

Modern Systems Analysis and Design, 9e (Valacich/George)
Chapter 1 The Systems Development Environment

1) _____ would be classified as software designed to support the payroll function.

- A) System software
- B) Design software
- C) Analysis software
- D) Application software

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

2) _____ is designed to support organizational functions or processes.

- A) Application software
- B) Design software
- C) Analysis software
- D) Testing software

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

3) What are computer programs that make it easy to use and benefit from techniques and to faithfully follow the guidelines of the overall development methodology?

- A) Tools
- B) Techniques
- C) Data flow
- D) Methodologies

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

4) Who has the primary responsibility for the design and analysis of information systems?

- A) Systems analyst
- B) Software engineer
- C) Employees
- D) Applications developer

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

5) _____ is/are the process(es) that an analyst will follow to help ensure that his work is complete, well-done, and understood by project team members.

- A) Tools
- B) Techniques
- C) Data flow
- D) Methodologies

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

6) The first procedural, or third-generation, computer programming languages did not become available until the beginning of the _____.

- A) 1950s
- B) 1960s
- C) 1970s
- D) 1980s

Answer: B

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

7) Because computers were so expensive, computer memory was also at a premium, so system developers conserved as much memory as possible for _____.

- A) System design
- B) System analysis
- C) Data analysis
- D) Data storage

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

8) _____ are large, complex systems that consist of a series of independent system modules.

- A) Supply chain management systems
- B) Enterprise-wide systems
- C) Customer relationship management systems
- D) Transaction processing systems

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

9) _____ were developed to make systems developers' work easier and more consistent.

- A) Data analysis tools
- B) Computer-aided software engineering (CASE) tools
- C) Software designing tools
- D) Modeling tools

Answer: B

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

10) Most organizations find it beneficial to use a standard set of steps, called _____, to develop and support their information systems.

- A) Systems development methodology
- B) Supply chain management systems
- C) Analytical processing systems
- D) Customer relationship management systems

Answer: A

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

11) Which of the below is a traditional methodology used to develop, maintain, and replace information systems?

- A) Prototyping
- B) OOAD
- C) RAD
- D) SDLC

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

12) Information systems analysis and design is a process to develop and maintain computer-based information systems.

Answer: TRUE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

13) Ninety-four percent of companies report that they practice agile in their systems development efforts.

Answer: TRUE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

14) To be effective, techniques and tools must both be consistent with an organization's systems development methodology.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

15) Techniques and tools must make it difficult for system developers to conduct the steps called for in the methodology.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

16) An organizational approach to systems analysis and design is not driven by methodologies.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

17) The analysis and design of computer-based information systems began in the 1950s.

Answer: TRUE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

18) Most organizations never developed their applications from scratch using their in-house development staff.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

19) Who is a systems analyst and what are the duties of a systems analyst?

Answer: Many people in organizations are responsible for systems analysis and design; in most organizations the systems analyst has the primary responsibility. When you begin your career in systems development, you will most likely begin as a systems analyst or as a programmer with some systems analysis responsibilities. The primary role of a systems analyst is to study the problems and needs of an organization in order to determine how people, methods, and information technology can best be combined to bring about improvements in the organization. A systems analyst helps system users and other business managers define their requirements for new or enhanced information services. As such, a systems analyst is an agent of change and innovation.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Synthesis

20) What is an application software and its importance?

Answer: An important (but not the only) result of systems analysis and design is application software, software designed to support a specific organizational function or process, such as inventory management, payroll, or market analysis. In addition to application software, the total information system includes the hardware and systems software on which the application software runs, documentation and training materials, the specific job roles associated with the overall system, controls, and the people who use the software along with their work methods.

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Synthesis

21) What is meant by system methodologies, techniques, and tools?

Answer: Methodologies are comprehensive, multiple-step approaches to systems development. Techniques are particular processes that you follow to help ensure that your work is complete, well done, and understood by others. Tools are typically computer programs that make it easier to use and benefit from techniques and to follow faithfully the guidelines of the overall development methodology. The techniques and tools should support the chosen methodology. Methodologies, techniques, and tools work together to form an organizational approach to systems analysis and design.

