

## System Analysis & Design

### Multiple Choice questions

1. .... includes review of the existing procedures and information flow.
  - A) Feasibility Study
  - B) Feasibility report
  - C) System Design
  - D) System analysis
2. A rectangle in a DFD represents
  - A) a process
  - B) a data store
  - C) an external entity
  - D) an input unit
3. .... refers to the collection of information pertinent to systems Project.
  - A) Data transfer
  - B) Data gathering
  - C) Data Embedding
  - D) Data Request
4. .... means coordinated effort, to communicate the information of the system written form.
  - A) System documentation
  - B) Resource required
  - C) Development schedule
  - D) User Document
5. MDP stands for
  - A) Master Development Plan
  - B) Master Design Program
  - C) Mandatory Database Program
  - D) Master Database Plan
6. External Entities may be a
  - A) Source of input data only
  - B) Source of input data or destination of results

C) Destination of results only

D) Repository of data

7. .... is a group of interested components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process.

A) System

B) Network

C) Team

D) System Unit

8. To create vehicle of information to provide evidence in the development process and to monitor the process. This is one of the objectives of

A) Analysis

B) Design

C) Development

D) Documentation

9. A ..... System is no more than idea

A) Conceptual

B) Logical

C) Physical

D) All of the above

10. By an external entity we mean a

A) Unit outside the system being designed which can be controlled by an analyst.

B) Unit outside the system whose behavior is independent of the system being designed

C) A unit external to the system being designed

D) A unit which is not part of a DFD

11 ..... is an important factor of management information system.

A) System

B) Data

C) Process

D) All

12 Which are the following is / are the level(s) of documentation?

A) Documentation for management

- B) Documentation for user
- C) Documentation for data processing department
- D) All of the above

13 ..... level supply information to strategic tier for the use of top management.

- A) Operational
- B) Environmental
- C) Competitive
- D) Tactical

14 In a DFD external entities are represented by a

- A) Rectangle
- B) Ellipse
- C) Diamond shaped box
- D) Circle

15 ..... can be defined as data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective decisions.

- A) System
- B) Information
- C) Technology
- D) Service

16 Use the new system at the same time as the old system to compare the results. This is known as .....

- A) Procedure Writing
- B) Simultaneous processing
- C) Parallel Operation
- D) File Conversion

17 Decision making model was proposed by .....

- A) Harry Goode
- B) Herbert A Simon
- C) Recon Michal
- D) None of this

18 A data flow can

- A) Only emanate from an external entity
- B) Only terminate in an external entity
- C) May emanate and terminate in an external entity
- D) May either emanate or terminate in an external entity but not both

19 ..... can be defined as most recent and perhaps the most comprehensive technique for solving computer problems.

- A) System Analysis
- B) System Data
- C) System Procedure
- D) System Record

20 SDLC stands for

- A) System Development Life Cycle
- B) Structure Design Life Cycle
- C) System Design Life Cycle
- D) Structure development Life Cycle

21 ..... is a sort of blueprint of the system Development Effort.

- A) MDP
- B) DMP
- C) MPD
- D) DPM

22 Data store in a DFD represents.

- A) a sequential file
- B) a disk store
- C) a repository of data
- D) a random access memory

23 ..... system consists of programs, data files and documentation

- A) Conceptual
- B) Logical
- C) Physical
- D) None of the above

24 ..... is a good example of deterministic system.

- A) Life cycle
- B) Computer Program
- C) Software Program
- D) None of the above

25 The main ingredient of the report documenting the ..... is the cost benefit analysis.

- A) System Analysis
- B) Feasibility Study
- C) System Analyst
- D) System Design

26 A data flow can

- A) Only a data store
- B) Only leave a data store
- C) Enter or leave a data Store
- D) Either enter or leave a data store but not both

27 Changing the relationship with and services provided to customers in such a way that they will not think of changing suppliers is called .....

- A) Lock in customers
- B) Lock out customers
- C) Lock in competitors
- D) Lock out competitors

28 ..... can be defined as data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective decisions.

- A) Information
- B) Data collection
- C) Internal data
- D) Sample data

29 Increased volume of sales is an example of ..... Benefit. Reduction of bad debts is an example of .....

- A) Tangible, Intangible
- B) Tangible, Tangible

C) Intangible, Tangible

D) Intangible, Intangible

30 A data cannot flow between a store and

i) a store ii) a process iii) an external entity

A) i and iii

B) i and ii

C) ii and iii

D) ii

31 A ..... system in no more than idea.

A) Conceptual

B) Logical

C) Physical

D) None

32 Design Phase consists of .....

1. Identity the functions to be performed

2. Design the input/output and file design

3. Defining basic parameters for system design

A) 1 & 2

B) 2 & 3

C) 1 & 3

D) 1, 2 & 3

33 A context diagram

A) Describes the context of a system

B) is a DFD which gives an overview of the system

C) is a detailed description of a system

D) is not used in drawing a detailed DFD

3 4 HIPO stand for

A) Hierarchy input process output

B) Hierarchy input plus output

C) Hierarchy plus input process output

D) Hierarchy input output Process

35 Statement of scope and objectives, opportunities and performance criteria .....

- A) Problem definition
- B) System analysis
- C) System Design
- D) Documentation

36 Information can be categorized into .....

- 1. Environmental information
- 2. Competitive information
- 3. Government information
- 4. Internal information

- A) 1, 2 & 3
- B) 1, 2 & 4
- C) 2, 3 & 4
- D) 1, 3 & 4

37 System Development process is also called as .....

- A) System Development Life Cycle
- B) System Life Cycle
- C) Both A and B
- D) System Process Cycle

