1. Which of the following is not the primary objectives in the analysis model?

a) describing the customer complaints

b) establishing a basis for the creation of a software design

c) defining a set of requirements that can be validated once the software is built

d) none of the mentioned

Answer: d

Explanation: All the options are covered in analysis model.

2. A description of each function presented in the DFD is contained in a _____

a) data flow

b) process specification

c) control specification

d) data store

Answer: b

3. Which diagram indicates the behaviour of the system as a consequence of external events?

a) data flow diagram

b) state transition diagram

c) control specification diagram

d) workflow diagram

Answer: b

Explanation: The state transition diagram represents the various modes of behavior (called states) of the system and the manner in which transitions are made from state to state.

4. A data model contains

a) data object

b) attributes

c) relationships

d) all of the mentioned

Answer: d

Explanation: The data model consists of three interrelated pieces of information: the data object,

the attributes that describe the data object, and the relationships that connect data objects to one another.

5. _____ defines the properties of a data object and take on one of the three different characteristics.

a) data object

b) attributes

c) relationships

d) data object and attributes

Answer: b

Explanation: They can be used to name an instance of the data object, describe the instance, or make reference to another instance in another table.

6. The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional.

a) modality

b) cardinality

c) entity

d) structured analysis

Answer: a

Explanation: The modality is 1 if an occurrence of the relationship is mandatory, else 0 for optional relationship.

7. 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 the mentioned

Answer: d

Explanation: These golden rules actually form the basis for a set of user interface design principles that guide this important software design activity.

8. 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

Answer: c

Explanation: The user interface should move the user into the virtual world of the application.

9. 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

Answer: c

Explanation: These are the end user for whom the product is being built.

10. A software might allow a user to interact via

a) keyboard commands

b) mouse movement

c) voice recognition commands

d) all of the mentioned

Answer: d

Explanation: All the mentioned input mediums are available today.

11. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

a) True

b) False

Answer: a

Explanation: The statement is true.

12. What combines the outward manifestation of the computer-based system , coupled with all supporting information that describe system syntax and semantics?

a) mental image

b) interface design

c) system image

d) interface validation

Answer: c

Explanation: When the system image and the system perception are coincident, users generally feel comfortable with the software and use it effectively.

13. Which of the following UML diagrams has a static view?

a) Collaboration

b) Use case

c) State chart

d) Activity

Answer: b

Explanation: A use case diagrams captures only the functionality of the system whereas a dynamic model/view captures the functions as well as the action.

14. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?

a) Sequence Diagram

b) Collaboration Diagram

c) Class Diagram

d) Object Diagram

Answer: d

Explanation: An object diagram focuses on some particular set of object instances and attributes, and the links between the instances. It is a static snapshot of a dynamic view of the system.

15. Structure diagrams emphasize the things that must be present in the system being modeled.

a) True

b) False

Answer: a

Explanation: Since structure diagrams represent the structure they are used extensively in documenting the architecture of software systems

16. Which of the following diagram is time oriented?

a) Collaboration

b) Sequence

c) Activity

d) None of the mentioned

Answer: b

Explanation: A sequence diagrams timeline along which tasks are completed.

17. Which of the following examples is/are models of application architectures?

a) a means of assessing components for reuse

b) a design checklist

c) a vocabulary for talking about types of applications

d) all of the mentioned

Answer: d

Explanation: Application architectures encapsulate the principal characteristics of a class of systems.

18. Which of the following is not included in failure costs?

a) rework

b) repair

c) failure mode analysis

d) none of the mentioned

Answer: d

Explanation: Failure costs are those that would disappear if no defects appeared before shipping a product to customers.

19. Which requirements are the foundation from which quality is measured?

a) Hardware

b) Software

c) Programmers

d) None of the mentioned

Answer: b

Explanation: Lack of conformance to requirements is lack of quality.

20. Degree to which design specifications are followed in manufacturing the product is called

a) Quality Control

b) Quality of conformance

c) Quality Assurance

d) None of the mentioned

Answer: b

21. Which of the following is not included in External failure costs?

a) testing

b) help line support

c) warranty work

d) complaint resolution

Answer: a

Explanation: External failure costs are associated with defects found after the product has been shipped to the customer.

22. The primary objective of formal technical reviews is to find _____ during the process so that they do not become defects after release of the software.

a) errors

b) equivalent faults

c) failure cause

d) none of the mentioned

Answer: a

Explanation: Errors lead to faults

23. Software quality assurance consists of the auditing and reporting functions of management.

a) True

b) False

Answer: a

24. Project management involves the planning, monitoring, and control of the people, process, and events that occur as software evolves from a preliminary concept to an operational implementation.

a) True

b) False

Answer: a

25. Which of the following is not an effective software project management focus?

a) people

b) product

c) popularity

d) process

Answer: c

Explanation: Effective software project management focuses on the four P's: people, product, process, and project.

26. Risk management is one of the most important jobs for a

a) Client

b) Investor

c) Production team

d) Project manager

Answer: d

Explanation: Risk management involves anticipating risks that might affect the project schedule or the quality of the software being developed, and then taking action to avoid these risks.

27. 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

Answer: a

Explanation: Risks that affect the quality or performance of the software being developed.

