***Systems Analysis and Design***

**Systems, Roles, and Development Methodologies**

1.1 Multiple Choice

1) Which of these software packages are not open source software (OSS)?

A) Microsoft Windows

B) Mozilla Firefox Web browser

C) Apache Web server

D) a Linux operating system

Answer: A

2) Which of these characteristics is most important to a systems analyst?

A) communicator

B) problem solver

C) programmer

D) project manager

Answer: B

3) Which of these statements concerning the systems development life cycle is true?

A) Designing the system is the first step in the SDLC.

B) No phase can occur until the previous phase is completed.

C) Although each phase is presented discretely, it is never accomplished as a separate step.

D) There is widespread agreement that the SDLC is composed of seven phases.

Answer: C

4) System maintenance must be performed to:

A) correct software errors.

B) add new features that have never been requested before.

C) remove features that none of the users are using.

D) keep programmers employed.

Answer: A

5) Which of these is not used by analysts when adopting CASE tools?

A) communicating more effectively with users

B) expediting the local area network

C) increasing productivity

D) integrating the work done during life cycle stages

Answer: B

6) An encyclopedia that is used to store all project information is called:

A) a data dictionary.

B) an upper CASE tool.

C) a CASE repository.

D) a lower CASE tool.

Answer: C

7) Which of the following is not a dimension used to categorize an open source community?

A) programming style

B) environment

C) user community

D) licensing

Answer: A

8) When program software is distributed free with the code or computer instructions available for anyone to modify, it is called:

A) freeware.

B) code independent software.

C) a distributed system.

D) open source software.

Answer: D

9) Object-oriented approaches use what industry standard for modeling object-oriented systems?

A) artificial intelligence

B) a distributed system

C) the unified modeling language

D) multiview

Answer: C

10) Which of the following is not one of the fundamental components of the agile approach?

A) pressure

B) values

C) principles

D) core practices

Answer: A

11) Which of the following is not one of the four values of the agile approach?

A) communication

B) expertise

C) simplicity

D) courage

Answer: B

 Page Ref: 11

12) Which of the following is a human need taken into account when considering the human-computer interaction?

A) the hardware that the system will run on

B) the pleasing, aesthetic and enjoyable aspects of using the system

C) the amount of training that will be required

D) the kind of monitoring that will take place for compliance

Answer: B

 Page Ref: 5

13) Which of these is a reason for an organization to participate in open source communities?

A) to maintain mutually beneficial relationships with other software developers

B) to keep down the development costs on a project

C) to increase productivity by leveraging a committed group of developers

D) All of the above.

Answer: D

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14) Decision makers are beginning to understand that \_\_\_\_\_\_\_\_ is not just a byproduct of conducting business, but a critical factor in determining the success or failure of a business.

A) information

B) decoration

C) hesitation

D) frustration

Answer: A

 Page Ref: 1

15) As a(n) \_\_\_\_\_\_\_\_, an analyst draws on professional expertise concerning computer hardware and software and their uses in the business.

A) supporting expert

B) consultant

C) programmer

D) agent of change

Answer: A

 Page Ref: 3

16) The most prominent quality of an analyst is that of a(n) \_\_\_\_\_\_\_\_.

A) problem solver

B) consultant

C) programmer

D) agent of change

Answer: A

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17) The \_\_\_\_\_\_\_\_ summarizes what has been found during the systems analysis phase, provides cost/benefit analyses of alternatives, and makes recommendations on what should be done.

A) systems proposal

B) database design

C) template

D) development life cycle

Answer: A

 Page Ref: 7

18) The \_\_\_\_\_\_\_\_ contains input and output layouts, file specifications, and processing details for programmers.

A) program specifications packet

B) software development life cycle

C) programming guidelines

D) map

Answer: A

 Page Ref: 8

19) One important justification for CASE tools is to increase analyst \_\_\_\_\_\_\_\_.

A) confidence

B) productivity

C) skill

D) None of the above

Answer: B

 Page Ref: 10

20) \_\_\_\_\_\_\_\_ is the layer of the computer that is between humans and the computer.

A) Cybernetics

B) Human computer interface

C) The keyboard

D) Human computer interaction

Answer: D

 Page Ref: 5

21) Software that is distributed free along with the program source code is called \_\_\_\_\_\_\_\_.

A) closed source software

B) open source software

C) Microsoft Windows

D) out source software

Answer: B

 Page Ref: 15

22) The \_\_\_\_\_\_\_\_ is based on values, principles and core practices.