38 The output of problem definition stage is .....

- A) Master Development Plan
- B) Terms of reference
- C) Feasibility report
- D) Final product

39 Advantages of system flowcharts .....

- A) Effective communication
- B) Effective analysis
- C) Queasier group or relationships
- D) All A, B, C

40 Based on the identification of objectives, input, output and file content, the vital document is called ...

- A) System Definition
- B) System Document
- C) System Requirement Document
- D) System Subject

41 A context diagram is used

- A) as the first step in developing a detailed DFD of a system
- B) in systems analysis of very complex systems
- C) as an aid to system design
- D) as an aid to programmer

42 Which of the following is/are the sources for project requests?

- A) Request from Department managers
- B) Request from senior executives
- C) Request from system Analyst
- D) All of the above

43 DDS stands for .....

- A) Data Data Systems
- B) Data Digital System
- C) Data Dictionary Systems
- D) Digital Data Service

44 ..... Phase is a time consuming phase and yet a very crucial phase

- A) Feasibility Study
- B) Requirement Phase
- C) Analysis Phase
- D) Testing Phase

45 A DFD is normally leveled as

- A) It is a good idea in design
- B) It is recommended by many experts
- C) it is easy to do it
- D) It is easier to read and understand a number of smaller DFDs than one large DFD

46 ..... is responsible for all aspects of data processing, operation research, organization and method, system analysis and design investments.



- A) Management Services Director
- B) Data Processing Manager
- C) Computer Manager
- D) Both B and C

47 ..... is a tabular method for describing the logic of the decisions to be taken.

- A) Decision tables
- B) Decision tree
- C) Decision Method
- D) Decision Data

48 In ..... system the interaction between various subsystems cannot be defined with certainty

- A) Open System
- B) Closed System
- C) Deterministic System
- D) Probabilistic System

49 State True or False.

1. Term of reference is the final output of Feasibility Study
2. Design specification report is the final output of System Analysis

- A) 1-true, 2-true
- B) 1-false, 2-true
- C) 1-true, 2-false
- D) 1-false, 2-false

50 The key considerations involved in the feasibility analysis is include

i) Economical ii) Technical iii) Behavioral iv) Personal

- A) i, ii, iv
- B) i, ii, iii
- C) ii, iii, iv
- D) All of the above

51. .... refers to the collection of information pertinent to systems project.

- A) Data gathering
- B) Data Exporting

- C) Data Embedding
- D) Data importing

52. A physical DFD

- A) has no means of showing material flow
- B) does not concern itself with material flow
- C) can show only stored material
- D) can show the flow of material

53. Development costs for a computer based information system include/s .....

- A) Salaries of the system analysis
- B) Cost of converting and preparing data
- C) Cost of testing and documenting
- D) All A, B, C

54. Before developing a logical DFD it is a good idea to

- A) develop a physical DFD
- B) develop a system flow chart
- C) determine the contents of all data stores
- D) find out user's preferences

55. A data store in a DFD represents

- A) a sequential file
- B) a disk store
- C) a repository of data
- D) a random access memory

56. Which of the following is/are major step/s of system design?

- A) Specification of system output
- B) Development of system flowchart
- C) Development of program specifications
- D) All A, B, C

57. A data flow can

- A) only enter a data store
- B) only leave a data store
- C) enter or leave data store

D) either enter or leave a data store but not both

58. .... means coordinated effort, to communicate the information of the system in written form.

A) System Documentation

B) System Storage

C) System Record

D) System Share

59. Some of the tools which are available with the system analysis are .....

A) Review of Documentation & Observation of the situation

B) Conducting Interviews & Questionnaire Administration

C) Both A & B

D) Review of Procedure & Conducting Interviews

60. Data cannot flow between two data stores because

A) it is not allowed in DFD

B) a data store is a passive repository of data

C) data can get corrupted

D) they will get merged

## **Answers:**

**1. A) Feasibility Study**

**2. C) an external entity**

**3. B) Data gathering**

**4. A) System documentation**

**5. A) Master Development Plan**

**6. B) Source of input data or destination of results**

**7. A) System**

**8. D) Documentation**

**9. A) Conceptual**

**10. C) A unit external to the system being designed**

**11. A) System**

**12. D) All of the above**

**13. D) Tactical**

14. A) Rectangle
15. B) Information
16. C) Parallel Operation
17. B) Herbert A Simon
18. C) May emanate and terminate in an external entity
19. A) System Analysis
20. A) System Development Life Cycle
21. A) MDP
22. C) a repository of data
23. C) Physical
24. B) Computer Program
25. B) Feasibility Study
26. C) Enter or leave a data Store
27. A) Lock in customers
28. A) Information
29. D) Intangible, Intangible
30. A) i and iii
31. A) Conceptual
32. D) 1, 2 & 3
33. B) is a DFD which .... of the system
34. A) Hierarchy input process output
35. A) Problem definition
36. B) 1, 2 & 4
37. A) System Development Life Cycle
38. B) Terms of reference
39. D) All A, B, C
40. B) System Document
41. A) as the first step ... DFD of a system
42. D) All of the above
43. C) Data Dictionary Systems
44. C) Analysis Phase

- 45. D) It is easier to read and understand a number of smaller DFDs than one large DFD**
- 46. A) Management Services Director**
- 47. A) Decision tables**
- 48. D) Probabilistic System**
- 49. D) 1-false, 2-false**
- 50. B) i, ii, iii**
- 51. A) Data gathering**
- 52. D) can show the flow of material**
- 53. D) All A, B, C**
- 54. A) develop a physical DFD**
- 55. C) a repository of data**
- 56. D) All A, B, C**
- 57. C) enter or leave data store**
- 58. A) System Documentation**
- 59. C) Both A & B**
- 60. D) they will get merged**

Systems Analysis and Design

**Multiple Choice Questions**

1. A collection of activities and elements organized to accomplish a goal. This is the definition of
  - A. information.
  - B. an organization.
  - C. programming.
  - D. a system.
  
