1 What is the primary goal of software engineering?
(A) Writing code quickly
(B) Reducing software cost and improving quality ✓
(C) Making software complex
(D) Ignoring software maintenance

2 Why is software engineering important?
(A) It helps develop software in a cost-effective manner ✓
(B) It eliminates the need for software testing
(C) It increases software complexity
(D) It reduces user involvement

3 Which of the following is NOT an objective of software engineering?
(A) Maintainability
(B) Reusability
(C) Complexity ✓
(D) Efficiency

4 Which factor makes software engineering necessary?
(A) Increasing demand for high-quality software ✓
(B) Decreasing hardware cost
(C) Less focus on documentation
(D) Limited need for software updates

5 What does software engineering aim to improve?
(A) Only the design phase
(B) The entire software development lifecycle ✓
(C) Only testing and debugging
(D) Only software deployment

6 What is a major challenge in software engineering?
(A) Writing more code
(B) Managing large-scale software projects efficiently ✓
(C) Avoiding automation
(D) Removing software testing

7 Which aspect of software engineering ensures software can be easily modified in the future?
(A) Portability
(B) Maintainability ✓
(C) Efficiency
(D) Documentation

8 Why is software engineering needed in large-scale projects?
(A) It helps in project management and quality control ✓

(B) It reduces the need for skilled developers

(C) It removes the need for testing

(D) It focuses only on coding

9 **Which software engineering principle focuses on reducing software complexity?**

(A) Modularity ✓

(B) Ignorance

(C) Code repetition

(D) Lack of documentation

10 **Which of the following is NOT a benefit of software engineering?**

(A) Better software reliability

(B) Increased software complexity ✓

(C) Improved software maintainability

(D) Faster software development

11 **What ensures that software meets customer requirements?**

(A) Software development process ✓

(B) Ignoring user feedback

(C) Writing code without testing

(D) Increasing software complexity

12 **What is a key advantage of software engineering?**

(A) Reduces cost and improves efficiency ✓

(B) Increases project delays

(C) Reduces software reliability

(D) Ignores testing

13 **Why is documentation important in software engineering?**

(A) It helps in software maintenance and understanding ✓

(B) It increases development time unnecessarily

(C) It reduces team collaboration

(D) It makes software development more complex

14 **Software engineering ensures that software is:**

(A) Difficult to update

(B) High-quality and maintainable ✓

(C) More expensive

(D) Harder to test

15 **What is an important principle of software engineering?**

(A) Following structured development processes ✓

(B) Avoiding software testing

(C) Ignoring software documentation

(D) Increasing software complexity

16 **What role does software testing play in software engineering?**

(A) It ensures the software works as expected ✅

(B) It slows down development

(C) It makes software more complex

(D) It is not necessary

17 **Why is reusability important in software engineering?**

(A) It reduces development effort ✅

(B) It increases cost

(C) It reduces software quality

(D) It makes debugging harder

18 **What is a key advantage of modularity in software engineering?**

(A) Simplifies debugging and maintenance ✅

(B) Increases project complexity

(C) Makes software difficult to scale

(D) Reduces team collaboration

19 **What is the purpose of software project management?**

(A) To ensure software is delivered on time and within budget ✅

(B) To increase software cost

(C) To reduce team collaboration

(D) To make the project more complex

20 **What ensures software remains useful over time?**

(A) Software maintenance ✅

(B) Ignoring software issues

(C) Reducing testing efforts

(D) Not updating software

21 **Which of the following is NOT a software development lifecycle model?**

(A) Waterfall Model

(B) Spiral Model

(C) V-Model

(D) Python Model ✅

22 **Which lifecycle model follows a linear, sequential flow?**

(A) Agile Model

(B) Waterfall Model ✅

(C) Spiral Model

(D) Incremental Model

23 **In which SDLC model do we get working software at the end of each iteration?**

