1. Which one of the following is not an Evolutionary Process Model?
a) WINWIN Spiral Model
b) Incremental Model
c) Concurrent Development Model
d) All of the mentioned
View Answer
Answer: d
Explanation: None.
2. The Incremental Model is a result of combination of elements of which two models?
a) Build & FIX Model & Waterfall Model
b) Linear Model & RAD Model
c) Linear Model & Prototyping Model
d) Waterfall Model & RAD Model
View Answer
Answer: c
Explanation: Each linear sequence produces a deliverable "increment" of the software and particularly when we have to quickly deliver a limited functionality system.
3. What is the major advantage of using Incremental Model?
a) Customer can respond to each increment
b) Easier to test and debug
c) It is used when there is a need to get a product to the market early
d) Easier to test and debug & It is used when there is a need to get a product to the market early
View Answer
Answer: d
Explanation: Incremental Model is generally easier to test and debug than other methods of software development because relatively smaller changes are made during each iteration and is popular particularly when we have to quickly deliver a limited functionality system.However, option "a" can be seen in other models as well like RAD model,hence option "d" answers the question.
4. The spiral model was originally proposed by
a) IBM
b) Barry Boehm
c) Pressman
d) Royce
View Answer
Answer: b
Explanation: None.
5. The spiral model has two dimensions namely _____ and _____
a) diagonal, angular
b) radial, perpendicular
c) radial, angular
d) diagonal, perpendicular
View Answer
Answer: c
Explanation: The radial dimension of the model represents the cumulative costs and the angular dimension represents the progress made in completing each cycle. Each loop of the spiral from X-axis clockwise through 360^{o} represents one phase.

6. How is WINWIN Spiral Model different from Spiral Model?
a) It defines tasks required to define resources, timelines, and other project related information
b) It defines a set of negotiation activities at the beginning of each pass around the spiral
c) It defines tasks required to assess both technical and management risks
d) It defines tasks required to construct, test, install, and provide user support
View Answer
Answer: b
Explanation: Except option “b” all other tasks/activities are present in Spiral Model as well.
7. Identify the disadvantage of Spiral Model.
a) Doesn’t work well for smaller projects
b) High amount of risk analysis
c) Strong approval and documentation control
d) Additional Functionality can be added at a later date
View Answer
Answer: a
Explanation: All other options are the advantages of Spiral Model.
8. Spiral Model has user involvement in all its phases.
a) True
b) False
View Answer
Answer: b
Explanation: None.
9. How is Incremental Model different from Spiral Model?
a) Progress can be measured for Incremental Model
b) Changing requirements can be accommodated in Incremental Model
c) Users can see the system early in Incremental Model
d) All of the mentioned
View Answer
Answer: a
Explanation: None.
10. If you were to create client/server applications, which model would you go for?
a) WINWIN Spiral Model
b) Spiral Model
c) Concurrent Model
d) Incremental Model
View Answer
Answer: c
Explanation: When applied to client/server applications, the concurrent process model defines activities in two dimensions: a system dimension and a component dimension.Thus Concurrency is achieved by system and component activities occurring simultaneously and can be modeled using the state-oriented approach.

1. Selection of a model is based on
a) Requirements
b) Development team & Users
c) Project type and associated risk
d) All of the mentioned
View Answer
Answer: d
Explanation: Each model has to have some requirements, a team of developers, users and the risk involved in developing a project.
2. Which two models doesn’t allow defining requirements early in the cycle?
a) Waterfall & RAD
b) Prototyping & Spiral
c) Prototyping & RAD
d) Waterfall & Spiral
View Answer
Answer: b
Explanation: Prototyping Model starts with a requirements analysis phase including techniques like FAST, QFD, Brainstorming.In case of Spiral model the first phase involves activities related to customer communication like determining objectives.
3. Which of the following life cycle model can be chosen if the development team has less experience on similar projects?
a) Spiral
b) Waterfall
c) RAD
d) Iterative Enhancement Model
View Answer
Answer: a
Explanation: Relying on risk assessment/analysis provides more flexibility than required for many applications which overcomes the criteria of less experienced developers.
4. If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select?
a) Waterfall
b) Spiral
c) RAD
d) Incremental
View Answer
Answer: c
Explanation: RAD model is inapplicable to develop cheaper

products/software/projects as the cost of modeling, hiring highly skilled developers/designers and automated code generation is very high.But here the cost is not an issue, so one can select this model as it reduces development time.