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Synthesis

22) What is a system development methodology?

Answer: Most organizations find it beneficial to use a standard set of steps, called a systems development methodology, to develop and support their information systems. Like many processes, the development of information systems often follows a life cycle. For example, a commercial product follows a life cycle in that it is created, tested, and introduced to the market. Its sales increase, peak, and decline. Finally, the product is removed from the market and replaced by something else.

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Synthesis

23) What are the five major phases of the SDLC?

Answer: The major SDLC phases include planning, analysis, design, implementation, and maintenance. Planning is the first phase of the SDLC in which an organization's total information system needs are identified, analyzed, prioritized, and arranged. Analysis is the second phase of the SDLC in which system requirements are studied and structured. During the third phase, the design phase, a description of the recommended solution is converted into logical and then physical system specifications. Implementation is the fourth phase of the SDLC in which the information system is coded, tested, installed, and supported in the organization. Maintenance is the fifth and final phase of the SDLC in which an information system is systematically repaired and improved.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Synthesis

24) Which of the below is a true statement regarding the systems development life cycle?

A) The SDLC is not iterative.

B) It is not possible to complete some activities in one phase in parallel with those of another phase.

C) 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.

D) The life cycle can be thought of as a linear 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: C

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

25) Which of the following is NOT a part of the Evolutionary model of the SDLC process?

- A) Analysis
- B) Design
- C) Planning
- D) Procedure

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

26) What is the first phase in the Systems Development Life Cycle?

- A) Analysis
- B) Design
- C) Planning
- D) Procedure

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

27) Which of the following activities happens during the SDLC planning phase?

- A) A presentation of why the system should or should not be developed by the organization is given.
- B) New system requirements are identified.
- C) The high level design is prepared.
- D) User acceptance testing is performed.

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

28) In which phase of the SDLC are the system requirements studied and structured?

- A) Implementation
- B) Analysis
- C) Design
- D) Planning

Answer: B

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

29) Which SDLC phase focuses on the needs of the entire organization?

- A) Design
- B) Planning
- C) Logical
- D) Analysis

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

30) In which phase of the SDLC is the description of the recommended solution converted into logical and then physical system specifications?

- A) Implementation
- B) Analysis
- C) Design
- D) Planning

Answer: C

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

31) In which design phase of the SDLC are all functional features of the system chosen for development in analysis described independently of any computer platform?

- A) Logical design
- B) Physical design
- C) Conceptual design
- D) High level design

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

32) In which design phase of the SDLC are logical specifications of the system from logical design transformed into technology-specific details from which all programming and system construction can be accomplished?

- A) Logical design
- B) Physical design
- C) Conceptual design
- D) High level design

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

33) In which phase of the SDLC is the information system coded, tested, installed, and supported in the organization?

- A) Implementation
- B) Analysis
- C) Design
- D) Planning

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

34) Which is the fourth phase in a SDLC cycle?

- A) Maintenance
- B) Analysis
- C) Design
- D) Implementation

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

35) In which part of the design phase of the SDLC are the logical specifications of the system from logical design transformed into technology-specific details from which all programming and system construction can be accomplished?

- A) Implementation
- B) Object modeling
- C) Physical design
- D) Logical design

Answer: C

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 36) Which of the following is correct with respect to the logical design?
- A) All functional features of the system chosen for development in analysis are described independently of any computer platform.
 - B) Logical design does not concentrate on the business aspects of the system.
 - C) Logical design is tied to a specific hardware and software platform.
 - D) Technical specifications are developed.

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 37) In which phase of the SDLC is an information system systematically repaired and improved?
- A) Implementation
 - B) Analysis
 - C) Design
 - D) Maintenance

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 38) Which of the following are delivered after the completion of planning phase?
- A) Functional, detailed specifications of all system elements
 - B) Description of all functional features of the proposed system
 - C) Code, documentation, training procedures, and support capabilities
 - D) Detailed steps, or work plan, for project

Answer: D

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 39) _____ is/are the final output from the analysis phase.

