Software Engineering

Unit 2 Software Analysis and Design

1. The relationship of data elements in a module is called
   a. Coupling
   b. Modularity
   c. Cohesion
   d. Granularity
2. Which of the following is not defined in a good SRS document?
   a. Functional Requirement
   b. Nonfunctional Requirement
   c. Goals of implementation
   d. Algorithm for software implementation
3. Which of the following is the understanding of software product limitations, learning system related problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc?
   a. Software Design
   b. Feasibility Study
   c. Requirement Gathering
   d. System Analysis
4 Software Requirement Specification (SRS) is also known as specification of _____.
   a. White box testing
   b. Acceptance testing
   c. Integrated testing
   d. Black box testing
5 Non functional requirement include
   a. Reliability issues
   b. Performance issues
   c. Human-computer interface issues
   d. All of above
6 Which document is created by system analyst after the requirements are collected from various stakeholders?
   a. Software requirement specification
   b. Software requirement validation
   c. Feasibility study
   d. Requirement Gathering
7 In which requirement engineering task, it understands the problem and evaluates with the proper solution?
   a. Inception

b. Elicitation
c. Elaboration
d. Negotiation

8 Stands for SRS
a. Software Requirement Specification
b. Software Reengineering Specification
c. Specification Requirement Software
d. Specification Reengineering Software

9 Which one of the following is a functional requirement?
a. Maintainability
b. Portability
c. Robustness
d. None of the above

10 “Consider a system where, a heat sensor detects an intrusion and alerts the security company.” What kind of a requirement the system is providing?
a. Functional
b. Non-Functional
c. Known Requirement
d. None of the above

11 In which requirement engineering task, A software engineer decides the how will the project be achieved with limited business resources?
a. Inception
b. Elicitation
c. Elaboration
d. Negotiation

12 Define the system elements and their inter-relationships is called as _____.
a. Preliminary design
b. Detailed design
c. Both a and b
d. None of the above

13 Which documentation works as a key tool for software designer, developer and their test team is to carry out their respective tasks?
a. Requirement documentation
b. User documentation
c. Software design documentation
d. Technical documentation

14 Why requirements elicitation a difficult task?
a. Problem of scope
b. Problem of understanding
c. Problem of volatility

d. All of above

15 How many classification schemes have been developed for NFRs(Non-Functional Requirement) ?

a. Two
b. Three
c. Four
d. Five

16 What is the first step of requirement elicitation?

a. Identifying stakeholder
b. Listing out requirements
c. Requirements gathering
d. None of above

17 Choose the incorrect statement with respect to Non-Functional Requirement(NFR).

a. Product-oriented Approach – Focus on system (or software) quality
b. Process-oriented Approach – Focus on how NFRs can be used in the design process
c. Quantitative Approach – Find measurable scales for the functionality attributes
d. Qualitative Approach – Study various relationships between quality goals

18 Which of the following statements explains portability in non-functional requirements?

a. It is a degree to which software running on one platform can easily be converted to run on another platform.
b. It can be enhanced by using languages, OS' and tools that are universally available and standardized.
c. The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended.
d. Both a and b

19 The user system requirements are the parts of which document?

a. SDD
b. SRS
c. DDD
d. DFD

20 How many scenarios are there in elicitation activities?

a. One
b. Two
c. Three
d. Four

21 Which of the following property does not correspond to a good Software Requirements Specification (SRS)?

a. Verifiable
b. Ambiguous
c. Complete

d. Traceable

22 Which of the following property of SRS is depicted by the statement : “Conformity to a standard is maintained” ?

a. Correct
b. Complete
c. Consistent
d. Modifiable

23 Which of the following is the best type of module coupling?

a. Control Coupling
b. Stamp Coupling
c. Data Coupling
d. Content Coupling

24 Which of the following is the worst type of module coupling?

a. Control Coupling
b. Stamp Coupling
c. External Coupling
d. Content Coupling

25 _____ is a set of activities that help the project team to identify, control and track the requirements and changes can be made to the requirements at any time of the ongoing project.

a. Inception
b. Elicitation
c. Elaboration
d. Requirement management

26 In what type of coupling, the complete data structure is passed from one module to another?

a. Control Coupling
b. Stamp Coupling
c. External Coupling
d. Content Coupling

27 Design activities are classified in _____types.

a. 2
b. 3
c. 4
d. 5

28 Which of the following is the best type of module cohesion?

a. Functional Cohesion
b. Temporal Cohesion
c. Non-Functional Cohesion
d. Sequential Cohesion