5. Which two of the following models will not be able to give the desired outcome if user's participation is not involved?

a) Waterfall & Spiral
b) RAD & Spiral
c) RAD & Waterfall
d) RAD & Prototyping

View Answer

Answer: d

Explanation: Active Participation of user is involved in all the four phases of RAD model and in case of the Prototyping model we need user's presence/involvement every time a new prototype is build or designed.

6. A company is developing an advance version of their current software available in the market, what model approach would they prefer ?

a) RAD
b) Iterative Enhancement
c) Both RAD & Iterative Enhancement
d) Spiral

View Answer

Answer: c

Explanation: None.

7. One can choose Waterfall Model if the project development schedule is tight.

a) True
b) False

View Answer

Answer: b

Explanation: Real projects rarely follow the sequential flow and iterations in this model are handled indirectly. This changes can cause confusion as the project proceeds thereby delaying the delivery date.

8. Choose the correct option from given below:

a) Prototyping Model facilitates reusability of components
b) RAD Model Model facilitates reusability of components
c) Both RAD & Prototyping Model facilitates reusability of components
d) None

View Answer

Answer: c
Explanation: None.
9. Spiral Model has high reliability requirements.
a) True
b) False
View Answer
Answer: a
Explanation: None.
10. RAD Model has high reliability requirements.
a) True
b) False
View Answer
Answer: b
Explanation: None.

1. Which of the following is not a diagram studied in Requirement Analysis ?
a) Use Cases
b) Entity Relationship Diagram
c) State Transition Diagram
d) Activity Diagram
View Answer
Answer: d
Explanation: Activity Diagram comes under the design phase of SDLC.
2. How many feasibility studies is conducted in Requirement Analysis ?
a) Two
b) Three
c) Four
d) None of the mentioned
View Answer
Answer: b
Explanation: Economic feasibility (cost/benefit analysis), Technical feasibility (hardware/software/people, etc.) and Legal feasibility studies are done in Requirement Analysis.
3. How many phases are there in Requirement Analysis ?
a) Three
b) Four
c) Five
d) Six
View Answer

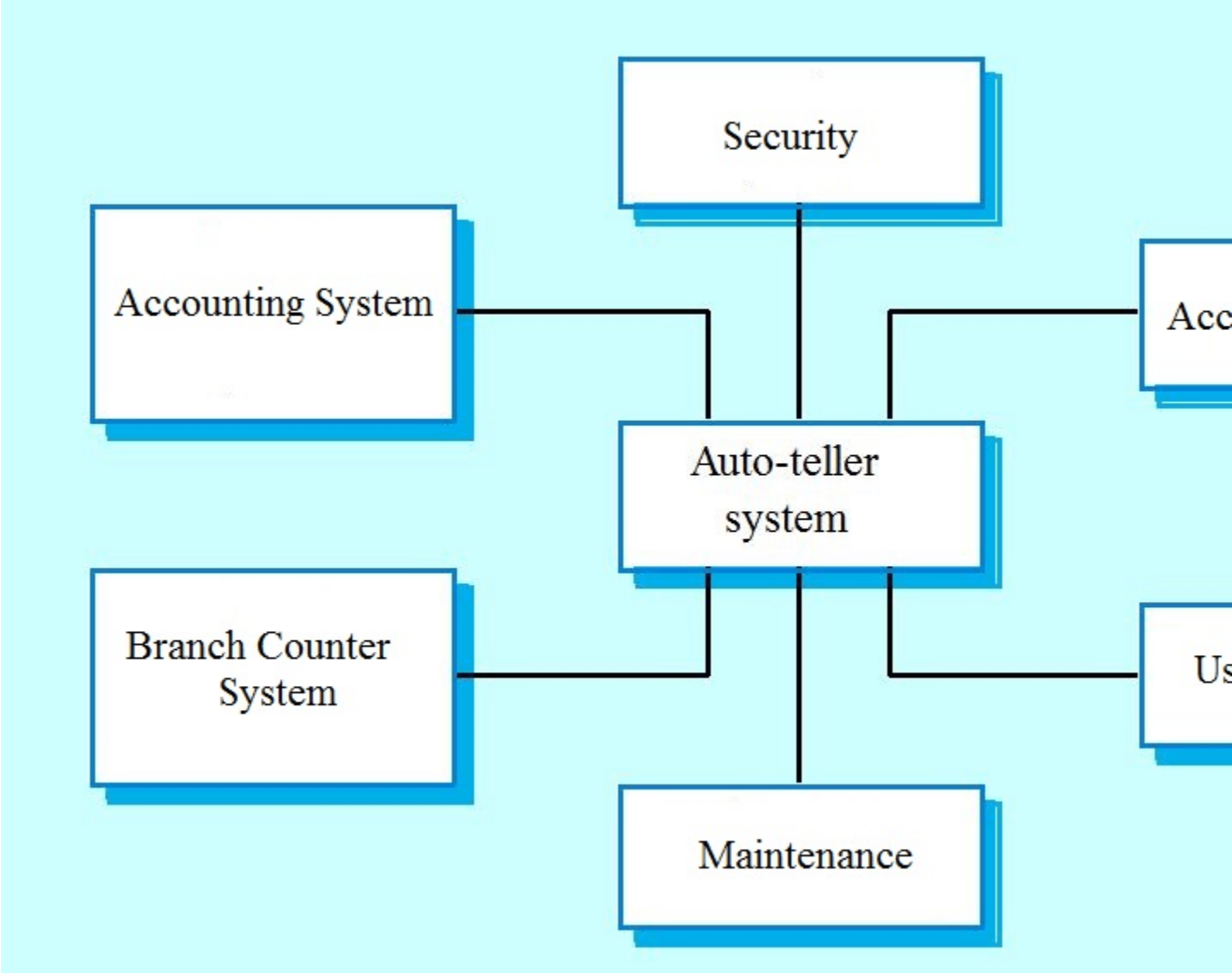
Answer: c
Explanation: Problem Recognition, Evaluation and Synthesis (focus is on what not how), Modeling, Specification and Review are the five phases.
4. Traceability is not considered in Requirement Analysis.
a) True
b) False
View Answer
Answer: b
Explanation: Requirements traceability is concerned with documenting the life of a requirement and providing bi-directional traceability between various associated requirements, hence requirements must be traceable.
5. Requirements analysis is critical to the success of a development project.
a) True
b) False
c) Depends upon the size of project
d) None of the mentioned
View Answer
Answer: a
Explanation: Requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