- A) Physical system specifications
- B) Work plan for the project
- C) Priorities for systems and projects proposal
- D) A description of the alternative solution

Answer: D

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 40) Which of the following are delivered after the completion of the implementation phase?
- A) Code, documentation, training procedures, and support capabilities
 - B) Functional, detailed specifications of all system elements
 - 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) Priorities for systems and projects; an architecture for data, networks, and selection hardware, and IS management are the result of associated systems

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 41) Which of the following are delivered after the completion of 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) Code, documentation, training procedures, and support capabilities
 - D) Description of current system and where problems and opportunities are with a general recommendation on how to fix, enhance, or replace current system

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 42) Which of the below is NOT a true statement regarding the SDLC?
- A) It is a highly linked set of phases whose products feed the activities in subsequent phases.
 - B) The different phases are clearly defined.
 - C) The relationships between phases are well specified.
 - D) It is a rapid method to prototype and develop an application.

Answer: D

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

43) Which of the following are delivered after the completion of the Maintenance phase of the SDLC?

- A) New versions or releases of software with associated updates to documentation, training, and support
- B) Functional, detailed specifications of all system elements
- C) Priorities for systems and projects; an architecture for data, networks, and selection hardware, and IS management are the result of associated systems
- D) Code, documentation, training procedures, and support capabilities

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

44) All of these are reasons to begin designing a system replacement except _____.

- A) when the information system is no longer performing as desired.
- B) when maintenance costs become prohibitive.
- C) when the organization needs have substantially changed.
- D) when the system has reached the time limit of seven years.

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

45) Which of the following is a drawback of the traditional waterfall SDLC approach?

- A) Users are locked into requirements.
- B) There are no criticisms.
- C) The process is too chaotic.
- D) It is too short of a process.

Answer: A

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

46) Which of the following is NOT a criticism of the traditional waterfall SDLC approach?

- A) Prototypes do not work properly.
- B) Users are locked into requirements.
- C) The role of customers is narrowly defined.
- D) Intangible processes are given hard and fast dates.

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 47) Which of the following is a criticism of the software development life cycle?
- A) Reliance on the life-cycle approach has forced dynamic processes into time phases doomed to fail.
 - B) Life-cycle reliance has created a lack of documentation for the system.
 - C) There is too much feedback in between phases causing the projects to take too long to complete.
 - D) The life-cycle is too short to create meaningful applications.

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 48) In the 1990s, developer used visual basic to design the user interfaces that _____.

- A) Used SAP
- B) Created the web
- C) Run client/server platforms
- D) Enhanced wireless protocols

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 49) Barbara has the primary responsibility for systems analysis and design for the new project because she is the _____.

- A) Chief information officer
- B) Primary user of the system
- C) Methodology specialist
- D) Systems analyst

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

- 50) Jim had to give a presentation and list the reasons why the system should not be developed during the organization because the project is in the _____.

- A) Planning phase
- B) Analysis phase
- C) Design phase
- D) Logical design phase

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

51) Kyle is participating in the _____ of the design phase as he turns the logical design into technology specific details so the programming can be accomplished.

- A) Constructing of the system requirements portion
- B) Documentation
- C) Logical design
- D) Physical design

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

52) Which of the following is one of three key principles shared by the Agile Methodologies?

- A) A focus on self-adaptive processes
- B) A focus on roles
- C) A focus on predictive methodologies
- D) A focus on passive processes

Answer: A

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

53) Most organizations found it difficult to use the systems development methodology to develop and support their information systems.

Answer: FALSE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

54) The systems development life cycle (SDLC) is a rare methodology for systems development in many organizations.

Answer: FALSE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

55) The life cycle can be thought of as a linear process in which the end of the useful life of one system leads to the beginning of another project that will develop a new version or replace an existing system altogether.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

56) In the SDLC, it is not possible to complete some activities in one phase in parallel with some activities of another phase.

Answer: FALSE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

57) The third phase in the SDLC is planning and in this phase the analyst thoroughly studies the organization's current procedures and the information systems used to perform organizational tasks.