(A) Waterfall Model

(B) Spiral Model

(C) Agile Model ✓

(D) V-Model

24 The Spiral Model is best suited for:

(A) Small projects

(B) Medium-risk projects

(C) High-risk projects ✓

(D) Projects without a defined scope

25 Which lifecycle model emphasizes risk analysis at every stage?

(A) Waterfall Model

(B) Spiral Model ✓

(C) V-Model

(D) Agile Model

26 Which SDLC model is also called the "Verification and Validation Model"?

(A) Spiral Model

(B) V-Model ✓

(C) Agile Model

(D) Prototype Model

27 Which SDLC model provides flexibility in changing requirements?

(A) Waterfall Model

(B) Agile Model ✓

(C) V-Model

(D) Spiral Model

28   In the Waterfall Model, testing is done:

(A) After implementation ✓

(B) Before implementation

(C) Continuously

(D) Parallel to coding

29 Which of the following is NOT a phase in SDLC?

(A) Requirement Analysis

(B) Coding

(C) Testing

(D) Customer Feedback ✓

30 What is the primary advantage of the Incremental Model?

(A) Faster delivery of software ✓

(B) High risk of failure

(C) No user involvement

(D) No testing

31   What is the first step in Requirements Engineering?
(A) Requirements Specification
(B) Requirements Analysis
(C) Requirements Elicitation ✓
(D) Requirements Validation

32   Which of the following is NOT a requirement type?
(A) Functional
(B) Non-functional
(C) Business
(D) Waterfall ✓

33   Which of the following is a functional requirement?
(A) Security standards
(B) System should process customer orders ✓
(C) Response time should be less than 2 seconds
(D) User interface should be simple

34   Non-functional requirements focus on:
(A) What the system should do
(B) How the system should perform ✓
(C) Implementation details
(D) Database design

35   Which of the following is NOT a requirement gathering technique?
(A) Interviews
(B) Surveys
(C) Prototyping
(D) Testing ✓

36   What is the purpose of requirements validation?
(A) Ensure requirements are correct and complete ✓
(B) Convert requirements into design
(C) Implement requirements in software
(D) Ignore conflicting requirements

37   What is scope creep in requirements engineering?
(A) Keeping project requirements fixed
(B) Uncontrolled changes in project requirements ✓
(C) A type of validation technique
(D) A database design issue

38   What is the result of the requirements engineering process?
(A) Software code

(B) System design

(C) Software Requirement Specification (SRS) ✅

(D) Test cases

39 **Which document is prepared after requirement gathering?**

(A) Software Design Document

(B) Software Requirement Specification (SRS) ✅

(C) Test Plan

(D) Source Code

40 **Which requirement engineering phase checks for conflicts in requirements?**

(A) Requirements Elicitation

(B) Requirements Analysis ✅

(C) Requirements Specification

(D) Coding

41 **Which of the following best describes the Waterfall Model?**

(A) Iterative process

(B) Linear sequential flow ✅

(C) Risk-based model

(D) Parallel development

42 **How many phases are there in the traditional Waterfall Model?**

(A) 3

(B) 5

(C) 6 ✅

(D) 7

43 **In the Waterfall Model, testing is performed:**

(A) After implementation ✅

(B) Before implementation

(C) Continuously

(D) Parallel to coding

44 **What is the main drawback of the Waterfall Model?**

(A) Allows changes at any phase

(B) High flexibility

(C) No feedback loop, making changes difficult ✅

(D) Encourages continuous delivery

45 **The Waterfall Model is best suited for:**

(A) Small projects with well-defined requirements ✅

(B) Large complex projects

(C) Agile development

(D) High-risk projects

46 **Which of the following is NOT a phase in the Waterfall Model?**
(A) Requirement analysis
(B) Implementation
(C) Customer Feedback ✓
(D) Testing

47 **The Waterfall Model follows a:**
(A) Top-down approach ✓
(B) Bottom-up approach
(C) Spiral approach
(D) Circular approach

48 **Why is the Waterfall Model considered a risky choice?**
(A) Allows too many changes
(B) Late testing leads to high defect fixing costs ✓
(C) Poor documentation
(D) Encourages Agile practices

49 **What happens if an error is found in an early phase of the Waterfall Model?**
(A) It can be fixed in the same phase
(B) The process moves back to the previous phase ✓
(C) The project is restarted
(D) Testing is skipped

50 **The biggest disadvantage of the Waterfall Model is:**
(A) Flexibility
(B) Rigidity and late feedback ✓
(C) High cost
(D) Lack of documentation

51 **The Spiral Model is best suited for:**
(A) Small projects
(B) Medium-risk projects
(C) Large, high-risk projects ✓
(D) Agile development

52 **The Spiral Model was proposed by:**
(A) Barry Boehm ✓
(B) Winston Royce
(C) Kent Beck
(D) Jeff Sutherland