29 What are characteristics of good software design?

a. Correctness
b. Efficiency
c. Maintainability
d. All of above

30 The SRS is said to be consistent if and only if

a. Its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure.
b. Every requirement stated therein is one that the software shall meet
c. Every requirement stated therein is verifiable
d. No subset of individual requirements described in it conflict with each other

31 _____ is not a type of cohesion.

a. Logical cohesion
b. Temporal cohesion
c. Procedural cohesion
d. Nonfunctional cohesion

32 In which type of coupling content of one module is used by other module?

a. Content coupling
b. Common coupling
c. Control coupling
d. None of the above

33 _____ is not a type of coupling.

a. Data coupling
b. Common coupling
c. Control coupling
d. Classical coupling

34 Which of the following statements about SRS is/are true ?

i. SRS is written by customer
ii. SRS is written by a developer
iii. SRS serves as a contract between customer and developer

a. Only i is true
b. Both ii and iii are true
c. All are true
d. None is true

35 _____ is a measure of the degree of interdependence between modules.

a. Cohesion
b. Coupling
c. Modulus
d. None of above

36 The statement “Conformity to a standard is maintained” depicts _____ property of SRS.

a. Correct
b. Complete
c. Consistent
d. Modifiable

37 Which of one of the following is not requirement engineering task?

a. Requirement management
b. Validation
c. Specialization
d. Analysis

38 ____ refers to when all the module elements operate on similar data.

a. Communicational cohesion
b. Stamp cohesion
c. Procedural cohesion.
d. Functional cohesion

39 Requirements elicitation is said to be a difficult task because of _____

a. Volatility in requirements
b. Problem of proper Understanding
c. Scope definition
d. All of above

40 Which of the following represents the degree of mutual interdependence between modules/components?

a. Cohesion
b. Coupling
c. Both a and b
d. None of above

40 Which one is a functional requirement?

a. Security
b. Data integrity
c. Throughput
d. None of above

41 Which of the following is included in SRS?

a. Cost
b. Design constraints
c. Staffing
d. Delivery schedule

42 If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?

a. Functional cohesion

b. Temporal cohesion
c. Non-Functional cohesion
d. Sequential cohesion

43 SRS consists of?
a. Problem statement
b. Product design
c. Problem statement & Product design
d. None of above

44 The modules in a good software design should have which of the following characteristics:
a. High cohesion, low coupling
b. Low cohesion, high coupling
c. Low cohesion, low coupling
d. High cohesion, high coupling

45 Design methodology is divided into _____ types.
a. 2
b. 3
c. 4
d. 5

46 When elements of module are grouped because the output of one element serves as input to another element and so on, it is called _____.
a. Functional cohesion
b. Communicational cohesion
c. Sequential cohesion
d. Procedural cohesion

47 What is meaning of Functional Cohesion?
a. Operations are part of single functional task and are placed in same procedures
b. All operations that access the same data are defined within one class.
c. All operations that access the data from outside the module.
d. None of above

48 _____ refers to the process that establishes physical connections among the elements in OO design.
a. Coupling
b. Cohesion
c. Association ship
d. None of above.

49 _____of a single module/component is the degree to which its responsibilities form a meaningful unit.
a. Cohesion
b. Coupling

c. Both A and B

d. None of above

50 When two modules are coupled during their interaction through a composite data item then it is called____.

a. Data coupling

b. Stamp coupling

c. Common coupling

d. None of the above

Unit 4 User interface & design

1.What is UI?

a. Helps users to communicate using windows, icons with the computer system and application system
b. It converts program to machine language form
c. Transmit data to a remote location as packets
d. None of these

2 _____is to have effective communication medium between the environmental techniques.

a. User interface design
b. System design
c. User model
d. System model

3 UI is necessary because

a. Software is difficult to use
b. User of software forces
c. Mistake due to lack of understanding about system
d. All of above

4 In UI, Set of object and actions are used in _____.

a. Screen layout
b. Model
c. CLI
d. None of above

5 User Interface analysis and design steps are categorized into

a. Interface analysis and design models
b. The process
c. Both a and b
d. None of above