28. Which of the following term is best defined by the statement: "There will be a change of organizational management with different priorities."?

a) Staff turnover

b) Technology change

c) Management change

d) Product competition

Answer: c

29. Which of the following term is best defined by the statement: “The underlying technology on which the system is built is superseded by new technology.”?

a) Technology change

b) Product competition

c) Requirements change

d) None of the mentioned

Answer: a

Explanation: Technology changes are common in the competitive environment of software engineering.

30. Which of the following term is best defined by the statement: “Derive traceability information to maximize information hiding in the design.”?

a) Underestimated development time

b) Organizational restructuring

c) Requirements changes

d) None of the mentioned

Answer: c

Explanation: Tracing the requirements can help us understand the risk.

31. 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 mentioned

Answer: b

32. Which of the following is not project management goal?

a) Keeping overall costs within budget

b) Delivering the software to the customer at the agreed time

c) Maintaining a happy and well-functioning development team

d) Avoiding customer complaints

Answer: d

Explanation: Projects need to be managed because professional software engineering is always subject to organizational budget and schedule constraints.

33. Project managers have to assess the risks that may affect a project.

a) True

b) False

Answer: b

Explanation: Risk management involves anticipating risks that might affect the project schedule or the quality of the software being developed, and then taking action to avoid these risks.

34. Which of the following is not considered as a risk in project management?

a) Specification delays

b) Product competition

c) Testing

d) Staff turnover

Answer: c

Explanation: Testing is a part of project, thus it can’t be categorized as risk.

35. Quality planning is the process of developing a quality plan for

a) team

b) project

c) customers

d) project manager

Answer: b

Explanation: The quality plan should set out the desired software qualities and describe how these are to be assessed.

36. The Unified Modeling Language (UML) has become an effective standard for software modelling.How many different notations does it have ?

a) Three

b) Four

c) Six

d) Nine

Answer: d

Explanation: The different notations of UML includes the nine UML diagrams namely class, object, sequence, collaboration, activity, state-chart, component, deployment and use case diagrams.

37. Which model in system modelling depicts the dynamic behaviour of the system ?

a) Context Model

b) Behavioral Model

c) Data Model

d) Object Model

Answer: b

Explanation: Behavioral models are used to describe the dynamic behavior of an executing system. This can be modeled from the perspective of the data processed by the system or by the events that stimulate responses from a system.

38. Which model in system modelling depicts the static nature of the system ?

a) Behavioral Model

b) Context Model

c) Data Model

d) Structural Model

Answer: d

Explanation: Structural models show the organization and architecture of a system. These are used to define the static structure of classes in a system and their associations.

39. Which perspective in system modelling shows the system or data architecture.

a) Structural perspective

b) Behavioral perspective

c) External perspective

d) All of the mentioned

Answer: a

Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

40. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

a) True

b) False

Answer: b

Explanation: Model-driven engineering is an approach to software development in which a system is represented as a set of models that can be automatically transformed to executable code.

41. The UML supports event-based modeling using _____ diagrams.

a) Deployment

b) Collaboration

c) State chart

d) All of the mentioned

Answer: c

Explanation: State diagrams show system states and events that cause transitions from one state to another.

42. _____ and _____ are the two view points discussed in Controlled Requirements Expression (CORE).

a) Functional, Non-Functional

b) User, Developer

c) Known, Unknown

d) All of the mentioned

Answer: a

Explanation: The CORE sessions includes the discussion of functional and non-functional requirements.

43. Select the option that suits the Manifesto for Agile Software Development

a) Individuals and interactions

b) Working software

c) Customer collaboration

d) All of the mentioned

Answer:d

44. Agile Software Development is based on

a) Incremental Development

b) Iterative Development

c) Linear Development

d) Both Incremental and Iterative Development

Answer:d

Explanation: The software is developed in increments with the customer specifying the requirements to be included in each increment and the highest priority is to satisfy the customer through early and continuous delivery of valuable software. They are iterative because they work on one iteration followed by improvements in next iteration

45. Agility is defined as the ability of a project team to respond rapidly to a change.

a) True

b) False

Answer:b

Explanation: The aim of agile methods is to reduce overheads in the software process and to be able to respond quickly to changing requirements without excessive rework.

46. How is plan driven development different from agile development ?

a) Outputs are decided through a process of negotiation during the software development process

b) Specification, design, implementation and testing are interleaved

c) Iteration occurs within activities

d) All of the mentioned

Answer:c

Explanation: A plan-driven approach to software engineering is based around separate development stages with the outputs to be produced at each of these stages planned in advance.

47. How many phases are there in Scrum ?

a) Two

b) Three

c) Four

d) Scrum is an agile method which means it does not have phases

Answer:b

Explanation: There are three phases in Scrum.The initial phase is an outline planning phase followed by a series of sprint cycles and project closure phase.

48. Which of the following does not apply to agility to a software process?

a) Uses incremental product delivery strategy

b) Only essential work products are produced

c) Eliminate the use of project planning and testing

d) All of the mentioned

Answer:c

Explanation: Testing is a major part of each software development process which can’t be avoided.

49. Which three framework activities are present in Adaptive Software Development(ASD) ?

a) analysis, design, coding

b) requirements gathering, adaptive cycle planning, iterative development

c) speculation, collaboration, learning

d) all of the mentioned

Answer:c

50. In agile development it is more important to build software that meets the customers’ needs today than worry about features that might be needed in the future.

a) True

b) False

Answer:a