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

58) The part of the design process that is independent of any specific hardware or software platform is referred to as logical design.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

59) As part of logical design, analysts design the various parts of the system to perform the physical operations necessary to facilitate data capture, processing, and information output.

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

60) Maintenance is a separate phase and not the repetition of the other life cycle phases to study and implement the needed changes.

Answer: FALSE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

61) The SDLC is a highly linked set of phases whose products feed the activities in subsequent phases.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

62) New versions or releases of software with associated updates to documentation, training, and support are not part of the maintenance phase.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

63) Every company uses the same information systems development life cycle (SDLC)

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

64) Although almost all systems development projects adhere to some type of life cycle, the exact location of activities and the specific sequencing of steps can vary greatly from one project to the next.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

65) Explain in detail the importance of the analysis phase of the SDLC.

Answer: The second phase in the SDLC is analysis. During this phase, the analyst thoroughly studies the organization's current procedures and the information systems used to perform organizational tasks. Analysis has two subphases. The first is requirements determination. In this sub-phase, analysts work with users to determine what the users want from a proposed system. The requirements determination process usually involves a careful study of any current systems, manual and computerized, that might be replaced or enhanced as part of the project.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

66) Explain the design phase in the SDLC and its types.

Answer: The third phase in the SDLC is design. During design, analysts convert the description of the recommended alternative solution into logical and then physical system specifications. The analysts must design all aspects of the system, from input and output screens to reports, databases, and computer processes. The analysts must then provide the physical specifics of the system they have designed, either as a model or as detailed documentation, to guide those who will build the new system. That part of the design process that is independent of any specific hardware or software platform is referred to as logical design. Theoretically, the system could be implemented on any hardware and systems software. The idea is to make sure that the system functions as intended. Logical design concentrates on the business aspects of the system and tends to be oriented to a high level of specificity. Once the overall high-level design of the system is worked out, the analysts begin turning logical specifications into physical ones. This process is referred to as physical design. As part of physical design, analysts design the various parts of the system to perform the physical operations necessary to facilitate data capture, processing, and information output.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

67) Explain the importance of the implementation phase in the SDLC process.

Answer: The fourth phase in the SDLC is implementation. The physical system specifications, whether in the form of a detailed model or as detailed written specifications, are turned over to programmers as the first part of the implementation phase. During implementation, analysts turn system specifications into a working system that is tested and then put into use. Implementation includes coding, testing, and installation. During coding, programmers write the programs that make up the system. Sometimes the code is generated by the same system used to build the detailed model of the system. During testing, programmers and analysts test individual programs and the entire system in order to find and correct errors. During installation, the new system becomes part of the daily activities of the organization. Application software is installed, or loaded, on existing or new hardware, and users are introduced to the new system and trained. Testing and installation should be planned for as early as the project initiation and planning phase; both testing and installation require extensive analysis in order to develop exactly the right approach.

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

68) Explain the importance of the maintenance phase in the SDLC process.

Answer: The fifth and final phase in the SDLC is maintenance. When a system (including its training, documentation, and support) is operating in an organization, users sometimes find problems with how it works and often think of better ways to perform its functions. Also, the organization's needs with respect to the system change over time. In maintenance, programmers make the changes that users ask for and modify the system to reflect evolving business conditions. These changes are necessary to keep the system running and useful. In a sense, maintenance is not a separate phase but a repetition of the other life cycle phases required to study and implement the needed changes. One might think of maintenance as an overlay on the life cycle rather than as a separate phase. The amount of time and effort devoted to maintenance depends a great deal on the performance of the previous phases of the life cycle. There inevitably comes a time, however, when an information system is no longer performing as desired, when maintenance costs become prohibitive, or when an organization's needs have changed substantially.

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

69) List the outputs delivered from each of the SDLC phases.