6. _____ and _____ are the two issues of Requirement Analysis.
a) Performance, Design
b) Stakeholder, Developer
c) Functional, Non-Functional
d) None of the mentioned
View Answer
Answer: b
Explanation: Option a and c are the types of requirements and not the issues of requirement analysis..
7. The requirements that result from requirements analysis are typically expressed from one of three perspectives or views.WhaT is that perspective or view ?
a) Developer
b) User
c) Non-Functional
d) Physical
View Answer
Answer: d
Explanation: The perspectives or views have been described as the

Operational, Functional, and Physical views.All three are necessary and must be coordinated to fully understand the customers' needs and objectives.
8. Requirements Analysis is an Iterative Process.
a) True
b) False
View Answer
Answer: a
Explanation: Requirements analysis is conducted iteratively with functional analysis to optimize performance requirements for identified functions, and to verify that synthesized solutions can satisfy customer requirements.
9. Coad and Yourdon suggested _____ selection characteristics that should be used as an analyst considers each potential object for inclusion in the requirement analysis model.
a) Three
b) Four
c) Five
d) Six
View Answer
Answer: d
Explanation: Retained information, Needed services, Multiple attributes, Common attributes, Common operations and Essential requirements are the six criterion mentioned by Coad and Yourdon.
10. Requirements should specify 'what' but not 'how'.
a) True
b) False
View Answer
Answer: a
Explanation: 'What' refers to a system's purpose, while 'How' refers to a system's structure and behavior
1. 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
View Answer
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.

2. Which model in system modelling depicts the dynamic behaviour of the system ?
a) Context Model
b) Behavioral Model
c) Data Model
d) Object Model
View Answer
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.
3. Which model in system modelling depicts the static nature of the system ?
a) Behavioral Model
b) Context Model
c) Data Model
d) Structural Model
View Answer
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.
4. 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
View Answer
Answer: a
Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

5. Which system model is being depicted by the ATM operations shown below:



a) Structural model
b) Context model
c) Behavioral model
d) Interaction model
View Answer
Answer: b
Explanation: Context models are used to illustrate the operational context of a system.They show what lies outside the system boundaries.
6. Activity diagrams are used to model the processing of data.
a) True
b) False
View Answer

