs to be understood, organized, and pieced together; and (b) it is still common for the project team to have to write some code and adapt packages to the business environment, it is therefore good for analysts to fully understand program design. *True*

55. The Human-Machine boundary is part of the Human-Computer Interface into usability systems. *False*

56. Micah is adding implementation resources to change a logical DFD into a physical DFD. He should describe databases, files, tables, and processes as they will be implemented on the computer. *True*

57. There are some 'system-related' data stores, data flows and processes that must be added when creating the physical DFD *True*

58. Many of the data stores in the logical DFD will be changed into encrypted word processing documents when a physical DFD is developed. *False*

59. When building the physical data flow diagram, processes may become html web pages or Visual Basic screens. *True*

60. When drawing the human-machine boundary, all processes in the physical DFD will be automated, so only external entities will be excluded. *False*

61. An audit control / audit logfile might be a system related process, data flow and data store that would be added when creating physical DFDs. *True*

62. When creating the physical DFD, you may want to capture system information like date and time of update and user-id of the person who did the update. *True*

63. A temptation when moving from analysis to design of a system is to jump right into coding. *True*

64. Amy is an analyst for an automatic payment system. She knows that she will need to create a modular, flexible plan for programmers to follow so that the ensuing system will be maintainable. *True*

65. Generally, analysts use a 'bottom-up' approach when designing the programming specifications. *False*

66. In designing programming specifications, the analyst needs to see what impact will happen if one line changes in one module and how that might affect other modules and processing. *True*

67. A high-level diagram that shows the various components of a program is called an audit chart. *False*

68. A structure chart is a high-level diagram showing the organization and interactions of the different pieces of code within the program. *True*

69. Pseudocode is a technique similar to structured English and is used to communicate what needs to be written in a programming language. *True*

70. The technique that is used to communicate what needs to be developed to programmers / developers is called 'raw-code'. *False*

71. Pseudocode communicates the basic logic and programming structures that will be used in the implementation period without referencing the syntax of a specific programming language. *True*

72. In recent years, programmers have increasingly moved away from event-driven programming to more procedural oriented programming languages (like COBOL). *False*

73. Languages like Visual Basic are popular since they combine features of procedural, event-driven AND object-oriented programming. *True*

74. TJ wants to break his pseudocode specifications into modules since modules are easier to maintain, are reusable and have less redundancy. *True*

75. A structure chart is an important technique that helps the analyst design the program for the new system. *True*

76. A structure chart shows the components of code in a hierarchical format. *True*

77. A structure chart shows sequence, selection and data flows. *False*

78. Sequence in a structure chart indicates under what conditions a module is invoked. *False*

79. Selection in a structure chart indicates under what condition a module is invoked and might be compared to an if-then statement. *True*

80. Iteration in a structure chart indicates in what order components are invoked. *False*

81. A structure chart is composed of modules that work together to form a program. *True*

82. A control module can also be called a library module and is a set of reusable code. *False*

83. A higher-level component that contains the logic for performing other modules (subordinate modules) is known as a control module. *True*

84. A module in a structure chart that can be reused is called a 'support module'. *False*

85. Library modules are encouraged as their reusability can save programmers from rewriting the same piece of code over and over. *True*

86. In a structure chart, a loop is drawn with a curved arrow and shows iteration. *True*

87. An off-page connector looks like 'home plate' in baseball, and identifies where a part of the structure chart is continued on another page . *True*

88. A diamond on a structure chart shows sequence – like a baseball player would go to first base, then second, third and home. *False*

89. Couples in structure charts always show two modules that are executed together and are drawn with horizontal lines at the top and bottom. *False*

90. Data couples are shown by arrows with empty circles and show how data flows between modules.

    True

91. Control couples show the passing of parameters or system related messages between modules (like 'end-of-file'). *True*