2. In this phase of the systems life cycle, the new information system is installed and adapted to the new system, and people are trained to use it.
  - A. Systems implementation
  - B. Systems analysis
  - C. Systems design
  - D. Systems development
  
3. In this phase of the systems life cycle, new or alternative information systems are designed.
  - A. Systems maintenance
  - B. Systems analysis
  - C. Systems design
  - D. Systems development
  
4. A recent survey by Money magazine determined that out of 100 widely-held jobs, the top job classification, based on salary, prestige, and security, was a
  - A. network administrator.
  - B. cryptographer.
  - C. systems analyst.
  - D. computer engineer.

## Systems Analysis and Design

5. In the preliminary investigation phase of the systems life cycle, which one of the following tasks would not be included?
- A. Briefly defining the problem
  - B. Suggesting alternative solutions
  - C. Gathering the data
  - D. Preparing a short report
6. In order to obtain financing for the analysis phase, the systems analyst must
- A. prepare a preliminary investigation report.
  - B. justify the expense of upgrading.
  - C. consider abandoning the project.
  - D. train users on the new system.
7. Including schedules for further development of a project would be a part of this phase
- A. suggesting alternate systems.
  - B. defining the problem.
  - C. preparing a short report.
  - D. gathering data.
8. The relationship between input and output documents is shown by
- A. a grid chart.
  - B. a checklist.
  - C. investigation reports.
  - D. decision tables.
9. Which of the following is used to show the rules that apply to a decision when one or more conditions apply?
- A. System flowchart
  - B. Decision table
  - C. Grid chart
  - D. Checklist

## Systems Analysis and Design

10. Which of the following tools present data or information flow within an information system?

- A. Grid chart
- B. Decision table
- C. System flowchart
- D. Data flow diagram

11. These tools are also called computer-aided software engineering (CASE) tools. They are used in system analysis to evaluate alternative hardware and software solutions.

- A. Project management tools
- B. Automated design tools
- C. Spreadsheets
- D. Report generators

12. Which among the following would not be described in the systems analysis report?

- A. The current information system
- B. The requirements for a new system
- C. The development schedule
- D. The training requirements for users

13. The final task in the design phase of the systems life cycle is to

- A. select the best design.
- B. design alternative systems.
- C. write a systems design report.
- D. examine hardware requirements.

14. The first step in the systems design phase is to

- A. examine the hardware requirements.
- B. design alternative systems.
- C. select the best system.
- D. analyze the data.



## Systems Analysis and Design

15. Determining whether the system can be made secure against unauthorized use is part of
- A. analyzing the data.
  - B. writing the systems design report.
  - C. selecting the best system.
  - D. testing the system.
16. The costs versus the benefits of designs and the outlines of their effects is presented in the
- A. systems analysis report.
  - B. preliminary investigation report.
  - C. initialization report.
  - D. systems design report.
17. During which phase of the systems life cycle are users trained to use the new system?
- A. Preliminary investigation
  - B. Systems implementation
  - C. Systems development
  - D. Systems maintenance
18. The first step in implementing a new system is to determine the
- A. hardware requirements.
  - B. software requirements.
  - C. conversion type.
  - D. best alternative.
19. Problems arising in this approach would spell disaster.
- A. Direct approach
  - B. Parallel approach
  - C. Phased approach
  - D. Pilot approach

## Systems Analysis and Design

20. This implementation approach is preferred when there are many people in an organization performing similar operations.

- A. Direct
- B. Parallel
- C. Phased
- D. Pilot

21. The final step of the implementation phase of the systems life cycle is to

- A. develop documentation.
- B. train the users.
- C. select the conversion type.
- D. write the implementation report.

22. Identify the sixth phase of the systems life cycle.

- A. Systems maintenance
- B. Systems development
- C. Systems design
- D. Systems analysis

23. Which of the following phases of the systems life cycle is considered as the "ongoing process"?

- A. Systems development
- B. Systems analysis
- C. Systems design
- D. Systems maintenance

24. Determining whether the new procedures are actually furthering productivity is part of the

- A. testing of the new sample phase.
- B. selecting the best system phase.
- C. designing of alternatives phase.
- D. systems audit phase.

## Systems Analysis and Design

25. Although the development time is shorter, it is sometimes more difficult to manage the project and to control costs with
- A. rapid applications development.
  - B. prototyping.
  - C. systems analysis.
  - D. systems maintenance.