A) fragile approach

B) open source approach

C) closed source approach

D) agile approach

Answer: D

 Page Ref: 11

23) The most comprehensive and responsible role that the systems analyst takes on is that of a(n) \_\_\_\_\_\_\_\_.

A) agent of change

B) compromiser

C) leader

D) consultant

Answer: A

 Page Ref: 2

24) The \_\_\_\_\_\_\_\_ is a phased approach to analysis and design that holds that systems are best developed through the use of a specific cycle of analyst and user activities.

A) systems development life cycle

B) agile approach

C) object-oriented approach

D) open source approach

Answer: A

 Page Ref: 4

25) After the system is installed, it must be \_\_\_\_\_\_\_\_, meaning that the computer programs must be modified and kept up to date.

A) maintained

B) replaced

C) replicated

D) CASE'd

Answer: A

 Page Ref: 9

26) \_\_\_\_\_\_\_\_ is an approach that is intended to facilitate the development of systems that must change rapidly in response to dynamic business environments.

A) Agile method

B) Systems development life cycle

C) Object-oriented analysis and design

D) Open source approach

Answer: C

 Page Ref: 13

27) \_\_\_\_\_\_\_\_ are those for which the conditions, condition alternatives, actions, and action rules

can be determined.

A) Useful decisions

B) Sequential decisions

C) System-wide decisions

D) Structured decisions

Answer: D

 Page Ref: 6

28) The design phase also includes designing \_\_\_\_\_\_\_\_ that will store much of the data needed by decision makers in the organization.

A) databases

B) flow charts

C) spreadsheets

D) software design models

Answer: A

 Page Ref: 8

29) Maintenance is performed:

A) to correct software errors.

B) to enhance the system and its capabilities in response to changing organizational needs.

C) Both A and B.

D) Neither A nor B.

Answer: C

 Page Ref: 9

30) Which of the following do not describe how analysts use CASE tools?

A) decrease maintenance costs

B) increase productivity

C) communicate more effectively with users

D) integrate the work that they do on the system from the beginning to the end of the life cycle

Answer: A

 Page Ref: 10

31) A CASE \_\_\_\_\_\_\_\_ is a large collection of records, elements, diagrams, screens, reports, and other information stored about a particular project.

A) repository

B) database

C) flow chart

D) booklet

Answer: A

 Page Ref: 10

32) The four values of the agile approach are:

A) communication, simplicity, user centered design and courage.

B) communication, courage, principals and core practices.

C) communication, values, feedback, and courage.

D) communication, simplicity, feedback, and courage.

Answer: D

 Page Ref: 11

33) Object-oriented approaches use the industry standard for modeling object-oriented systems, called \_\_\_\_\_\_\_\_ to break down a system into a use case model.

A) Extensible Markup Language (XML)

B) HyperText Markup Language (HTML)

C) Unified Modeling Language (UML)

D) Vector Markup Language (VML)

Answer: C

 Page Ref: 13

34) The agile approach and the \_\_\_\_\_\_\_\_ approach both allow subsystems to be built one at a time until the entire system is complete.

A) systems development life cycle

B) unified modeling

C) try and try again

D) object-oriented

Answer: D

 Page Ref: 15

35) An analyst should choose the Systems Development Life Cycle approach when:

A) systems have already been developed and documented using SDLC.

B) it is important to document each step of the way.

C) upper-level management feels more comfortable or safe

using SDLC.

D) there are adequate resources and time to complete the full

SDLC.

E) communication of how new systems work is important.

F) All of the above.

G) None of the above.

Answer: F

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1.2 True/False

1) User involvement throughout the systems project is of little importance in the successful development of business information systems.

Answer: FALSE

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2) The three primary roles of the systems analyst are as consultant, supporting expert, and change agent.

Answer: TRUE

 Page Ref: 2

3) When analysts are hired specifically from outside the business to address information systems issues within a business, they are acting as supporting experts.

Answer: FALSE

 Page Ref: 2

4) Each phase of the system development life cycle is accomplished as a discrete, separate step.

Answer: FALSE

 Page Ref: 4

5) The first SDLC phase that the analyst enters into is that of determining information requirements for the particular users involved.

Answer: FALSE

 Page Ref: 4

6) A systems proposal is prepared after the analysis of system needs.