Answer: a
Explanation: The statement mentioned is true and each activity represents one process step.
7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.
a) True
b) False
View Answer
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.
8. The UML supports event-based modeling using _____ diagrams.
a) Deployment
b) Collaboration
c) State chart
d) All of the mentioned
View Answer
Answer: c
Explanation: State diagrams show system states and events that cause transitions from one state to another
1. The two dimensions of spiral model are
a) diagonal, angular
b) radial, perpendicular
c) radial, angular
d) diagonal, perpendicular
View Answer
Answer: c
Explanation: The radial dimension depicts the cumulative costs and the angular dimension depicts the progress made in completing each cycle. Each loop of the spiral model represents a phase.
2. The Incremental Model is combination of elements of
a) Build & FIX Model & Waterfall Model
b) Linear Model & RAD Model
c) Linear Model & Prototyping Model
d) Waterfall Model & RAD Model
View Answer
Answer: c
Explanation: Each linear sequence produces a deliverable “increment” of the software system, particularly needed in case of quick delivery of a limited functionality system..

3. Model preferred to create client/server applications is
a) WINWIN Spiral Model
b) Spiral Model
c) Concurrent Model
d) Incremental Model
View Answer
Answer: c
Explanation: In case of client/server applications, the concurrent process model specifies activities in two dimensions: a system dimension and a component dimension. Hence Concurrency is achieved by these two activities occurring simultaneously and can be modeled using the state-oriented approach.
4. Identify the correct statement with respect to Evolutionary development:
a) Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping
b) Very large projects are usually done using evolutionary development based approach
c) It facilitates easy project management, through the high volume of documentation it generates
d) Sometimes the construction of a throw-away prototype is not followed by a re- implementation of the software system using a more structured approach
View Answer
Answer: a
Explanation: Evolutionary development usually has two flavors; exploratory development, and
throw-away prototyping.
5. Spiral model was developed by
a) Victor Bisili
b) Berry Boehm
c) Bev Littlewood
d) Roger Pressman
View Answer
Answer: b
Explanation: Berry Boehm in 1986 in his Article “A spiral model of software development and enhancement”.

6. Software evolution does not comprises:
a) Development activities
b) Negotiating with client
c) Maintenance activities

d) Re-engineering activities
View Answer
Answer: b
Explanation: Software evolution refers to the study and management of the process of making changes to software over time. Thus it comprises rest three options.
7. Processes for evolving a software product depend on:
a) Type of software to be maintained
b) Development processes used
c) Skills and experience of the people involved
d) All of the mentioned
View Answer
Answer: d
Explanation: Processes used for software evolution depend on all these factors.
8. Which technique is applied to ensure the continued evolution of legacy systems ?
a) Forward engineering
b) Reverse Engineering
c) Reengineering
d) Reverse Engineering and Reengineering
View Answer
Answer: d
Explanation: Processes used for software evolution depend rely on these two techniques.
9. Program modularization and Source code translation are the activities of_____
a) Forward engineering
b) Reverse Engineering
c) Reengineering
d) Reverse Engineering and Reengineering
View Answer
Answer: c
Explanation: Reengineering is the examination and alteration of a subject system to reconstitute it in a new form and the subsequent implementation of the new form.
10. Reverse engineering is the last activity in a reengineering project.
a) True
b) False
View Answer

Answer: b
Explanation: Reverse engineering is often the initial activity in a reengineering project.
11. The cost of re-engineering is often significantly less than the costs of developing new software.
a) True
b) False
View Answer
Answer: a
Explanation: There is a high risk in new software development. There may be development problems, staffing problems and specification problems, thereby increasing the cost.
1. How many stages are there in Risk-driven requirements specification?
a) three
b) four
c) five
d) six
View Answer
Answer: b
Explanation: These include Risk identification, Risk analysis, Risk reduction and Risk decomposition
2. Consider a case where the system is unavailable and cannot deliver its services to users. What type of failure is being described here?
a) Loss of service
b) Incorrect service delivery
c) System/data corruption
d) None of the mentioned
View Answer
Answer: a
Explanation: One may separate this into loss of critical services and loss of non-critical services, where the consequences of a failure in non-critical services are less than the consequences of critical service failure.
3. Consider a case where the failure of the system causes damage to the system itself or it data. What type of failure is being described here?
a) Loss of service
b) Incorrect service delivery
c) System/data corruption
d) None of the mentioned
View Answer
Answer: c
Explanation: None.