### True / False Questions

26. A systems analyst uses the six-phase systems lifecycle to improve and maintain information systems.  
True False
27. A survey of user needs is part of the preliminary investigation phase.  
True False
28. Data about how the present system works is collected during the preliminary investigation phase in order to determine the requirements of the new system.  
True False
29. In Phase 2 of the systems life cycle, the primary concern is completing a new design.  
True False
30. Gathering data and information in the first step of systems analysis can be achieved through conducting interviews and doing observation.  
True False

## Systems Analysis and Design

31. The organization chart shows levels of management and formal lines of authority.  
True False
32. More often than not, the current information system is not operating correctly because prescribed procedures are not modeled to the requirements.  
True False
33. Not enough tools are available to assist system analysts and the end users in analyzing data.  
True False
34. The top-down analysis method makes each component easier to analyze and deal with.  
True False
35. If a firm is to decide upon the acceptance of a finance project with a value of \$10,000, and if the client has a good credit history, it will most likely use the grid chart to decide.  
True False
36. CASE stands for "Computer Aided Software Engineering".  
True False
37. CASE tools are limited to systems analysis only.  
True False
38. In the design phase of the systems life cycle, alternative systems are analyzed for economic, physical, and operational feasibility.  
True False

## Systems Analysis and Design

39. Selecting the best system is the first step of the systems design phase of the systems life cycle.

True False

40. In the systems design phase of the systems life cycle, the systems design report usually concludes by proposing one of the analyzed alternatives.

True False

41. Hardware and software are normally acquired during the implementation phase of the systems life cycle.

True False

42. Application software for new information systems always requires having it custom-designed to meet the needs of the organization.

True False

43. In the testing phase of the systems life cycle, processed information is evaluated to see whether the results are correct.

True False

44. The organization can switch to the old system if the new system fails in the parallel approach.

True False

45. Periodic evaluation is part of the systems maintenance phase of the systems life cycle.

True False

## Systems Analysis and Design

### Fill in the Blank Questions

46. A(n) \_\_\_\_\_ is a collection of hardware, software, people, procedures, and data.

\_\_\_\_\_

47. New hardware and software are acquired, developed, and tested in the \_\_\_\_\_ stage of the systems life cycle.

\_\_\_\_\_

48. Systems analysis and design is a problem-solving procedure for examining and improving a(n) \_\_\_\_\_.

\_\_\_\_\_

49. An important aspect of the preliminary investigation phase is to suggest \_\_\_\_\_.

\_\_\_\_\_

50. The \_\_\_\_\_ analysis method identifies the top-level components of a complex system.

\_\_\_\_\_

51. A(n) \_\_\_\_\_ shows the relationship between input and output documents.

\_\_\_\_\_

52. Distribution of information is represented by the \_\_\_\_\_.

\_\_\_\_\_

## Systems Analysis and Design

53. A(n) \_\_\_\_\_ shows the decision rules that apply when certain conditions occur.

\_\_\_\_\_

54. The \_\_\_\_\_ describes the possible development schedule.

\_\_\_\_\_

55. The third phase in the systems life cycle is the \_\_\_\_\_ phase.

\_\_\_\_\_

56. \_\_\_\_\_ feasibility is evaluated to determine if the proposed system can actually be made to operate in the organization.

\_\_\_\_\_

57. Systems designers evaluate each alternative in the systems design phase for \_\_\_\_\_.

\_\_\_\_\_

58. When evaluating alternative systems, systems designs must consider economic feasibility, \_\_\_\_\_ feasibility, and operational feasibility.

\_\_\_\_\_

59. The systems design report presents the \_\_\_\_\_ versus the benefits.

\_\_\_\_\_

60. \_\_\_\_\_ of the system follows the acquiring of software and hardware.

\_\_\_\_\_

## Systems Analysis and Design

61. Another name for Phase 5, systems implementation is \_\_\_\_\_.

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62. The \_\_\_\_\_ approach to systems implementation is considered the most risky.

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63. The \_\_\_\_\_ approach to systems implementation is used only in cases in which the cost of failure or of interrupted operation is great.

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64. In general, the pilot and \_\_\_\_\_ are the most favored approaches.

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65. Most organizations spend more time and money on the \_\_\_\_\_ phase than on any of the others.

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### Essay Questions

66. Name and briefly explain the six phases of system analysis and design.



## Systems Analysis and Design

67. How does a system analyst gather the required data when he/she is defining a problem during the preliminary investigation phase?

68. Name and briefly explain five common analysis tools used during the systems analysis phase.

69. What is the purpose of the systems analysis report during the systems analysis phase?

70. What are the four questions that must be considered when choosing the best system during the systems design phase?



## Systems Analysis and Design

75. What is prototyping?

### Multiple Choice Questions

1. (p. 370) A collection of activities and elements organized to accomplish a goal. This is the definition of

- A. information.
- B. an organization.
- C. programming.
- D.** a system.

A system is defined as a collection of activities and elements organized to accomplish a goal.

*Difficulty: Easy*

2. (p. 371) In this phase of the systems life cycle, the new information system is installed and adapted to the new system, and people are trained to use it.

- A.** Systems implementation
- B. Systems analysis
- C. Systems design
- D. Systems development

In the systems implementation phase, the new information system is installed and adapted to the new system, and people are trained to use it.

*Difficulty: Easy*

3. (p. 371) In this phase of the systems life cycle, new or alternative information systems are designed.

- A. Systems maintenance
- B. Systems analysis
- C.** Systems design
- D. Systems development

In the systems design phase, a new or alternative information system is designed.

*Difficulty: Easy*

## Systems Analysis and Design **Key**

4. (p. 371) A recent survey by Money magazine determined that out of 100 widely-held jobs, the top job classification, based on salary, prestige, and security, was a
- A. network administrator.
  - B. cryptographer.
  - C. systems analyst.
  - D. computer engineer.**

Money magazine determined that the top job classification was a computer engineer.

*Difficulty: Hard*

5. (p. 372) In the preliminary investigation phase of the systems life cycle, which one of the following tasks would not be included?
- A. Briefly defining the problem
  - B. Suggesting alternative solutions
  - C. Gathering the data**
  - D. Preparing a short report

Preliminary investigation is concerned with three tasks: (1) briefly defining the problem, (2) suggesting alternative solutions, and (3) preparing a short report.