92. The three basic kinds of processes on a process module are afferent, central and efferent. *True*

93. An afferent process is an input process on a structure chart. *True*

94. An effective process is an output process on a structure chart. *False*

95. A transaction structure in a structure chart contains a control module that calls subordinate modules and frequently occur

    with menus. *True*

96. Generally, transaction structures occur at lower levels of a structure chart. *False*

97. A good indication of needing a transaction structure on a structure chart occurs when a DFD shows a single data flow

    entering a process that produces multiple data flows as outputs. *True*

98. The 'transform structure' on a structure chart has a control module that calls several subordinate modules, after which

    something happens. *True*

99. In a car insurance processing structure chart, a control module first calls a module that calculates rates based on age; then it

    calls a module that calculates rates based on state-of-residency; then it calls a module that calculates rates based on driving

    record; then calls a module based on health factors; and finally calls a module that combines these factors. This would be an

    example of a 'transform structure' on a structure chart. *True*

100. Jim is working from a leveled DFD and creating structure charts. He is finding that the lower levels of the DFD generally

    correspond to transform structures. *True*

Multiple Choice

1. The data storage design activity is done in which phase of the Systems Development Life Cycle?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Evaluation
Ans: c

2. An activity of the data storage design process is to:
a) Convert logical ERDs into physical ERDs
b) Convert logical use cases into physical use cases
c) Convert program specifications into actual code
d) Convert flat files into Access database tables
e) B and C above
Ans: a

3. Which of the following is not a general function of any application program?
a) Data storage
b) Presentation logic
c) Data access logic
d) Linked-list modules
e) Application logic
Ans: d

4. The two basic formats for data storage:
a) Spreadsheets and documents
b) Files and databases
c) Databases and presentations
d) Flash and web forms
e) ERDs and Use cases
Ans: b

5. Which of the following is an open source DBMS?
a) Microsoft Access
b) SQL Server
c) MySQL
d) Excel
e) CASE
Ans: c

6. Which is not an enterprise DBMS?
a) Microsoft Access
b) SQL Server
c) Oracle
d) DB2
e) Jasmine
Ans: a

7. Juan is using a file that is created by an older, legacy system. It is likely that the data is:
a) Unusable
b) In a proprietary format
c) In a standard format (like comma separated value)
d) Is sorted by customer's middle name
e) In a object-oriented structure like Ariel
Ans: b

8. Which of the following is NOT a file type described in the textbook?
a) History files
b) Audit files
c) Look-up files
d) Algebra files
e) Transaction files
Ans: d

9. This type of file stores 'core information that is important to the business' and for the application (such as customer mailing lists).
a) History Files
b) Audit files
c) Master files
d) Transaction files
e) Intelligent files
Ans: c

10. This type of file is used to update a master file:
a) Roster Files
b) Training files
c) Master files
d) Transaction files
e) Integrated files
Ans: d

11. This type of file records "before" and "after" images of data as the data gets altered.
a) Intelligent files
b) Audit files
c) Master files
d) Raw files
e) Prime files
Ans: b

12. Which is NOT a type of database file?
a) Hierarchical databases
b) Relational databases
c) Object databases
d) Multidimensional databases
e) Federal database
Ans: e

13. Legacy databases might include _____ and _____
a) Master files and transaction files
b) Audit files and look-up files
c) Hierarchical databases and network databases
d) Tree databases and leaf databases
e) Red databases and Green databases
Ans: c

14. The most popular type of database today is the:
a) Hierarchical database
b) Tree database
c) Green database
d) Relational database
e) Piecemeal database

Ans: d

15. Most relational database systems support:
a) Referential integrity
b) Pop-up menus
c) Customizable user-interface colors and graphics
d) The 'three-clicks' rule
e) Broadband connectivity

Ans: a

16. The acronym for the standard language used to access data in relational databases is:
a) ERD
b) CRM
c) ERP
d) BPR
e) SQL

Ans: e

17. Which of the following is NOT a relational database management system product?
a) MySQL
b) Access
c) Photoshop
d) Oracle
e) Informix

Ans: c

18. A pure OODBMS product named in the textbook is:
a) Belle
b) Ariel
c) Jasmine
d) Emerald
e) Informix

Ans: c

19. Object databases support the concept that all things have both _____ and _____.
a) Length and width
b) Depth and stature
c) Primary keys and secondary keys
d) Positives and negatives
e) Data and processes

Ans: e

20. Which of the following is a concept not generally associated with decision support systems?
a) Data warehouses
b) Data marts
c) Aggregated data
d) Object orientation
e) Multidimensional databases