53 **The Spiral Model is based on:**
(A) Risk assessment ✓
(B) Continuous delivery

(C) Customer involvement

(D) Fixed phases

54   How many phases are there in the Spiral Model?

(A) 2

(B) 3

(C) 4 ✅

(D) 5

55   In the Spiral Model, each loop represents:

(A) A new project

(B) A software release

(C) A phase of software development ✅

(D) A testing cycle

56   Which is NOT an advantage of the Spiral Model?

(A) Risk management

(B) Flexible to requirement changes

(C) Cost-effective for small projects ✅

(D) Continuous refinement

57   The four phases of the Spiral Model are:

(A) Planning, Design, Implementation, Testing

(B) Planning, Risk Analysis, Development, Evaluation ✅

(C) Requirements, Design, Coding, Testing

(D) Initiation, Design, Deployment, Review

58   The Spiral Model is a combination of:

(A) Waterfall and Prototype Model ✅

(B) Agile and Waterfall Model

(C) Incremental and V-Model

(D) Scrum and Kanban

59   What is the main disadvantage of the Spiral Model?

(A) High flexibility

(B) Time-consuming and expensive ✅

(C) Not suitable for large projects

(D) No risk assessment

60   Why is risk management important in the Spiral Model?

(A) To reduce project delays ✅

(B) To avoid testing

(C) To ignore requirement changes

(D) To skip phases

61   Evolutionary Prototyping is best for:

(A) Projects with unclear requirements ✅

(B) Large fixed projects

(C) Projects with no user involvement

(D) Waterfall Model

62   What is the main goal of Evolutionary Prototyping?

(A) Quick final product

(B) Early customer feedback ✓

(C) Avoid user involvement

(D) Skip documentation

63   Which of the following is NOT a type of prototyping?

(A) Throwaway

(B) Evolutionary

(C) Incremental

(D) Waterfall ✓

64   The biggest advantage of prototyping is:

(A) No requirement changes

(B) Early detection of design issues ✓

(C) Rigid development process

(D) No user feedback

65   What happens to the prototype in Evolutionary Prototyping?

(A) It is discarded

(B) It is gradually improved into the final product ✓

(C) It is never used

(D) It is tested only once

66   Which step is NOT part of the prototyping process?

(A) Identify requirements

(B) Build a prototype

(C) Skip user feedback ✓

(D) Improve prototype

67   A disadvantage of Evolutionary Prototyping is:

(A) High cost due to multiple revisions ✓

(B) No flexibility

(C) No user involvement

(D) Less iterative

68   Why is prototyping useful in UI/UX design?

(A) To avoid coding

(B) To get early user feedback ✓

(C) To skip testing

(D) To finalize the project early

69   When should prototyping be used?

(A) When requirements are well-defined

(B) When requirements are uncertain ✓

(C) When cost is low

(D) When using the Waterfall Model

70 What is a throwaway prototype?

(A) A prototype used as the final product

(B) A temporary prototype discarded after use ✓

(C) A prototype with no improvements

(D) A test phase

71   The Agile Model focuses on:

(A) Fixed phases

(B) Continuous feedback and iteration ✓

(C) Waterfall development

(D) Risk assessment

72   Which of the following is NOT an Agile methodology?

(A) Scrum

(B) Kanban

(C) Waterfall ✓

(D) Extreme Programming (XP)

73   Agile development delivers software:

(A) At the end of the project

(B) In small, incremental releases ✓

(C) With no testing

(D) Without user involvement

74 Agile promotes:

(A) Strict documentation

(B) Responding to change ✓

(C) Rigid processes

(D) No planning

75 Which is a key principle of Agile?

(A) Customer collaboration ✓

(B) No iteration

(C) Single-phase development

(D) Waterfall approach

76   Agile methodology is best for:

(A) Large, unchanging projects

(B) Projects with evolving requirements ✓

(C) Small personal projects

(D) Waterfall-based projects

77   Agile teams should be:
(A) Large and structured
(B) Small and self-organizing ✓
(C) Hierarchical
(D) Isolated from customers

78   What is a Sprint in Scrum?
(A) A testing phase
(B) A short development cycle ✓
(C) A final release
(D) A planning session

79   Agile prioritizes:
(A) Working software over documentation ✓
(B) Strict processes
(C) One-time release
(D) No user feedback