6 Which of the following is not a user interface design process?

a. User, task, and environment analysis and modeling
b. Interface design
c. Knowledgeable, frequent users
d. Interface validation

7. A software might allow a user to interact via

a. Keyboard commands
b. Mouse movement
c. Voice recognition commands
d. All of above

8. Which model prepares system constrains?

a. Design model
b. User model
c. Mental model
d. Implementation model

9 What incorporates data, architectural, interface, and procedural representations of the software?

a. Design model
b. User model
c. Mental model
d. Implementation model

10 What establishes the profile of end-users of the system?

a. Design model
b. User model
c. Mental model
d. Implementation model

11 Which model describes system syntax and semantics?

a. Design model
b. User model
c. Mental model
d. Implementation model

12 To minimize the user's memory load we use ____ principles of interface design.

a. Establish meaningful defaults.
b. Providing an online tutorial
c. Defining intuitive shortcuts.
d. All the above

13 Which of the following interface design principles does not allow the user to remain in control of the interaction with a computer?

a. Allow interaction to interruptible
b. Allow interaction to be undoable
c. Hide technical internals from casual users
d. Only provide one rigidly defined method for accomplishing a task

14 System perception is also known as

a. User model
b. Implementation model
c. Mental model
d. Design model

15 Which model depicts the profile of the end users of a computer system?

a. Design model
b. User model
c. Mental model

d. Implementation model

16 Which model depicts the image of a system that an end user creates in his or her head?

a. Design model
b. User model
c. Implementation model
d. System perception

17 Which of these framework activities is not normally associated with the user interface design processes?

a. Cost estimation
b. Interface construction
c. Interface validation
d. User and task analysis

18 Which approach(es) to user task analysis can be useful in user interface design?

a. Have users indicate their preferences on questionnaires
b. Study existing computer-based solutions
c. Observe users performing tasks manually
d. b and c

19 Which model depicts the look and feel of the user interface along with all supporting information?

a. Implementation model
b. User model
c. System perception
d. Mental model

20 Several common design issues surface for almost every user interface including

a. Adaptive user profiles
b. Error handling
c. System response time
d. b and c

21 Which of the following is golden rule for interface design?

a. Place the user in control
b. Reduce the user's memory load
c. Make the interface consistent
d. All of above

22 Which framework activity involved creation of prototype?

a. User, task, and environment analysis and modeling
b. Interface design
c. Implementation
d. Interface validation

23 Which of the following is not a design principle that allow the user to maintain control?

a. Provide for flexible interaction

b. Allow user interaction to be interrupt-able and undo-able
c. Show technical internals from the casual user
d. Design for direct interaction with objects that appear on the screen

24 When users are involved in complex tasks, the demand on _____ can be significant.
a. Short-term memory
b. Shortcuts
c. Objects that appear on the screen
d. All of the above

25 In which framework activity tested whether all the user requirements get satisfied or not?
a. Interface design
b. Implementation
c. Validation
d. Environmental analysis and modeling

26. In UI, Evaluation made by user is submitted to _____.
a. Designer
b. Programmer
c. Customer
d. None of the above

27. _____pattern serves as a guideline for completion of task through various windows.
a. Progress indicator
b. Wizard
c. Shopping cart
d. None of above

28. "Three statements are given below regarding the user interface design
i. Place the user in control.
ii. Reduce the user's memory load.
iii. Make the interface consistent.
These rules are called as _____."
a. Golden rule
b. Silver rule
c. User rule
d. Interface rule

29. If online purchase system uses pictures of master card/visa card from these visual layout said to interface is realistic.
a. True
b. False

30. User Interface design process is divided into _____ framework activities.
a. 3

b. 4
c. 2
d. 5

31. Which user interface design patter used in online purchasing system?
    a. Progress indicator
    b. Wizard
    c. Shopping cart
    d. None of above
32. _____is online or user manual to make system more interactive.
    a. Help facility
    b. System response time
    c. Error detection
    d. Validation
33. The design evaluation of user interface is an iterative process.
    a. True
    b. False
34. Arrange the following interface design steps in correct order.
    i. Define interface objects and action
    ii. Define events
    iii. Depict each interface state
    iv. Indicate how the user interprets the state of the system

    a. i ii iii iv
    b. ii iv iii i
    c. i iv iii ii
    d. i iii ii iv
35. User Interface design process is defined by which model?
    a. Spiral model
    b. Waterfall model
    c. Iterative model
    d. None of above
36. Which interface design issue is based on user vocabulary?
    a. System response time
    b. User help facility
    c. Error Information Handling
    d. Command labeling
37. Which model is created by software implementers?
    a. User Model
    b. Design model
    c. Implementation model
    d. Mental model