Answer: Products for the planning phase include priorities for systems and projects; an architecture for data, networks, and selection hardware as well as IS management; detailed steps, or work plan, for the project; specification of system scope and high-level system requirements or features; assignment of team members and other resources; and the system justification or business case. The products for the analysis phase include a description of the current system and where problems or opportunities are with a general recommendation on how to fix, enhance, or replace the current system; and an explanation of alternative systems and justification. The design phase provides functional, detailed specifications of all system elements; technical, detailed specifications of all system elements; and an acquisition plan for new technology. Implementation provides code, documentation, training procedures, and support capabilities. Maintenance products include new versions or releases of software with associated updates to documentation, training, and support.

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

70) What happens during testing and installation of the new systems during the implementation phase of the software development life cycle?

Answer: During testing, programmers and analysts test individual programs and the entire system in order to find and correct errors. During installation, the new system becomes part of the daily activities of the organization. Application software is installed, or loaded, on existing or new hardware, and users are introduced to the new system and trained.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

71) Describe the criticism of traditional waterfall SDLC process.

Answer: There are several criticisms of the traditional life-cycle approach to systems development. One relates to the way the life cycle is organized. Note how the flow of the project begins in the planning phase and from there runs "downhill" to each subsequent phase, just like a stream that runs off a cliff. It became too tempting to ignore the need for feedback and to treat each phase as complete unto itself, never to be revisited once finished. Another criticism of the traditional waterfall SDLC is that the role of system users or customers was narrowly defined. User roles were often relegated to the requirements determination or analysis phases of the project, where it was assumed that all of the requirements could be specified in advance. Such an assumption, coupled with limited user involvement, reinforced the tendency of the waterfall model to lock in requirements too early, even after business conditions had changed.

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Synthesis

72) Which of the following is NOT true regarding iterative development?

- A) It is a mechanism for dealing with a lack of predictability.
- B) It focuses on the frequent production of working versions of a system.
- C) It provides feedback to customers.
- D) Feedback is not provided to developers and customers.

Answer: D

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

73) Computer-aided software engineering (CASE) tools were developed to make systems developers' work easier and more consistent.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

74) Which of the following is NOT valued according to the Agile Manifesto for software development?

- A) Responding to change over following a plan
- B) Working software over comprehensive documentation
- C) Prioritizing the plan over the change required
- D) Individuals and interactions over processes and tools

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

75) Which of the below is NOT considered as the principle as per the agile manifesto?

- A) Working software is the primary measure of progress.
- B) Continuous attention to technical excellence and good design enhances agility.
- C) Businesspeople and developers work separately throughout the project.
- D) The best architectures, requirements, and designs emerge from self-organizing teams.

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

76) There are five factors that separate agile from traditional approaches to systems development. The factor "Criticality" describes which of the following agile methods factors?
A) Well matched to small products and teams
B) Untested on safety-critical products
C) Requires continuous presence of a critical mass of scarce experts
D) Thrives in a culture where people feel comfortable and empowered by having many degrees of freedom

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

77) Under the five critical factors "Thrives in a culture where people feel comfortable and empowered by having many degrees of freedom" is related to which factor?

- A) Personnel
- B) Dynamism
- C) Size
- D) Culture

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

78) The critical factor "Personnel" is related to which of the following critical factors in distinguishing agile methods from traditional systems development?

- A) Well matched to small products and teams
- B) Untested on safety-critical products
- C) Requires continuous presence of a critical mass of scarce experts
- D) Thrives in a culture where people feel comfortable and empowered by having many degrees of freedom

Answer: C

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

79) The critical factor "Dynamism" refers to which of the following agile methods critical factors?

- A) Well matched to small products and teams.
- B) Simple design and continuous refactoring are excellent for highly dynamic environments but a source of potentially expensive rework for highly stable environments.
- C) Requires continuous presence of a critical mass of scarce experts.
- D) Thrives in a culture where people feel comfortable and empowered by having many degrees of freedom.

Answer: B

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

80) According to Fowler, which of the following is NOT considered a valid individual methodology that comes under the umbrella of Agile Methodologies?

- A) Passive Software development
- B) Crystal family of methodologies
- C) Adaptive Software Development
- D) Scrum

Answer: A

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

81) Which of the following is a critical factor that distinguishes agile methods from traditional approaches to systems development?