80   Which Agile framework uses a Kanban board?
(A) Scrum
(B) Kanban ✓
(C) Spiral
(D) Prototype

81   What are functional requirements?
(A) How the system should perform
(B) Specific behaviors or functions of a system ✓
(C) Constraints on the system
(D) The programming language used

82   Non-functional requirements specify:
(A) System behavior
(B) User interface details
(C) Constraints like performance, security, and usability ✓
(D) Software modules

83   Which of the following is an example of a functional requirement?
(A) The system must load within 2 seconds
(B) The user should be able to reset their password ✓
(C) The system should support 1,000 users concurrently
(D) The system should be secure

84   Non-functional requirements are also known as:
(A) System requirements
(B) Quality attributes ✓

(C) Use case scenarios

(D) Functional specifications

85 **Which of the following is NOT a non-functional requirement?**

(A) Security

(B) Maintainability

(C) User authentication ✅

(D) Performance

86 **The statement "The system shall support 10,000 transactions per second" is an example of:**

(A) A functional requirement

(B) A non-functional requirement ✅

(C) A user requirement

(D) A constraint

87 **Functional requirements define:**

(A) What a system should do ✅

(B) How a system should do it

(C) The hardware specifications

(D) The documentation structure

88 **The usability of a system is classified under:**

(A) Functional requirements

(B) Non-functional requirements ✅

(C) User stories

(D) Use case diagrams

89 **Which non-functional requirement is related to system recovery after failure?**

(A) Performance

(B) Security

(C) Reliability ✅

(D) Usability

90 **Which of these requirements cannot be tested directly?**

(A) Functional requirements

(B) Non-functional requirements ✅

(C) User requirements

(D) System requirements

91 **User requirements focus on:**

(A) Technical specifications

(B) High-level descriptions of user needs ✅

(C) Database models

(D) Hardware configurations

92 **System requirements describe:**
(A) The user's high-level needs
(B) Detailed technical specifications ✓
(C) The budget of the project
(D) The team structure

93 **Who is responsible for defining user requirements?**
(A) Developers
(B) Testers
(C) Stakeholders and end users ✓
(D) Database administrators

94 **System requirements are divided into:**
(A) Software and hardware requirements ✓
(B) Usability and security
(C) Business and technical
(D) Functional and non-functional

95 **Which is an example of a system requirement?**
(A) The user should be able to send messages
(B) The system should be available 24/7 ✓
(C) Users must log in using an email address
(D) The software should support multiple languages

96 **Which document contains system and user requirements?**
(A) Test Plan
(B) Software Requirements Specification (SRS) ✓
(C) Deployment Guide
(D) Project Budget

97 **User requirements should be written in:**
(A) Technical language
(B) Business-oriented language ✓
(C) Programming syntax
(D) Database structures

98 **Which of the following is NOT part of system requirements?**
(A) Network requirements
(B) Performance constraints
(C) Business goals ✓
(D) Security specifications

99 **What type of requirement is "The system shall allow users to upload profile pictures"?**
(A) Functional requirement ✓
(B) Non-functional requirement

(C) System requirement

(D) Business requirement

100 **Which tool is commonly used to gather user requirements?**

(A) UML diagrams

(B) Interviews and surveys ✅

(C) Programming scripts

(D) SQL queries

101 **What is the purpose of requirements modeling?**

(A) To create a database schema

(B) To visualize and structure system requirements ✅

(C) To code the application

(D) To test the software

102 **Use case diagrams are commonly used for:**

(A) Coding

(B) Requirement modeling ✅

(C) System testing

(D) Database design

103 **Which of the following is a graphical tool for modeling system requirements?**

(A) UML diagrams ✅

(B) Python scripts

(C) XML

(D) Gantt charts

104 **Which type of modeling focuses on the sequence of interactions between system components?**

(A) Data modeling

(B) Process modeling

(C) Sequence diagrams ✅

(D) Entity-Relationship diagrams

105 **Activity diagrams help to represent:**

(A) System hardware

(B) The flow of control in a process ✅

(C) Programming languages

(D) Network architecture

106 **Requirement analysis is performed to:**

(A) Identify, refine, and document requirements ✅

(B) Implement the system directly

(C) Test the software

(D) Ignore changes in requirements

107   Which technique is used in requirement analysis?
   (A) Black-box testing
   (B) Interviews and prototyping ✓
   (C) Database normalization
   (D) Compiling source code