38. What are elements of user interface
    a. Users
    b. Task
    c. Work environment
    d. All of above
39. Which of the following is not type of user?
    a. Navies
    b. Knowledgeable and intermittent users
    c. Knowledgeable and frequent users.
    d. System user
40. Which of the following is characteristic of system response time?
    a. Length
    b. Variability
    c. a and b both
    d. None of above
41. GUI stands for
    a. Graphical Universal Interface
    b. Graph Use Interface
    c. Graphical Unique Interface
    d. Graphical User Interface
42. Which of the following is not an advantage of GUI?
    a. Easy to learn and use
    b. Fast
    c. Interact with different applications
    d. Need more processing power
43. The reason for reducing the user's memory load is make his or her interaction with the computer quicker to complete.
    a. True
    b. False
44. If past interactive models have created certain user expectations it is not generally good to make changes to the model.
    a. True
    b. False
45. It is sometimes possible that the interface designer is constrained by environmental factors that mitigate against ease of use for many users
    a. True
    b. False
46. One means of defining user interface objects and actions is to conduct a grammatical parse of the user scenario.
    a. True

b. False

47. User Interface design pattern is(are)
    a. Progress indicator
    b. Wizard
    c. Shopping cart
    d. All of above
48. Which one of the following is not principle for consistent interface design?
    a. Allow user to direct the current task into meaningful manner
    b. Maintain consistency across family of product
    c. Don’t change previous standards
    d. Analysis of interface
49. User with good semantic as well as syntactic knowledge of the system is called as _____
    a. Knowledgeable and intermittent
    b. Knowledgeable and frequent
    c. Navice
    d. System user
50. CLI stands for
    a. Command Line Interface
    b. Command Line Interpreter
    c. Call Level Interface
    d. Calling Line Identity

Unit 6 Software scheduling and Risk management

1 Risk management is one of the most important jobs for a
   a. Client
   b. Investor
   c. Production team
   d. Project manager
2 CPM stands for
   a. Critical Path Method
   b. Critical Path Model
   c. Critical Project Model
   d. Critical Project Method
3 Which of the following risk is the failure of a purchased component to perform as expected?
   a. Product risk
   b. Project risk
   c. Business risk
   d. Programming risk
4 What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?
   a. Risk monitoring
   b. Risk planning
   c. Risk analysis
   d. Risk identification
5 Which of the following risks are derived from the organizational environment where the software is being developed?
   a. People risks
   b. Technology risks
   c. Estimation risks
   d. Organizational risks
6 Which of the following risks are derived from the software or hardware technologies that are used to develop the system?
   a. Managerial risks
   b. Technology risks
   c. Estimation risks
   d. Organizational risks
7 How many steps in risk management?
   a. 4
   b. 5
   c. 6
   d. 3

8 Which of the following strategies means that the impact of the risk will be reduced?
   a. Avoidance strategies
   b. Minimization strategies
   c. Contingency plans
   d. All of the above
9 Risk management is now recognized as one of the most important project management tasks.
   a. True
   b. False
10 What all has to be identified as per risk identification?
   a. Threats
   b Vulnerabilities
   c. Consequences
   d. All of the above
11 Which one is not a risk management activity?
   a. Risk assessment
   b. Risk generation
   c. Risk control
   d. None of the above
12 What threatens the quality and timeliness of the software to be produced?
   a. Known risks
   b. Business risks
   c. Project risks
   d. Technical risks
14 What threatens the viability of the software to be built?
   a. Known risks
   b. Business risks
   c. Project risks
   d. Technical risks
15 Which of the following is not a business risk?
   a. building an excellent product or system that no one really wants
   b. losing the support of senior management due to a change in focus or change in people
   c. lack of documented requirements or software scope
   d. losing budgetary or personnel commitment
19 For risk assessment, first each risk should be rated using
   a. The likelihood of a risk becoming real (r)
   b. The consequence of the problems associated with that risk (s)
   c. Both a and b
   d. None of above
20 Horizontal bar chart plotted over time (e.g. days, weeks or months) is called as
   a. Grantt chart

b. Pi chart
c. CMM
d. None of above

21 The objective of _____is to rank the risks in terms of their damage causing potential
a. Risk Assessment
b. Risk Control
c. Risk Ranking
d. None of the above