*Difficulty: Medium*

6. (p. 372) In order to obtain financing for the analysis phase, the systems analyst must
- A. prepare a preliminary investigation report.**
  - B. justify the expense of upgrading.
  - C. consider abandoning the project.
  - D. train users on the new system.

Management needs a preliminary investigation report before deciding to finance the analysis phase.

*Difficulty: Hard*

## Systems Analysis and Design **Key**

7. (p. 373) Including schedules for further development of a project would be a part of this phase

- A. suggesting alternate systems.
- B. defining the problem.
- C.** preparing a short report.
- D. gathering data.

For large projects, the systems analyst writes a report summarizing the results of the preliminary investigation and suggesting alternative systems. The report also may include schedules for further development of the project.

*Difficulty: Hard*

8. (p. 376) The relationship between input and output documents is shown by

- A.** a grid chart.
- B. a checklist.
- C. investigation reports.
- D. decision tables.

A grid chart shows the relationship between input and output documents.

*Difficulty: Easy*

9. (p. 376) Which of the following is used to show the rules that apply to a decision when one or more conditions apply?

- A. System flowchart
- B.** Decision table
- C. Grid chart
- D. Checklist

A decision table shows the decision rules that apply when certain conditions occur.

*Difficulty: Medium*

## Systems Analysis and Design **Key**

10. (p. 377) Which of the following tools present data or information flow within an information system?

- A. Grid chart
- B. Decision table
- C. System flowchart
- D.** Data flow diagram

Data flow diagrams show the data or information flow within an information system.

*Difficulty: Medium*

11. (p. 377) These tools are also called computer-aided software engineering (CASE) tools. They are used in system analysis to evaluate alternative hardware and software solutions.

- A. Project management tools
- B.** Automated design tools
- C. Spreadsheets
- D. Report generators

Automated design tools are software packages that evaluate hardware and software alternatives according to requirements given by the systems analyst.

*Difficulty: Hard*

12. (p. 377) Which among the following would not be described in the systems analysis report?

- A. The current information system
- B. The requirements for a new system
- C. The development schedule
- D.** The training requirements for users

The systems analysis report describes the current information system, the requirements for a new system, and a possible development schedule.

*Difficulty: Medium*

## Systems Analysis and Design **Key**

13. (p. 379) The final task in the design phase of the systems life cycle is to
- A. select the best design.
  - B. design alternative systems.
  - C. write a systems design report.**
  - D. examine hardware requirements.

The final task in the systems design phase is to write a systems design report.

*Difficulty: Medium*

14. (p. 378) The first step in the systems design phase is to
- A. examine the hardware requirements.
  - B. design alternative systems.**
  - C. select the best system.
  - D. analyze the data.

The first step in the systems design phase is to design several alternate systems.

*Difficulty: Medium*

15. (p. 379) Determining whether the system can be made secure against unauthorized use is part of
- A. analyzing the data.
  - B. writing the systems design report.
  - C. selecting the best system.**
  - D. testing the system.

In the systems design phase, when choosing the best design, managers must consider four questions, amongst which one is whether it be made secure against unauthorized use?

*Difficulty: Hard*



## Systems Analysis and Design **Key**

16. (p. 379) The costs versus the benefits of designs and the outlines of their effects is presented in the

- A. systems analysis report.
- B. preliminary investigation report.
- C. initialization report.
- D.** systems design report.

The systems design report is prepared for higher management and describes the alternative designs. It presents the costs versus the benefits and outlines the effect of alternative designs on the organization.

*Difficulty: Medium*

17. (p. 381) During which phase of the systems life cycle are users trained to use the new system?

- A. Preliminary investigation
- B.** Systems implementation
- C. Systems development
- D. Systems maintenance

Systems implementation is the process of changing—converting—from the old system to the new one and training people to use the new system.

*Difficulty: Medium*

18. (p. 381) The first step in implementing a new system is to determine the

- A. hardware requirements.
- B. software requirements.
- C.** conversion type.
- D. best alternative.

The first step is to determine the type of conversion to be used.

*Difficulty: Hard*

## Systems Analysis and Design **Key**

19. (p. 381) Problems arising in this approach would spell disaster.

- A.** Direct approach
- B. Parallel approach
- C. Phased approach
- D. Pilot approach

Problems, big or small, invariably crop up in a new system. In a large system, a problem might just mean catastrophe if the direct approach is used. In the direct approach, the conversion is done simply by abandoning the old and starting up the new.

*Difficulty: Medium*

20. (p. 382) This implementation approach is preferred when there are many people in an organization performing similar operations.

- A. Direct
- B. Parallel
- C. Phased
- D.** Pilot

The pilot approach is preferred when there are many people in an organization performing similar operations.

*Difficulty: Medium*

21. (p. 382) The final step of the implementation phase of the systems life cycle is to

- A. develop documentation.
- B.** train the users.
- C. select the conversion type.
- D. write the implementation report.

Training the users is the last step in the implementation phase of the systems life cycle.

*Difficulty: Medium*

## Systems Analysis and Design **Key**

22. (p. 383) Identify the sixth phase of the systems life cycle.

- A.** Systems maintenance
- B. Systems development
- C. Systems design
- D. Systems analysis

After implementation comes systems maintenance, the last step in the systems life cycle.

*Difficulty: Easy*

23. (p. 383) Which of the following phases of the systems life cycle is considered as the "ongoing process"?