Answer: TRUE

 Page Ref: 7

7) During the life cycle of an information system, more time is spend in system maintenance than it took to design and develop the system.

Answer: TRUE

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8) CASE tools have the potential of increasing systems analysts' productivity.

Answer: TRUE

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9) CASE tools can allow the user to easily draw and modify diagrams.

Answer: TRUE

 Page Ref: 11

10) It is the drawing of diagrams rather than in their modification that CASE tools excel over the use of templates.

Answer: FALSE

 Page Ref: 11

11) Object-oriented techniques are used when systems must change rapidly in response to dynamic business environments.

Answer: TRUE

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12) The four values of the agile approach are communication, simplicity, feedback and courage.

Answer: TRUE

 Page Ref: 11

13) Open source software is distributed for free and then users pay for updates to the software.

Answer: FALSE

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14) The open source software community is a monoculture, a single unified community.

Answer: FALSE

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15) The human-computer interaction takes into account human frustrations and feelings.

Answer: TRUE

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16) A systems analyst should never be hired specifically to address information systems issues within a business.

Answer: FALSE

 Page Ref: 2

17) A systems analyst should never draw on professional expertise concerning computer hardware and software and their uses in the business.

Answer: FALSE

 Page Ref: 2

18) As a systems analyst, you are an agent of change whenever you perform any of the activities in the systems development life cycle and are present and interacting with users and the business for an extended period of time.

Answer: FALSE

 Page Ref: 3

19) Problem solving is never a good quality for a systems analyst.

Answer: FALSE

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20) While using the Systems Development Life Cycle (SDLC), each phase should be completed before a new phase has begun.

Answer: FALSE

 Page Ref: 4

21) When implementing a new system, it is always best to incorporate Human-Computer Interaction considerations.

Answer: TRUE

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22) Another way to think about HCI is to think of it as a human-centered approach that puts people ahead of organizational structure or culture when creating new systems.

Answer: TRUE

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23) The first phase of the systems development life cycle is critical to the success of the rest of the project.

Answer: TRUE

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24) The second phase of the systems development life cycle begins with the documentation of the software being designed.

Answer: FALSE

 Page Ref: 4

25) In the third phase of the systems development life cycle, analysts can use data flow diagrams to chart the input, processes, and output of the business functions.

Answer: TRUE

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26) The three major tools for analyzing structured decisions are structured English, decision tables, and decision trees.

Answer: TRUE

 Page Ref: 6

27) In the design phase of the SDLC, the systems analyst uses the information collected earlier to accomplish the logical design of the information system.

Answer: TRUE

 Page Ref: 7

28) After a system is implemented, businesses spend little money on system maintenance.

Answer: FALSE

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29) CASE tools were created explicitly to improve an analyst's routine work through the use of automated support.

Answer: TRUE

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30) Visible Analyst (VA) is not an example of a CASE tool that enables systems analysts to do

graphical planning, analysis, and design in order to build complex client/server applications and

databases.

Answer: FALSE

 Page Ref: 11

31) The agile approach is a software development approach based on values, principles, and core practices.

Answer: TRUE

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32) Object-oriented programming differs from traditional procedural programming in that it examines objects that are part of a system.

Answer: TRUE

 Page Ref: 13

33) Object-oriented programming is the same as traditional procedural programming in that it

examines objects that are part of a system.

Answer: FALSE

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34) The phases in UML are similar to those in the SDLC.

Answer: TRUE

 Page Ref: 13

35) The SDLC and object-oriented approaches both require extensive planning and diagramming.

Answer: TRUE

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1.3 Short Answer

1) List the three primary roles of the systems analyst.

Answer: The three primary roles of the systems analyst are consultant, supporting expert, and agent of change.

2) List four of the seven phases of the systems development life cycle.

Answer: Identifying problems, opportunities, and objectives - Determining human information requirements - Analyzing system needs - Designing the recommended system - Developing and documenting software - Testing and maintaining the system - Implementing and evaluating the system

3) Describe a situation in which an analyst would choose to use object-oriented systems analysis and design rather than the systems development life cycle.

Answer: Students should describe a situation in which the system to be designed must change rapidly in response to dynamic business environments or are undergoing continuous maintenance, adaptation and redesign.

4) What is open source software?

Answer: OSS is software where many users and programmers can study, share, and modify the code, or computer instructions.

5) What are the four values of the agile approach?

Answer: The four values of the agile approach are communication, simplicity, feedback, and courage.