22 Risk containment strategies is(are)
a. Avoid risk
b. Transfer risk
c. Risk reduction
d. All of the above

24 Three categories of risks are
a. Business risks, personnel risks, budget risks
b. Project risks, technical risks, business risks
c. Planning risks, technical risks, personnel risks
d. Management risks, technical risks, design risks

25 Generic risks require far more attention than product-specific risks.
a. True
b. False

26 A risk item checklist would contain known and predictable risks from which of these categories?
a. product size
b. development environment
c. staff size
d. all of the above

27 Software risk impact assessment should focus on consequences affecting
a. planning, resources, cost, schedule
b. marketability, cost, personnel
c. business, technology, process
d. performance, support, cost, schedule

28 Risk projection attempts to rate each risk in two ways
a. likelihood and cost
b. likelihood and impact
c. likelihood and consequences
d. likelihood and exposure

29 Risk tables are sorted by
a. probability and cost
b. probability and impact

c. probability and consequences
d. probability and exposure

30 What is Risk?
a. Negative consequence that could occur
b. Negative consequence that will occur
c. Negative consequence that must occur
d. Negative consequence that shall occur

31 Risk Management is important part of a Project Management.
a. True
b. False

32 Software risk always involves two characteristics. What are those characteristics?
a. Uncertainty and Loss
b. Certainty and Profit
c. Staff size and Budget
d. Project Deadline and Budget

33 WBS stands for
a. Work breakdown structure
b. Work bandwidth structure
c. Work breakdown software
d. Work bandwidth software

34 Following is (are) the component(s) of risk management
a. Risk Assessment
b. Risk Control
c. Risk Ranking
d. All of above

35. The entire process of a project may be considered to be made up on number of sub process placed in different stage called the
a. Technical key resources
b. Work key structure
c. WBS
d. None of the above

36 The task (activity) network is a useful mechanism for
a. computing the overall effort estimate
b. detecting intertask dependencies
c. determining the critical path
d. b and c

37 Which of the following is not one of the guiding principles of software project scheduling:
a. market assessment
b. time allocation
c. effort validation

d. compartmentalization

38 Which type of project is not concern about

a. budgetary
b. personnel
c. implementation
d. schedule

39 What is a work breakdown structure?

a. A list of the activities making up the higher levels of the project
b. A definition of the hierarchy of project tasks, subtasks, and work packages
c. A depiction of the activities making up a project
d. A Gantt chart

40 Which of the following is not risk containment strategy?

a. Avoid the risk
b. Transfer the risk
c. Risk reduction
d. Risk analysis

41 Ensuring that no more than the allocated number of people are allocated at any given time in Software Scheduling is known as

a. Time Allocation
b. Effort Validation
c. Defined Milestone
d. Effort Distribution

42 Which of the following is a project scheduling method that can be applied to software development?

a. PERT
b. CPM
c. CMM
d. Both PERT and CPM

43 PERT stands for

a. Program evaluation and review technique
b. Project evaluation and review technique
c. Program evolution and recovery technique
d. Program evaluation and review technique

44. Which one of following is wrong for grantt chart.

a. It is simple to understand.
b. Easy to prepare, consume less resources.
c. Easy to develop and implement, no training is required.
d. Construct large and complex project

45. Shared slack in an activity network is defined as

a. the amount of time an activity can be delayed without delaying the entire project.

b. the amount of slack that an activity has in common with another activity.

c. the amount of unused resources for an activity.

d. the amount by which a time estimate can be in error without affecting the critical path computations.

46 A project usually has a timeline chart which was developed by

a. Henry gantt
b. Barry boehm
c. Ivar jacabson
d. None of above

47 Project scheduling is a project _____activity

a. Planning
b. Evolution
c. Controlling
d. Correction

48 Which chart is useful for project monitoring and control

a. PERT
b. Pi chart
c. CMM
d. None of above

49 Which one of risk is concern maintenance problem.

a. Business risk
b. Technical risk
c. Project risk
d. None of above

50 A critical path network diagram does NOT:

a. Identify the particularly important activities.
b. Calculate the duration of the whole project.
c. Calculate earned value.
d. Help determine the amount of float.