Ans: d

21. A type of relational database that is used extensively in data warehousing is:
a) Multidimensional databases
b) Visio databases
c) Brick-and-mortar databases
d) Stacking databases
e) More than one of the above

Ans: a

22. In most cases, decision support systems are best at:
a) Finding particular records that are stored in legacy databases
b) Finding processes that are stored in object databases
c) Finding aggregated data
d) Analyzing audit (or log) files for possible intrusion and security breaches
e) Red and green linked list processing

Ans: c

23. Omar is creating an order database for a multiple site car dealership. The data will be fairly simple: names, addresses, city, state, zipcode, make of car, model, style, color, etc. Probably the best choice for him would be a _____ database.
a) Multidimensional
b) Hierarchical
c) Legacy
d) Object
e) Relational

Ans: e

24. Marco is working for iTunes and needs to have a database that can store complex data. His best choice might be:
a) An object database
b) A relational database
c) A red-green database
d) A tree database
e) A spanning database

Ans: a

25. FoodTitan is a large grocery store chain in the Chicago, Milwaukee, and the Upper Midwest. Generally their stores have from 18 to 36 checkout lanes with scanners. When somebody scans a bar code, the system is probably using a _____ to process the purchased items.
a) Executive support system (ESS)
b) Barcode processing system (BPS)
c) Management information system (MIS)
d) Transaction Processing system (TPS)
e) A grocery store processing system (GSPS)

Ans: d

26. The type of processing system that creates reports for supervisors (and other functional users) probably would be a:
a) Transaction Processing System (TPS)
b) Management Information System (MIS)
c) Executive Support System (ESS)
d) Decision Support System (DSS)
e) Rebate Management System (RMS)

Ans: b

27. Systems that support decision making will probably:
a) Do a lot of updating of data
b) Be transaction processing systems
c) Be audit files
d) Use Gantt charts
e) Usually just read data – and often in ad hoc ways

Ans: e

28. The project team is very knowledgeable about relational database management systems. In terms of feasibility, this might be best known as:
a) Technical feasibility ('can we build it')
b) Economic feasibility ('should we build it')
c) Managerial feasibility ('why would we build it')
d) Graphical feasibility ('does it fit this project')
e) Organizational feasibility ('if we build it, will they use it')

Ans: a

29. Leon has been reading about new technologies in data storage and he is really excited about object databases. In particular, the new SANS storage with fiber optic connection was recently written up in CIO Magazine as an exciting new development on the database scene. The project team should:
a) Go with Leon's idea as it seems to be an exciting development
b) Go with a cube database system as it might be the bridge between SANS storage/ object databases and relational databases
c) Ignore Leon as a terrible dreamer who has no concept of reality
d) Discuss the options as a group, but try to caution Leon about the potential steep learning curve
e) None of the above

Ans: d

30. Which is NOT a step in moving from a logical data model to a physical data model?
a) Change entities to tables (or files)
b) Change data flows to create / read / update / delete (CRUD) operations
c) Change Attributes to Fields
d) Add primary keys
e) Add foreign keys

Ans: b

31. The purpose of creating physical ERDs is to:
a) Show implementation details and to explain more about the 'how' of the final system
b) Normalize the database to third normal form
c) Do a new technology analysis
d) Drive the users nuts
e) Help junior analysts to find the transactions between systems

Ans: a

32. Which is not a common data type?
a) Character
b) Text
c) Integer
d) Date
e) Video

Ans: e

33. A default value is:
a) The first value in a table
b) The median value in a table
c) The smallest value in a table

d) A value that probably occurs most frequently

e) A mistake made by Dee (aka the name "Dee's fault")

Ans: d

34. Primary keys are:
a) The same as default keys (or default values)
b) Unique values for each record in a file or table
c) Elementary values (like 'primary' school)
d) Prime numbers in a Fibonacci sequence
e) The same as foreign keys

Ans: b

35. When you join two relational database tables together, frequently the primary key in one table will be a _____ in the other table.
a) Foreign key
b) International key
c) Primary key
d) Linked list
e) Entity

Ans: a

36. Which is not an element of a CRUD matrix?
a) Combine or join
b) Update or refresh
c) Erase or delete
d) Read or retrieve
e) Make or create