- A. Systems development
- B. Systems analysis
- C. Systems design
- D.** Systems maintenance

Systems maintenance is a very important, ongoing activity.

*Difficulty: Medium*

24. (p. 383) Determining whether the new procedures are actually furthering productivity is part of the

- A. testing of the new sample phase.
- B. selecting the best system phase.
- C. designing of alternatives phase.
- D.** systems audit phase.

In the systems audit, the system's performance is compared to the original design specifications. This is to determine whether the new procedures are actually furthering productivity.

*Difficulty: Medium*

## Systems Analysis and Design **Key**

25. (p. 384, 385) Although the development time is shorter, it is sometimes more difficult to manage the project and to control costs with

A. rapid applications development.

**B.** prototyping.

C. systems analysis.

D. systems maintenance.

Prototyping means to build a model or prototype that can be modified before the actual system is installed. Typically, the development time for prototyping is shorter; however, it is sometimes more difficult to manage the project and to control costs.

*Difficulty: Hard*

### **True / False Questions**

26. (p. 370) A systems analyst uses the six-phase systems lifecycle to improve and maintain information systems.

**TRUE**

*Difficulty: Easy*

27. (p. 372) A survey of user needs is part of the preliminary investigation phase.

**TRUE**

*Difficulty: Medium*

28. (p. 374) Data about how the present system works is collected during the preliminary investigation phase in order to determine the requirements of the new system.

**FALSE**

*Difficulty: Medium*

## Systems Analysis and Design **Key**

29. (p. 374) In Phase 2 of the systems life cycle, the primary concern is completing a new design.

**FALSE**

*Difficulty: Medium*

30. (p. 374) Gathering data and information in the first step of systems analysis can be achieved through conducting interviews and doing observation.

**TRUE**

*Difficulty: Easy*

31. (p. 375) The organization chart shows levels of management and formal lines of authority.

**TRUE**

*Difficulty: Medium*

32. (p. 375) More often than not, the current information system is not operating correctly because prescribed procedures are not modeled to the requirements.

**FALSE**

*Difficulty: Hard*

33. (p. 375) Not enough tools are available to assist system analysts and the end users in analyzing data.

**FALSE**

*Difficulty: Medium*

## Systems Analysis and Design **Key**

34. (p. 376) The top-down analysis method makes each component easier to analyze and deal with.

**TRUE**

*Difficulty: Medium*

35. (p. 376) If a firm is to decide upon the acceptance of a finance project with a value of \$10,000, and if the client has a good credit history, it will most likely use the grid chart to decide.

**FALSE**

*Difficulty: Hard*

36. (p. 377) CASE stands for "Computer Aided Software Engineering".

**TRUE**

*Difficulty: Easy*

37. (p. 377) CASE tools are limited to systems analysis only.

**FALSE**

*Difficulty: Medium*

38. (p. 378) In the design phase of the systems life cycle, alternative systems are analyzed for economic, physical, and operational feasibility.

**FALSE**

*Difficulty: Easy*

## Systems Analysis and Design **Key**

39. (p. 378) Selecting the best system is the first step of the systems design phase of the systems life cycle.

**FALSE**

*Difficulty: Medium*

40. (p. 379) In the systems design phase of the systems life cycle, the systems design report usually concludes by proposing one of the analyzed alternatives.

**TRUE**

*Difficulty: Hard*

41. (p. 380) Hardware and software are normally acquired during the implementation phase of the systems life cycle.

**FALSE**

*Difficulty: Easy*

42. (p. 380) Application software for new information systems always requires having it custom-designed to meet the needs of the organization.

**FALSE**

*Difficulty: Medium*

43. (p. 381) In the testing phase of the systems life cycle, processed information is evaluated to see whether the results are correct.

**TRUE**

*Difficulty: Medium*

44. (p. 381) The organization can switch to the old system if the new system fails in the parallel approach.

**TRUE**

*Difficulty: Medium*

45. (p. 383) Periodic evaluation is part of the systems maintenance phase of the systems life cycle.

**TRUE**

*Difficulty: Easy*

### **Fill in the Blank Questions**

46. (p. 370) A(n) \_\_\_\_\_ is a collection of hardware, software, people, procedures, and data.

**information system**

An information system is a collection of hardware, software, people, procedures, and data.

*Difficulty: Easy*

47. (p. 371) New hardware and software are acquired, developed, and tested in the \_\_\_\_\_ stage of the systems life cycle.

**systems development**

New hardware and software are acquired, developed, and tested in the systems development stage of the systems life cycle.

*Difficulty: Easy*



## Systems Analysis and Design **Key**

48. (p. 370) Systems analysis and design is a problem-solving procedure for examining and improving a(n) \_\_\_\_\_.

**information system**

Systems analysis and design is a six-phase problem-solving procedure for examining and improving an information system.

*Difficulty: Medium*

49. (p. 372) An important aspect of the preliminary investigation phase is to suggest \_\_\_\_\_.

**alternatives**

An important aspect of the preliminary investigation phase is to suggest alternatives.

*Difficulty: Hard*

50. (p. 376) The \_\_\_\_\_ analysis method identifies the top-level components of a complex system.

**top-down**

The top-down analysis method is used to identify the top-level components of a complex system.

*Difficulty: Easy*

51. (p. 376) A(n) \_\_\_\_\_ shows the relationship between input and output documents.

**grid chart**

A grid chart shows the relationship between input and output documents.

*Difficulty: Easy*

## Systems Analysis and Design **Key**

52. (p. 377) Distribution of information is represented by the \_\_\_\_\_.