4. POFOD stands for
a) Possibility of failure of data
b) Probability of failure of data
c) Possibility of failure on demand
d) Probability of failure on demand
View Answer
Answer: d
Explanation: None.
5. Which reliability metric sets out the probable number of system failures that are likely to be observed relative to a certain time period?
a) POFOD
b) ROCOF
c) AVAIL
d) None of the mentioned
View Answer
Answer: b
Explanation: Rate of occurrence of failures (ROCOF) sets out the probable number of system failures that are likely to be observed relative to the number of system executions.

6. Which of the following is not a functional reliability requirement for a system?
a) Checking requirements
b) Recovery requirements
c) Redundancy requirements
d) Ambiguous requirements
View Answer
Answer: d
Explanation: All the options are correct except option d.
7. To specify security requirements, one should identify the risks that are to be dealt with.
a) True
b) False
View Answer
Answer: b
Explanation: To specify security requirements, one should identify the assets that are to be dealt with.
8. The aim of preliminary risk analysis and assessment process is to derive security requirements for the system as a whole.
a) True

b) False
View Answer
Answer: a
Explanation: In preliminary risk analysis stage, decisions on the detailed system requirements, the system design, or the implementation technology have not been made.
9. At which stage of risk analysis specification, the additional security requirements take account of the technologies used in building the system and system design and implementation decisions?
a) Preliminary risk analysis
b) Life-cycle risk analysis
c) Operational risk analysis
d) All of the mentioned
View Answer
Answer: b
Explanation: This risk assessment takes place during the system development life cycle after design choices have been made..
10. Which reliability requirements are concerned with maintaining copies of the system?
a) Checking requirements
b) Recovery requirements
c) Redundancy requirements
d) Ambiguous requirements
View Answer
Answer: b
Explanation: These requirements are geared to helping the system recover after a failure has occurred.

1. Which is the first step in the software development life cycle ?
a) Analysis
b) Design
c) Problem/Opportunity Identification
d) Development and Documentation
View Answer
Answer: c
Explanation: None.
2. Which tool is use for structured designing ?
a) Program flowchart
b) Structure chart
c) Data-flow diagram

d) Module
View Answer
Answer: b
Explanation: A Structure Chart (SC) in software engineering and organizational theory, is a chart which shows the breakdown of a system to its lowest manageable levels.
3. A step by step instruction used to solve a problem is known as
a) Sequential structure
b) A List
c) A plan
d) An Algorithm
View Answer
Answer: d
Explanation: None.
4. In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.
a) documentation
b) flowchart
c) program specification
d) design
View Answer
Answer: c
Explanation: Program specification is the definition of what a computer program is expected to do.
5. Actual programming of software code is done during the _____ step in the SDLC.
a) Maintenance and Evaluation
b) Design
c) Analysis
d) Development and Documentation
View Answer
Answer: d
Explanation: The developer has to find in the technical documentation enough information to start coding.

6. Who designs and implement database structures.
a) Programmers
b) Project managers
c) Technical writers
d) Database administrators
View Answer

Answer: d
Explanation: The role of database administrators includes the development and design of database strategies, system monitoring and improving database performance and capacity, and planning for future expansion requirements.
7. _____ is the process of translating a task into a series of commands that a computer will use to perform that task.
a) Project design
b) Installation
c) Systems analysis
d) Programming
View Answer
Answer: d
Explanation: None.
8. Debugging is:
a) creating program code
b) finding and correcting errors in the program code
c) identifying the task to be computerized
d) creating the algorithm
View Answer
Answer: b
Explanation: Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected.
9. In Design phase, which is the primary area of concern ?
a) Architecture
b) Data
c) Interface
d) All of the mentioned
View Answer
Answer: d
Explanation: Part of the design phase is to create structural and behavioral models of the system which is covered by architecture, data and the interface of the product.
10. The importance of software design can be summarized in a single word which is:
a) Efficiency
b) Accuracy
c) Quality
d) Complexity
View Answer