Ans: a

37. The CRUD matrix shows
a) The crud that is coming into the system and how to quarantine it
b) Exactly how data are used and created by the major processes in the system
c) The 1:M relationships on an ERD diagram
d) The external entities, process and major data flows from the Context DFD diagram
e) Where customer, relationships, users and developers will interact with a system

Ans: b

38. Ralph is looking at a table with the following key fields:

Order ID Customer ID
2156   428
2157   873
2158   201
2159   428
2160   043
2161   195

This table:
a) Is table is not fully normalized
b) Is in third normal form
c) Has a primary key of customer id
d) Has a foreign key of order id
e) Cannot be fully evaluated from the data provided

Ans: e

39. The most efficient tables (in terms of storage efficiency) in relational database management systems:
a) Have duplicate data, especially for when more than one table is joined together for queries
b) Have no redundant data
c) Are denormalized
d) Have entire tables duplicated
e) Use plasma technologies

Ans: b

40. Null values
a) Are valuable in database storage as they provide space for growth
b) Will be replaced with zeros when the tables are optimized
c) Threaten data integrity because they are difficult to interpret
d) Only exist in multidimensional databases
e) Have been outlawed by California and six other states

Ans: c

41. Barb is working on a database design. For the most efficient storage she should remove: _____ and _____.
a) Primary keys and foreign keys
b) International keys and redundancy
c) Adjectives and adverbs
d) Redundancy and null values
e) Special characters and primary keys

Ans: d

42. Generally, the best way to optimize data storage for efficiency is:
a) Normalization
b) Redundancy
c) Null values
d) Insertion of hard returns <CR> after all fields
e) Through minimizing the data to be collected to no more than seven fields per table

Ans: a

43. In a registration database, Ross has tables for student, professor, classroom, class, class-hour. Since his campus has about 12,000 students, when he runs queries about what student is in what class, taught by what professor in what classroom at which hour, the DBMS software will have to perform many _____
a) Axes
b) Parallels
c) Concretes
d) Joins
e) Enrolls

Ans: d

44. One common method to increase access speed is to:
a) Use legacy databases in a indexed sequential access method
b) Encrypt all data with 256 byte encryption
c) Denormalize the tables
d) Delete all primary keys
e) Only use alphabetic data

Ans: c

45. Which of the following is NOT a possible process in denormalization?
a) Include a parent entity's attributes in its child entry on the physical data model
b) Look carefully at relationships to see which entities are frequently accessed together
c) Rewarding abnormal actions with more processing MIPS
d) Develop look-up tables that include the description along with the code

e)   Use a star schema design to imitate a multidimensional database

Ans: c

46.   The concept of putting records that are somehow related together on the same server (or storage device) is called:
a)   Carmelization
b)   Clustering
c)   Joining
d)   Normalization
e)   Hybrid technologies

Ans: b

47.   A good time-saver for accessing data might be the use of:
a)   A red-green tree
b)   PERT
c)   An index
d)   Relational calculus
e)   Inverted menus

Ans: c

48.   The concept for planning good performance of databases is known as:
a)   Volumetrics
b)   Econometrics
c)   Moving averages
d)   Correlation
e)   PERT

Ans: a

49.   Volumetrics is:
a)   The use of indexes for each table
b)   The joining of primary keys, secondary keys and foreign keys.
c)   The estimating of the amount of data that the hardware will need to support
d)   Muting the sound aspects of multimedia files on multidimensional databases
e)   When one overuses hairspray

Ans: c

50.   Many _____ tools like ERwin can help you with database size information and the calculation of volumetrics.
a)   ERD master
b)   DFD master
c)   Denormalization
d)   Pop-up menu
e)   CASE