108   The primary goal of requirement analysis is to:
   (A) Develop the software
   (B) Identify user needs and constraints ✓
   (C) Increase coding speed
   (D) Reduce the development team

109   Requirement traceability ensures:
   (A) That each requirement is linked to its source ✓
   (B) That requirements are ignored after analysis
   (C) That only developers understand the requirements
   (D) That testing is not needed

110   A key challenge in requirements analysis is:
   (A) Lack of user involvement ✓
   (B) Too many programmers
   (C) Easy documentation
   (D) Ignoring stakeholders

111   What does SRS stand for?
   (A) Software Requirement Standards
   (B) System Requirement Specification
   (C) Software Requirements Specification ✓
   (D) Standard Requirements System

112   Which of the following is NOT a characteristic of a good SRS?
   (A) Ambiguous ✓
   (B) Complete
   (C) Consistent
   (D) Modifiable

113   The SRS document primarily focuses on:
   (A) How the system will be implemented
   (B) What the system should do ✓
   (C) The programming language to be used
   (D) The database schema

114   Which IEEE standard is used for SRS documentation?
   (A) IEEE 829
   (B) IEEE 830 ✓
   (C) IEEE 1012

(D) IEEE 29119

115   What is the first step in creating an SRS document?

(A) Writing the test cases

(B) Gathering and analyzing requirements ✓

(C) Selecting the programming language

(D) Designing the system architecture

116   Which of the following is NOT a section in an SRS document?

(A) Introduction

(B) Functional requirements

(C) Source code ✓

(D) Non-functional requirements

117   Which method is commonly used for requirements validation?

(A) Unit testing

(B) Requirement inspections ✓

(C) Code debugging

(D) System deployment

118   The SRS document helps in:

(A) System implementation

(B) Avoiding requirement misunderstandings ✓

(C) Writing test cases only

(D) Choosing database models

119   Requirements inspections aim to:

(A) Ensure system security

(B) Identify defects in requirement specifications ✓

(C) Improve performance

(D) Reduce software costs

120   Which is NOT a requirement inspection technique?

(A) Walkthroughs

(B) Prototyping

(C) Formal reviews

(D) Debugging ✓

121   What is the primary purpose of requirement inspections?

(A) To validate and verify requirements ✓

(B) To design the system

(C) To implement the database

(D) To perform coding reviews

122   Requirements inspections help in reducing:

(A) Implementation effort

(B) Software errors ✓

(C) Hardware requirements

(D) Coding time

123 **The SRS should be:**

(A) Ambiguous

(B) Well-structured and verifiable ✓

(C) Written in programming languages

(D) Unchangeable

124 **A major advantage of requirement inspections is:**

(A) Reducing errors in later stages ✓

(B) Speeding up development

(C) Increasing coding flexibility

(D) Eliminating the need for testing

125 **Which role is NOT required in a formal requirements inspection process?**

(A) Moderator

(B) Code Reviewer ✓

(C) Author

(D) Reader

126 **Which of the following is a widely accepted software engineering standard?**

(A) IEEE 829 ✓

(B) HTML

(C) JSON

(D) JavaScript

127 **Which standard is used for software testing documentation?**

(A) IEEE 830

(B) IEEE 829 ✓

(C) ISO 9001

(D) CMMI

128 **What does ISO stand for?**

(A) International Software Organization

(B) International Standards Organization ✓

(C) Internet Security Office

(D) Indian Software Operations

129 **The primary goal of software engineering standards is to:**

(A) Make programming languages consistent

(B) Ensure software quality and reliability ✓

(C) Increase hardware compatibility

(D) Reduce software licenses

130 **Which standard is commonly used for software quality management?**

(A) ISO 9001 ✓
(B) IEEE 1012
(C) HTML5
(D) JSON

131 **What is the Capability Maturity Model Integration (CMMI) used for?**

(A) Software process improvement ✓
(B) Hardware manufacturing
(C) Operating system development
(D) User interface design

132 **IEEE 1012 is a standard for:**

(A) Software validation and verification ✓
(B) Database development
(C) Web application security
(D) Coding best practices

133 **Which phase ensures that software meets customer expectations?**

(A) Software maintenance
(B) Software testing ✓
(C) Software coding
(D) Software prototyping

134 **What does software operation focus on?**

(A) Implementation of software
(B) Deployment, monitoring, and maintenance ✓
(C) Writing code
(D) Debugging