Answer: c
Explanation: Software functional quality reflects how well it complies with or conforms to a given design, based on functional requirements or specifications.
11. Cohesion is a qualitative indication of the degree to which a module
a) can be written more compactly
b) focuses on just one thing
c) is able to complete its function in a timely manner
d) is connected to other modules and the outside world
View Answer
Answer: b
Explanation: Cohesion of a single module/component is the degree to which its responsibilities form a meaningful unit.
12. Coupling is a qualitative indication of the degree to which a module
a) can be written more compactly
b) focuses on just one thing
c) is able to complete its function in a timely manner
d) is connected to other modules and the outside world
View Answer
Answer: d
Explanation: Coupling between modules/components is their degree of mutual interdependence.
1. Choose the option that does not define Function Oriented Software Design.
a) It consists of module definitions
b) Modules represent data abstraction
c) Modules support functional abstraction
d) None of the mentioned
View Answer
Answer:b
Explanation: Option b defines an Object Oriented Design.
2. Which of the following is a complementary approach to function-oriented approach ?
a) Object oriented analysis
b) Object oriented design
c) Structured approach
d) Both Object oriented analysis and design
View Answer
Answer:d
Explanation: None.
3. Function-oriented design techniques starts with functional requirements specified in

a) SDD
b) SRS
c) All of the mentioned
d) None of the mentioned
View Answer
Answer:b
Explanation: None.
4. Structured Analysis is based on the principles of
a) Top-down decomposition approach
b) Divide and conquer principle
c) Graphical representation of results using DFDs
d) All of the mentioned
View Answer
Answer:d
Explanation: None.
5. Which of the following is/are true with respect to functions ?
a) A function such as “search-book” is represented using a circle
b) Functions represent some activity
c) Function symbol is known as a process symbol or a bubble in DFD
d) All of the mentioned
View Answer
Answer:d
Explanation: All the options are correct with respect to Function Oriented Software Design.

6. Which of the following is not a use of a CASE tool ?
a) Support structured analysis and design (SA/SD)
b) Maintains the data dictionary
c) Checks whether DFDs are balanced or not
d) It complies with the available system
View Answer
Answer:d
Explanation: It takes long time to establish the system in order to comply with the available system.
7. What DFD notation is represented by the Rectangle?
a) Transform
b) Data Store
c) Function
d) None of the mentioned
View Answer

Answer:b
Explanation: None.
8. Structural decomposition is concerned with function calls.
a) True
b) False
View Answer
Answer:a
Explanation: Structural decomposition is concerned with developing a model of the design which shows the dynamic structure.
9. A function-oriented design focuses on the entities in the system rather than the data processing activities.
a) True
b) False
View Answer
Answer:b
Explanation: It is an object oriented design which focus on entities.
10. In DFDs, user interactions with the system is denoted by
a) Circle
b) Arrow
c) Rectangle
d) Triangle
View Answer
Answer:a
Explanation: None.
1. How many layers are present in the OO design pyramid?
a) three
b) four
c) five
d) one
View Answer
Answer: b
Explanation: The four layers are: Subsystem layer, class and object layer, message layer and responsibilities layer
2. Which of the following early OOD methods incorporates both a “micro development process” and a “macro development process.” ?
a) Booch method
b) Rumbaugh method
c) Wirfs-Brock method
d) Coad and Yourdon method
View Answer

Answer: a
Explanation: The macro development process includes the architectural planning and micro developments process defines rules that govern the use of operations and attributes and the domain-specific
policies for memory management, error handling, and other infrastructure functions.
3. Grady Booch, James Rumbaugh, and Ivar Jacobson combined the best features of their individual object-oriented analysis into a new method for object oriented design known as
a) HTML
b) XML
c) UML
d) SGML
View Answer
Answer: c
Explanation: The Unified Modeling Language (UML) has become widely used throughout the industry as the standard approach to OOD.
4. A design description of an object is known as a class
a) instance
b) object
c) case
d) both instance and object
View Answer
Answer: d
Explanation: None.

5. Which of the following is conceptually similar to objects?
a) PACKAGE
b) PROC
c) PRIVATE
d) None of the mentioned
View Answer
Answer: a
Explanation: A package is a namespace that organizes a set of related classes and interfaces.
6. A design description in OOD includes
a) Protocol Description
b) Implementation Description
c) Type Description
d) both Protocol and Implementation Description
View Answer

Answer: d
Explanation: None.
7. Which of the following is not an operation as per OOD algorithms and data structures?
a) operations that manipulate data in some way
b) operations that perform a computation
c) operations that check for syntax errors
d) operations that monitor an object for the occurrence of a controlling event
View Answer
Answer: c
Explanation: Operations that check for syntax errors is concerned with the programming language used, so it will be handled by the compiler.
8. Throughout the OOD process, a software engineer should look for every opportunity for creating new design process.
a) True
b) False
View Answer
Answer: b
Explanation: A software engineer should look for every opportunity to reuse existing design patterns whenever they meet the needs of the design rather than creating new ones.