Ans: e

51. One of the activities of the design phase is to design the data storage component of the system.   *True*

52. Data storage components are designed and developed by the programming staff in the Implementation phase of the SDLC.

    False

53. Data is generally stored in one of two different formats: as files or as databases.   *True*

54. One of the goals of the data storage design activity in the Design Phase of the SDLC is to revise logical use cases into

    physical use cases. *False*

55. Applications are of little use without the data that they support.   *True*

56. Changing the logical data model into a physical data model is one of the activities of data storage design.   *True*

57. Mike is an analyst doing data storage design activities. He will probably want to make sure that the DFDs and the ERDs

    balance.   *True*

58. One activity in the data storage design activity is to update the CRUDE matrix. *False*

59. Sometimes in data storage design there will need to be trade-offs between storage efficiency and processing speed and

    efficiency.   *True*

60. One goal is data storage design is to spread the data over all storage devices so that the redundancy will make for more

    efficient storage. *False*

61. Files are paper files that have been scanned into PDF files for quicker access. *False*

62. DBMS stands for Direct Binary Manipulation System. False

63. Microsoft Access is an end-user DBMS.   *True*

64. MySQL is a popular database management system made by Microsoft. False

65. DB2 is a enterprise database management system.   *True*

66. The most popular kind of database for applications development today is the relational database.   *True*

67. Most relational database management systems support 'sticky' quantitative processing. False

68. Referential integrity is the idea of ensuring that values linking the tables together through the primary and foreign keys are

    valid and correctly synchronized.   *True*

69. The standard method language for accessing the data in relational database tables is: SQL – Standard Query Logic. *False*

70. Relational databases are based on collections of tables each of which has a primary key.   *True*

71. An 'international key' is used to relate two tables together (like customer ID from the customer table is an international key

    in the order table). *False*

72. Jasmine is an example of an object-oriented database system.   *True*

73. Object databases are build on the concept that all things should be treated as objects that have both data and processes.

    True

74. A great advantage of object oriented database management systems is their easy of learning.

    False

75. Informix is a pure OODBMS package. *False*

76. A relational database that is used extensively in data warehousing is a multidimensional database.   *True*

77. Data warehousing is the practice of taking data from a company's transaction processing systems, transforming the data and storing the data for use in decision support systems.   *True*

78. Data marts are larger, aggregated legacy databases. *False*

79. A DSS is a design support structure and does the 'ETL' (extract, transform and load) to create data warehouses. *False*

80. Decision support systems are not designed to find individual records, but to find aggregated information (such as 'what three products sold the best in Boston in February').   *True*

81. When working on a major project, project teams will always select and stay with only one database format for consistency of development and use. *False*

82. Maria is working for the Minneapolis Dance Troop (MDT) and wants a database that can support text, numbers, video, and audio. She will probably select the multidimensional database format.   *False*

83. Brian wants an e-commerce system to be able to do a lot of rapid processing – like search for particular keywords in documents; return the price of an item; update quantities in the shopping cart. He is probably building an Expert System.

    False

84. MIS stands for Management Information Systems.   *True*

85. Rachel wants aggregated data like find the number of banking customers who have savings accounts over $100,000 and home mortgages with her bank. She probably wants to use a Decision Support System.   *True*

86. Transaction processing systems and decision support systems will generally have very different data storage needs.   *True*

87. Systems to support decision making generally need to update data frequently with a large volume of data. *False*

88. Technical feasibility might play a major part in selecting a database system (for example, if a project group and development group are very familiar with relational databases, it might be best to stay with relational databases).   *True*

89. One process when considering data storage design is to move from physical data models to logical data models. *False*

90. When changing logical data models to physical data models, you will want to change entities to tables or files.   *True*

91. When changing from logical data models to physical data models, you will want to change the attributes of the logical ERD to fields in the physical ER   *True*

92. Sanjay is creating a screen form that interfaces with a relational database. He should use the median (middle) value in the database as his default value – as that will make it easier for the users to move up and down in the table. *False*

93. When converting a logical ERD into a physical data model, you will want to specify both primary keys and international keys. *False*

94. When moving from logical data models to physical data models, you should update your CRUD matrix.   *True*

95. CRUD stands for 'create', 'read', 'update' and 'delete'.   *True*

96. A CRUD matrix shows exactly how data are used and created by major processes in the system.

    True

97. The two primary ways to optimize a relational database are (a) for storage efficiency and (b) for using the smallest amount of space. *False*

98. The best design for accessing data faster is generally the most efficient storage as well. *False*

99. Although TJ did a lot of work normalizing the database so that it is in third normal form (3NF), he may want to 'denormalize' it so that access might be faster. *True*

100. The most efficient tables in a relational database in terms of storage space have no redundant data and very few null values.

    True