- A) Hard to tailor down to small projects
- B) Needs a critical mass of scarce experts during project definition
- C) People are more comfortable have their roles defined
- D) Thrives in a culture where people feel empowered by having many degrees of freedom

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

82) Which of the following is NOT a feature of eXtreme Programming?

- A) Long cycles
- B) Incremental planning approach
- C) Focus on automated tests written by programmers and customers to monitor the development process
- D) Reliance on an evolutionary approach to development

Answer: A

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

83) Under eXtreme Programming, _____ and _____ are intimately related parts of the same process.

- A) Design; coding
- B) Planning; design
- C) Coding; testing
- D) Testing; implementation

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

84) Compared to traditional coding practices, which of the below is NOT an advantage of pair programming?

- A) More (and better) communication among developers
- B) Higher levels of productivity
- C) Higher-quality code
- D) Coding written in silos

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

85) Systems development methodologies and techniques which are based on objects rather than data or processes are known as _____.

- A) Inheritance
- B) Objects
- C) Participatory design
- D) Object-oriented analysis and design

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

86) eXtreme Programming is not an instance of one of the Agile Methodologies.

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

87) Implementation is the final step of the traditional waterfall SDLC method.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

88) According to Griss, finding and fixing a software problem after the delivery of the system is often far more expensive than finding and fixing it during analysis and design.

Answer: TRUE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

89) Agile programming has higher levels of productivity as compared to traditional coding practices.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

90) The Agile Methodologies focus on the roles that people perform rather than placing the emphasis on individuals.

Answer: FALSE

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

91) What are Agile Methodologies? What are the three key principles of the Agile Methodologies?

Answer: The Agile Methodologies are a response to the problems associated with the traditional SDLC methodology. The Agile Methodologies group argues that software development methodologies adapted from engineering generally do not fit with real-world software development. The three key principles are a focus on adaptive rather than predictive methodologies, a focus on people rather than roles, and a focus on a self-adaptive process.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Synthesis

92) The structure that encapsulates attributes and methods that operate on those attributes is called a(n) _____.

- A) Object
- B) Case
- C) Container
- D) Module

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

93) A logical grouping of objects that have the same attributes and behaviors is known as a(n) _____.

- A) Object
- B) Case
- C) Container
- D) Object class

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

94) _____ is/are the property that occurs when entity types or object classes are arranged in a hierarchy and each entity type or object class assumes the attributes and methods of its ancestors, that is, those higher up in the hierarchy.

- A) Inheritance
- B) Objects
- C) Participatory design
- D) Object-oriented analysis and design

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

95) _____ is/are often called the third approach to systems development, after the process-oriented and data-oriented approaches.

- A) Inheritance
- B) Objects
- C) Participatory design
- D) Object-oriented analysis and design

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

96) One of the most popular realizations of the iterative approach for object-oriented development is the _____.

- A) JAD
- B) RAD
- C) RUP
- D) eXtreme Programming

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

97) Which of the following is NOT a phase in the Rational Unified Process?

- A) Inception
- B) Elaboration
- C) Construction
- D) Calculation

Answer: D

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

98) In the inception phase, which of the following is NOT performed by the analysts?

- A) Implement the project
- B) Understand user requirements
- C) Prepare a software development plan
- D) Determine the feasibility of the project

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

99) Explain object-oriented analysis and design.

Answer: Object-oriented analysis and design refers to systems development methodologies and techniques based on objects rather than data or processes. The goal of OOAD is to make systems elements reusable. OOAD is often called the third approach to systems development, after the process oriented and data-oriented approaches. The object-oriented approach combines data and processes (called methods) into single entities called objects. Objects usually correspond to the real things an information system deals with, such as customers, suppliers, contracts, and rental agreements. Putting data and processes together in one place recognizes the fact that there are a limited number of operations for any given data structure, and the object-oriented approach makes sense even though typical systems development keeps data and processes independent of each other.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Synthesis

100) Describe the Rational Unified Process (RUP) and its phases.