**system flowchart**

System flowcharts show the flow of input data to processing and finally to output, or distribution of information.

*Difficulty: Hard*

53. (p. 376) A(n) \_\_\_\_\_ shows the decision rules that apply when certain conditions occur.

**decision table**

A decision table shows the decision rules that apply when certain conditions occur.

*Difficulty: Easy*

54. (p. 377) The \_\_\_\_\_ describes the possible development schedule.

**systems analysis report**

The systems analysis report describes the current information system, the requirements for a new system, and a possible development schedule.

*Difficulty: Hard*

55. (p. 378) The third phase in the systems life cycle is the \_\_\_\_\_ phase.

**systems design**

Phase 3 is systems design.

*Difficulty: Easy*

## Systems Analysis and Design **Key**

56. (p. 379) \_\_\_\_\_ feasibility is evaluated to determine if the proposed system can actually be made to operate in the organization.

### **Operational**

Operational feasibility answers the question "Can the system actually be made to operate in the organization, or will people resist it?"

*Difficulty: Medium*

57. (p. 378) Systems designers evaluate each alternative in the systems design phase for \_\_\_\_\_.  
**feasibility**

The first step in the system design phase is designing of alternatives. In almost all instances, more than one design can be developed to meet the information needs. Systems designers evaluate each alternative system for feasibility.

*Difficulty: Hard*

58. (p. 378) When evaluating alternative systems, systems designs must consider economic feasibility, \_\_\_\_\_ feasibility, and operational feasibility.

### **technical**

Systems designers evaluate each alternative system for feasibility: economic feasibility, technical feasibility, and operational feasibility.

*Difficulty: Medium*

59. (p. 379) The systems design report presents the \_\_\_\_\_ versus the benefits.  
**costs**

The systems design report is prepared for higher management and presents the costs versus the benefits of the alternative designs.

*Difficulty: Medium*

## Systems Analysis and Design **Key**

60. (p. 381) \_\_\_\_\_ of the system follows the acquiring of software and hardware.

**Testing**

After the software and equipment have been installed, the system should be tested.

*Difficulty: Medium*

61. (p. 381) Another name for Phase 5, systems implementation is \_\_\_\_\_.

**conversion**

Systems implementation, or conversion, is the process of converting from the old system to the new one and training people to use the new system.

*Difficulty: Medium*

62. (p. 381) The \_\_\_\_\_ approach to systems implementation is considered the most risky.

**direct**

The direct approach is not recommended because it is so risky. In a large system, a problem that crops up during conversion using the direct approach might just mean catastrophe.

*Difficulty: Medium*

63. (p. 381) The \_\_\_\_\_ approach to systems implementation is used only in cases in which the cost of failure or of interrupted operation is great.

**parallel**

The parallel approach to systems implementation is used only in cases in which the cost of failure or of interrupted operation is great.

*Difficulty: Easy*

64. (p. 382) In general, the pilot and \_\_\_\_\_ are the most favored approaches.  
**phased**

In general, the pilot and phased approaches are the favored methods.

*Difficulty: Easy*

65. (p. 383) Most organizations spend more time and money on the \_\_\_\_\_ phase than on any of the others.  
**systems maintenance**

The systems maintenance phase is a very important, ongoing activity. Most organizations spend more time and money on this phase than on any of the others.

*Difficulty: Hard*

### **Essay Questions**

66. (p. 370, 371) Name and briefly explain the six phases of system analysis and design.

The six stages of systems analysis and design are: preliminary investigation, systems analysis, systems design, systems development, systems implementation, and systems maintenance. In the preliminary investigation phase, the information problems or needs are identified. In the systems analysis phase, the present system is studied in depth, and new requirements are specified. In the systems design phase, the new or alternative information system is designed. In the systems development phase, new hardware and software are acquired, developed, and tested. In the systems implementation phase, the new information system is installed, and people are trained to use it. In the final phase, systems maintenance, the system is periodically evaluated and updated as needed. The systems maintenance phase is ongoing.

*Difficulty: Hard*

## Systems Analysis and Design **Key**

67. (p. 372) How does a system analyst gather the required data when he/she is defining a problem during the preliminary investigation phase?

Determining what information is needed, by whom, when, and why is accomplished by interviewing and making observations. If the information system is large, this survey is done by a systems analyst. If the system is small, the survey can be done by the end user.

*Difficulty: Easy*

68. (p. 375 - 377) Name and briefly explain five common analysis tools used during the systems analysis phase.

Common tools available to assist systems analysis and end users in the analysis phase include checklists, the top-down analysis method, grid charts, decision tables, system flow charts, data flow diagrams, and automated design tools. Checklists are lists of questions helpful in guiding the analyst through key issues for the present system. Top-down analysis is used to identify the top-level components of a complex system and then break them down into smaller and smaller components. A grid chart shows the relationship between input and output documents. A decision table shows the decision rules that apply when certain conditions occur. System flowcharts show the flow of input data to processing and finally to output, or distribution of information. Data flow diagrams show the data or information flow within an information system. Automated design tools are software packages that evaluate hardware and software alternatives according to requirements given by the systems analyst. They are also called computer-aided software engineering (CASE) tools.

*Difficulty: Difficult*

69. (p. 377) What is the purpose of the systems analysis report during the systems analysis phase?

In larger organizations, the systems analysis stage is typically documented in a report for higher management. The systems analysis report describes the current information system, the requirements for a new system, and a possible development schedule. Management studies the report and decides whether to continue with the project.

*Difficulty: Hard*

## Systems Analysis and Design **Key**

70. (p. 379) What are the four questions that must be considered when choosing the best system during the systems design phase?

