Chapter 1
The Systems Development Environment

Multiple Choice Questions

1. The complex organizational process through which computer-based information systems are developed and maintained best defines:
   a. information systems analysis and design
   b. joint application design
   c. prototyping
   d. none of the above

   Answer: a  Difficulty: Med  Reference: p. 4

2. Software designed to support the payroll function would best be classified as:
   a. application software
   b. system software
   c. design software
   d. analysis software

   Answer: a  Difficulty: Med  Reference: p. 4

3. Computer software designed to support organizational functions or processes best defines:
   a. system software
   b. application software
   c. design software
   d. analysis software

   Answer: b  Difficulty: Med  Reference: p. 4

4. Comprehensive, multiple-step approaches to systems development that will guide your work and influence the quality of your final product defines:
   a. techniques
   b. tools
   c. methodologies
   d. data flows

   Answer: c  Difficulty: Med  Reference: p. 4

5. The particular processes that an analyst will follow to help ensure that his work is complete, well-done, and understood by project team members best defines:
   a. techniques
   b. tools
   c. methodologies
   d. data flows

   Answer: a  Difficulty: Med  Reference: p. 5
6. The person in an organization who has the primary responsibility for systems analysis and design is the:
   a. systems analyst
   b. end user
   c. internal auditor
   d. business manager

   **Answer:** a  **Difficulty:** Med  **Reference:** p. 5

7. Large, complex systems that consist of a series of independent system modules best describes:
   a. transaction processing systems
   b. customer relationship management systems
   c. supply chain management systems
   d. enterprisewide systems

   **Answer:** d  **Difficulty:** Med  **Reference:** p. 6

8. Which of the following are true statements regarding today’s analysis and design of information systems?
   a. More and more systems implementation involves a three-tier design.
   b. There is a movement to wireless system components.
   c. There is a continued focus on developing systems for the Internet and for firms’ intranets and extranets.
   d. All of the above.

   **Answer:** d  **Difficulty:** Med  **Reference:** p. 6

9. Which of the following is one of the three classes of information systems mentioned in the textbook?
   a. transaction processing systems
   b. neural networks
   c. expert systems
   d. production systems

   **Answer:** a  **Difficulty:** Med  **Reference:** p. 7

10. Transaction processing systems:
    a. automate the handling of data about business activities
    b. are designed to help organizational decision makers make decisions
    c. attempt to codify and manipulate knowledge rather than information
    d. take relatively raw data that have been previously captured and convert them into a meaningful aggregated form that managers need to conduct their responsibilities

    **Answer:** a  **Difficulty:** Med  **Reference:** p. 7
11. Which of the following can be considered a goal of TPS development?

a. improve transaction processing by speeding it up  
b. use fewer people  
c. improve efficiency and accuracy  
d. all of the above

**Answer:** d  
**Difficulty:** Med  
**Reference:** p. 7

12. Management information systems:

a. automate the handling of data about business activities  
b. are designed to help organizational decision makers make decisions  
c. attempt to codify and manipulate knowledge rather than information  
d. take relatively raw data that have been previously captured and convert them into a meaningful aggregated form that managers need to conduct their responsibilities

**Answer:** d  
**Difficulty:** Med  
**Reference:** p. 8

13. Decision support systems:

a. automate the handling of data about business activities  
b. are designed to help organizational decision makers make decisions  
c. attempt to codify and manipulate knowledge rather than information  
d. take relatively raw data that have been previously captured and convert them into a meaningful aggregated form that managers need to conduct their responsibilities

**Answer:** b  
**Difficulty:** Med  
**Reference:** p. 8

14. Which of the following requires a systems development method that uses a data orientation and is concerned with understanding relationships among data so data can be accessed and summarized in a variety of ways?

a. expert system  
b. transaction processing system  
c. management information system  
d. decision support system

**Answer:** c  
**Difficulty:** Med  
**Reference:** pp. 8-9

15. Which of the following is an IS characteristic for a transaction processing system?

a. often involves semi-structured problems and the need to access data at different levels of detail  
b. provides expert advice by asking users a sequence of questions dependent on prior answers  
c. has a high-volume, data capture focus  
d. draws on diverse yet predictable data resources to aggregate and summarize data