Answer: One of the most popular realizations of the iterative approach for object-oriented development is the Rational Unified Process (RUP), which is based on an iterative, incremental approach to systems development. RUP has four phases: inception, elaboration, construction, and transition. In the inception phase, analysts define the scope, determine the feasibility of the project, understand user requirements, and prepare a software development plan. In the elaboration phase, analysts detail user requirements and develop a baseline architecture. Analysis and design activities constitute the bulk of the elaboration phase. In the construction phase, the software is actually coded, tested, and documented. In the transition phase, the system is deployed, and the users are trained and supported.

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

101) The SDLC model has six phases.

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

102) Projects produce _____ that are often reviewed by people outside the team.

A) Methodologies

B) Systems

C) Life cycles

D) Milestones

Answer: D

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

103) In the _____ phase of the SDLC cycle, the system may be modified so reflect the evolving business conditions.

A) Implementation

B) Design

C) Maintenance

D) Analysis

Answer: C

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.1 Define information systems analysis and design

Classification: Concept

104) The design team just completed the explanation of alternative systems. Now the project progresses to which phase?

A) Design

B) Implementation

C) Conceptual

D) Maintenance

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

105) Techniques provide support for all of the following except _____.

- A) Verifying requirements with the user
- B) Planning the activities in a systems development project
- C) Diagramming the system's logic
- D) Designing the system's interface

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

106) During coding, programmers write the programs that make up the system.

Answer: TRUE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

107) Describe the two major additional activities performed during the planning stage.

Answer: Two additional major activities are also performed during the planning phase: the formal, yet still preliminary, investigation of the system problem or opportunity at hand and the presentation of reasons why the system should or should not be developed by the organization.

Difficulty: Difficult

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

108) Implementation activities include _____ such as finalization of documentation and training.

- A) Testing support
- B) Executive support
- C) Initial user support
- D) Team support

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.2 Describe the information systems development life cycle (SDLC)

Classification: Concept

109) Agile methods can be used in every project.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

110) Fowler recommends an agile process if your project involves all of the following except _____.

- A) Unpredictable requirements
- B) Motivated developers
- C) Customer who will get involved
- D) A low budget

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

111) The philosophy of eXtreme Programming is that code that is successfully tested will be integrated into the system a few hours after it is written.

Answer: TRUE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

112) The primary unit for Scrum is the _____.

- A) Sprint
- B) Analysis
- C) Milestone
- D) Goal

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

113) Agile methodologies were created because construction of a software development project accounted for 90 percent of the total project effort.

Answer: TRUE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

114) In an agile methodology, what typically is associated with the completion of an iteration?

- A) A portion of the working a prototype
- B) A review process
- C) The end of a phase
- D) The end of the project

Answer: B

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

115) eXtreme programming is very rigorous and requires much athletic skill and agility.

Answer: FALSE

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

116) eXtreme programming works more smoothly than other methodologies because of the _____.

- A) Code-and-test process
- B) Object-oriented design point of view
- C) Ease of the programming methodology
- D) Longer development process

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.3 Describe the agile methodologies, eXtreme Programming, and Scrum

Classification: Concept

117) All of the below are examples of object-oriented programming except _____.

- A) C++
- B) Python
- C) COBOL
- D) Java

Answer: C

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

118) The four stages of the rational unified process (RUP) are inception, elaboration, construction, and implementation.

Answer: FALSE

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

119) Although the main activity in the construction phase in object-oriented development is coding, revised user requirements could require _____.

A) More resources

B) Advanced testing

C) A beta version of the project

D) Additional analysis and design

Answer: D

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

120) Which of the following is an iterative approach to programming in the object-oriented design process?

A) Rational Unified Process (RUP)

B) Software Development Life Cycle (SDLC)

C) eXtreme Programming

D) The Construction Process

Answer: A

Difficulty: Moderate

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept

121) In OOAD-based development, a(n) _____ of the project signals the end of the construction phase.

A) Iteration

B) Beta version

C) Diagram

D) Transitional version

Answer: B

Difficulty: Easy

AACSB: Information Technology

L.O.: 1.4 Explain object-oriented analysis and design and the Rational Unified Process (RUP)

Classification: Concept