When choosing the best design, managers must consider these four questions: (1) Will the system fit in with the organization's overall information system? (2) Will the system be flexible enough so it can be modified in the future? (3) Can it be made secure against unauthorized use? (4) Are the benefits worth the costs?

*Difficulty: Medium*

71. (p. 378, 379) Explain the process of evaluating the feasibility of each alternative system.

When looking at alternative systems, the key is feasibility. Economic, technical, and operational feasibility are all taken into account. Economic feasibility examines whether the costs of the new system will be justified by the benefits it promises and how long it will take for the new system to pay for itself. Technical feasibility determines if reliable hardware, software, and training are available to make the system work, and if not, can they be obtained? Finally, operational feasibility looks at whether or not the system can actually be made to operate in the organization, or will people resist it?

*Difficulty: Hard*

72. (p. 390) Describe how software can be acquired, if needed, during the systems development phase?

Application software for the new information system can be obtained in two ways. It can be purchased as off-the-shelf packaged software and possibly modified, or it can be custom designed.

*Difficulty: Easy*

## Systems Analysis and Design Key

73. (p. 381, 382) Briefly describe the four approaches to conversion to a new system.

The four approaches to conversion are: direct, parallel, pilot, and phased. In the direct approach, the conversion is done simply by abandoning the old and start up the new. In the parallel approach, both old and new systems are operated side by side until the new one proves to be reliable. In the pilot approach, the new system is tried out in only one part of the organization. In the phased approach, the new system is implemented gradually over a period of time.

*Difficulty: Medium*

74. (p. 383) Discuss the systems audit and periodic evaluation activities.

The systems maintenance phase is an ongoing activity with two parts: a systems audit and a periodic evaluation. In the systems audit, the system's performance is compared to the original design specifications. This is to determine whether the new procedures are actually furthering productivity. If they are not, some redesign may be necessary. After the systems audit, the new information system is further modified, if necessary. All systems should be evaluated from time to time to determine whether they are meeting the goals and providing the service they are supposed to.

*Difficulty: Medium*

75. (p. 384, 385) What is prototyping?

Prototyping means to build a model or prototype that can be modified before the actual system is installed. Users would try it out and provide feedback to the systems analyst. The systems analyst would revise the prototype until the users felt it was ready to put into place. Typically, the development time for prototyping is shorter; however, it is sometimes more difficult to manage the project and to control costs.

*Difficulty: Medium*



## System Analysis and Design

### Objective Type Questions

- Which of the following is not the characteristics of a system?  
(A) Organization (B) Interaction  
(C) Interdependence (D) Feedback  
Answer: D
- Which of the following determines whether the project should go forward?  
(A) Feasibility Assessment (B) Opportunity Identification  
(C) System Evaluation (D) Program Specification  
Answer: A
- Which of the following is not a type of system tests?  
(A) Program Testing (B) System Testing  
(C) System Documentation (D) Evaluation Process  
Answer: D
- Which of the following is not a fact-finding technique?  
(A) Third party enquiry (B) Interview  
(C) Questionnaire (D) Record reviews  
Answer: A
- Cost-Benefit Analysis is performed during.  
(A) Analysis phase (B) Design phase  
(C) Feasibility study phase (D) Implementation phase  
Answer: C
- Which of the following is not considered a tool at the system Design phase?  
(A) Data-Flow Diagram (B) Decision Table  
(C) Pie chart (D) System Flowchart  
Answer: C
- Which phase of the SDLC are information needs identified?  
(A) Preliminary investigation (B) systems analysis  
(C) Systems design (D) systems development  
Answer: A

8. The first step in preliminary analysis is to  
(A) purchase supplies (B) hire consultants  
(C) define the problem (D) propose changes

Answer: C

9. The first step of the systems analysis phase of the SDLC is to  
(A) propose changes (B) analyze data  
(C) gather data (D) write system analysis report

Answer: C

10. The final step of the systems analysis phase in the SDLC is to  
(A) gather data (B) write system analysis report  
(C) propose changes (D) analyze data

Answer: B

11. A feasibility study is used to determine the proposed systems.  
(A) resource requirements (B) costs and benefits  
(C) availability of hardware and software (D) all of the above

Answer: D

12. Which of the following phases of the SDLC is considered as the “ongoing process”?  
(A) systems development (B) systems analysis  
(C) systems design (D) systems maintenance

Answer: D

13. During a systems audit, the system performance is compared to  
(A) similar systems (B) newer systems  
(C) the design specifications (D) competing systems

Answer: C

14. A graphic representation of an information system is called  
(A) Flow Chart (B) Pictogram  
(C) Data flow diagram (D) Histogram

Answer: Data Flow Diagram

15. A system is a collection of interrelated components that function together to achieve some outcome  
(A) True (B) False  
(C) Can't Say (D) None

Answer: True

16. Design Phase is followed by  
(A) Initial investigation (B) Feasibility study

(C) Analysis (D) Implementation

Answer: D

17. A system that is part of a larger system is called a

(A) Subsystem (B) System unit (C) System element (D) None of these

Answer: A

18. .... Includes review of the existing procedures and information flow.

(A) Feasibility Study (B) Feasibility report  
(C) System Design (D) System analysis

Answer: A

19. CBA stands for

(A) Cost Base Analysis (B) Cost Basic Analysis  
(C) Cost Benefit Analysis (D) None of these

Answer: C

20. The primary activity of a system developer is programming

(A) True (B) False  
(C) Can't Say (D) None of these

Answer: B