**Answer:** c  
**Difficulty:** Hard  
**Reference:** p. 9
16. Which of the following is an IS characteristic for a management information system?
   a. often involves semi-structured problems and the need to access data at different levels of detail
   b. provides expert advice by asking users a sequence of questions dependent on prior answers
   c. has a high-volume, data capture focus
   d. draws on diverse yet predictable data resources to aggregate and summarize data

   Answer: d  Difficulty: Hard  Reference: p. 9

17. Which of the following is an IS characteristic for a decision support system?
   a. often involves semi-structured problems and the need to access data at different levels of detail
   b. provides expert advice by asking users a sequence of questions dependent on prior answers
   c. has a high-volume, data capture focus
   d. draws on diverse yet predictable data resources to aggregate and summarize data

   Answer: a  Difficulty: Hard  Reference: p. 9

18. Which of the following utilizes process orientation as its systems development method?
   a. management information system
   b. transaction processing system
   c. expert system
   d. decision support system

   Answer: b  Difficulty: Hard  Reference: p. 9

19. Which of the following utilizes data and decision logic orientations as its systems development methods?
   a. management information system
   b. transaction processing system
   c. expert system
   d. decision support system

   Answer: d  Difficulty: Hard  Reference: p. 9

20. The traditional methodology used to develop, maintain, and replace information systems best defines:
   a. SDLC
   b. RAD
   c. OOAD
   d. prototyping

   Answer: a  Difficulty: Med  Reference: p. 10
21. Which of the following is a true statement regarding the SDLC phases?
   
   a. The life cycle is a sequentially ordered set of phases.
   b. It is not possible to complete some activities in one phase in parallel with those of another phase.
   c. The SDLC is not iterative.
   d. The life cycle can be thought of as a circular process in which the end of the useful life of one system leads to the beginning of another project to develop a new version of or replace an existing system.

   **Answer:** d  
   **Difficulty:** Hard  
   **Reference:** p. 10

22. During the SDLC planning phase, which of the following activities is undertaken?

   a. New system requirements are identified.
   b. A formal, preliminary investigation is undertaken.
   c. A presentation of why the system should or should not be developed by the organization is given.
   d. Both b and c.

   **Answer:** d  
   **Difficulty:** Med  
   **Reference:** p. 12

23. The second phase of the SDLC in which system requirements are studied and structured best defines:

   a. planning
   b. analysis
   c. design
   d. implementation

   **Answer:** b  
   **Difficulty:** Med  
   **Reference:** p. 13

24. The output for the analysis phase is the:

   a. description of the alternative solution
   b. physical system specifications
   c. work plan for the project
   d. priorities for systems and projects proposal

   **Answer:** a  
   **Difficulty:** Med  
   **Reference:** p. 13

25. Analysts convert the description of the recommended alternative solution into logical and then physical system specifications during:

   a. planning
   b. implementation
   c. analysis
   d. design

   **Answer:** d  
   **Difficulty:** Med  
   **Reference:** p. 13
26. The part of the design phase of the SDLC in which the logical specifications of the system from logical design are transformed into technology-specific details from which all programming and system construction can be accomplished best describes:

a. implementation
b. object modeling
c. physical design
d. logical design

**Answer:** c  **Difficulty:** Med  **Reference:** p. 13

27. Which of the following is a true statement regarding logical design?

a. Logical design is tied to a specific hardware and software platform.
b. Logical design does not concentrate on the business aspects of the system.
c. Technical specifications are developed.
d. All functional features of the system chosen for development in analysis are described independently of any computer platform.

**Answer:** d  **Difficulty:** Med  **Reference:** p. 13

28. The phase of the SDLC in which an information system is systematically repaired and improved is referred to as:

a. analysis
b. implementation
c. maintenance
d. physical repair

**Answer:** c  **Difficulty:** Med  **Reference:** p. 14

29. Which of the following are deliverables for the planning phase?

a. functional, detailed specifications of all system elements
b. priorities for systems and projects; an architecture for data, networks, and selection hardware, and IS management are the result of associated systems
c. description of current system and where problems and opportunities are with a general recommendation on how to fix, enhance, or replace current system
d. code, documentation, training procedures, and support capabilities

**Answer:** b  **Difficulty:** Med  **Reference:** p. 15

30. Which of the following are deliverables for the analysis phase?

a. functional, detailed specifications of all system elements
b. priorities for systems and projects; an architecture for data, networks, and selection hardware, and IS management are the result of associated systems
c. description of current system and where problems and opportunities are with a general recommendation on how to fix, enhance, or replace current system
d. code, documentation, training procedures, and support capabilities

**Answer:** c  **Difficulty:** Med  **Reference:** p. 15
31. Which of the following are deliverables for the implementation phase?
   a. functional, detailed specifications of all system elements
   b. priorities for systems and projects; an architecture for data, networks, and selection
      hardware, and IS management are the result of associated systems
   c. description of current system and where problems and opportunities are with a general
      recommendation on how to fix, enhance, or replace current system
   d. code, documentation, training procedures, and support capabilities

   Answer: d  Difficulty: Med  Reference: p. 15

32. Turning system specifications into a working system that is tested and then put into use
    describes:
   a. implementation
   b. physical design
   c. maintenance
   d. analysis

   Answer: a  Difficulty: Med  Reference: p. 15

33. An iterative process of systems development in which requirements are converted to a
    working system that is continually revised through close collaboration between an analyst
    and users best defines:
   a. Joint Application Design
   b. Participatory Design
   c. prototyping
   d. systems development life cycle

   Answer: c  Difficulty: Med  Reference: p. 18

34. A structured process in which users, managers, and analysts work together for several days
    in a series of intensive meetings to specify or review system requirements best describes:
   a. RAD
   b. JAD
   c. Agile Methodologies
   d. object-oriented analysis and design

   Answer: b  Difficulty: Med  Reference: p. 19

35. Which of the following is a true statement about RAD?
   a. The focus of RAD is on system integration.
   b. The bulk of the work in RAD takes place in the requirements planning phase.
   c. RAD requires moderate user involvement.
   d. The emphasis in RAD is generally less on the sequence and structure of processes in
      the life cycle and more on doing different tasks in parallel with each other and on using
      prototyping extensively.

   Answer: d  Difficulty: Med  Reference: p. 20
36. Which of the following grew out of the convergence of the increased speed and turbulence of doing business in the late 1980s and early 1990s and the ready availability of high-powered, computer-based tools to support systems development and easy maintenance?

a. JAD
b. RAD
c. Object-oriented programming
d. CASE

**Answer:** b  
**Difficulty:** Hard  
**Reference:** p. 20

37. Which of the following is a systems development methodology created to radically decrease the time needed to design and implement information systems?

a. eXtreme Programming
b. OOAD
c. RAD
d. JAD

**Answer:** c  
**Difficulty:** Med  
**Reference:** p. 20

38. Oracle’s Designer, Computer Associates’ Advantage Gen, and IBM’s Rational Rose are examples of:

a. visual programming languages
b. DBMS
c. third-generation programming languages
d. CASE tools

**Answer:** d  
**Difficulty:** Easy  
**Reference:** p. 21

39. The three key principles shared by the Agile Methodologies include:

a. a focus on predictive methodologies
b. a focus on roles
c. a focus on self-adaptive processes
d. all of the above

**Answer:** c  
**Difficulty:** Hard  
**Reference:** p. 21

40. Principles identified in the Agile Manifesto include:

a. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
b. Welcome changing requirements, even late in development. Agile processes harness change for the customer’s competitive advantage.
c. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
d. all of the above.

**Answer:** d  
**Difficulty:** Med  
**Reference:** p. 22
“List …” Type Questions

41. List 4 main differences between Process-Oriented and Data-Oriented Approaches.
   Answer: PPT slide  Difficulty: Med

42. List 5 main types of specialists involved in system development.
   Answer: PPT slide  Difficulty: Med

43. List 6 characteristics of successful system development team.
   Answer: PPT slide  Difficulty: Med

44. Draw a “pyramid” of possible information systems in an average company.
   Answer: PPT slide  Difficulty: Med

45. List 6 main types of information systems in an average company.
   Answer: PPT slide  Difficulty: Med

46. Draw a figure with main relationships between 6 main types of information systems.
   Answer: PPT slide  Difficulty: Med

47. List 7 main phases of systems development life cycle.
   Answer: PPT slide  Difficulty: Med