135 **What is software maintenance?**

(A) The initial development of software
(B) Modifications and improvements after deployment ✓
(C) The testing phase
(D) The requirement gathering phase

136 **Which standard is used for software lifecycle processes?**

(A) ISO 9001
(B) IEEE 12207 ✓
(C) IEEE 1012
(D) CMMI

137 **Which testing standard ensures software validation?**

(A) IEEE 829

(B) IEEE 1012 ✅

(C) ISO 9001

(D) IEEE 830

138   Software quality assurance ensures:

(A) Only functional testing

(B) That software meets specified requirements ✅

(C) Faster coding

(D) Reduced user interaction

139   The software maintenance process includes:

(A) Corrective, adaptive, perfective, and preventive maintenance ✅

(B) Only fixing bugs

(C) Removing unused code

(D) Initial requirement gathering

140   Engineering standards help in:

(A) Standardizing software processes ✅

(B) Making software development random

(C) Reducing software testing efforts

(D) Eliminating the need for software documentation

141   What is Object-Oriented Programming (OOP)?

(A) A programming paradigm based on functions

(B) A programming paradigm based on objects ✅

(C) A type of scripting language

(D) A database management technique

142   Which of the following is NOT a principle of OOP?

(A) Encapsulation

(B) Abstraction

(C) Compilation ✅

(D) Polymorphism

143   Which of the following best describes an object in OOP?

(A) A collection of data and methods that operate on that data ✅

(B) A function that takes inputs and returns outputs

(C) A database table

(D) A programming language

144   What is encapsulation in OOP?

(A) Hiding implementation details and exposing only necessary functionalities ✅

(B) Combining multiple programs

(C) Extending an object's behavior

(D) Creating multiple instances of an object

145 What is the process of creating an object from a class called?

(A) Polymorphism

(B) Instantiation ✅

(C) Inheritance

(D) Abstraction

146 What is a class in OOP?

(A) A blueprint for creating objects ✅

(B) A function in a program

(C) A database table

(D) A user-defined data type

147 Which OOP concept allows one class to inherit properties from another?

(A) Encapsulation

(B) Inheritance ✅

(C) Abstraction

(D) Overloading

148 What is polymorphism in OOP?

(A) The ability to take multiple forms ✅

(B) The ability to inherit properties

(C) The process of hiding details

(D) The process of defining a class

149 What is the advantage of OOP over procedural programming?

(A) Code is shorter

(B) Code is more reusable and modular ✅

(C) Code runs faster

(D) No debugging required

150 Which OOP concept allows objects to hide internal details from users?

(A) Encapsulation ✅

(B) Inheritance

(C) Polymorphism

(D) Overloading

151 Which of the following is an example of abstraction?

(A) A class with private attributes and public methods ✅

(B) A function with no parameters

(C) Using only primitive data types

(D) Writing procedural code

152 What does the term "message passing" mean in OOP?

(A) Sending data between objects ✅

(B) Writing functions

(C) Storing objects in a database

(D) Calling a function

153   What is dynamic binding in OOP?

(A) Function calls are resolved at runtime ✅

(B) Function calls are resolved at compile-time

(C) Functions are not used in OOP

(D) Classes cannot have multiple methods

154   Which of the following is NOT a feature of OOP?

(A) Modular programming

(B) Code reusability

(C) Data hiding

(D) Global variables ✅

156   What does "constructor" mean in OOP?

(A) A special method used to initialize objects ✅

(B) A function that deletes objects

(C) A method used to hide data

(D) A process to create multiple classes

157   What does UML stand for?

(A) Unified Modeling Language ✅

(B) Universal Modeling Language

(C) Unified Methodology Language

(D) Unstructured Model Layout

158   Which of the following is a structural UML diagram?

(A) Use case diagram

(B) Class diagram ✅

(C) Sequence diagram

(D) Activity diagram

159   What does a class diagram represent?

(A) The interaction between users and the system

(B) The static structure of a system, including classes and
relationships ✅

(C) The flow of execution in a program

(D) The sequence of events in a process

**160   What symbol is used to represent a class in a UML class
diagram?**

(A) A rectangle ✅

(B) A circle

(C) A triangle

(D) A hexagon

161   Which of the following is NOT a part of a UML class diagram?

(A) Class name

(B) Attributes

(C) Methods

(D) Flowchart ✓

162   What relationship in a class diagram represents inheritance?

(A) Aggregation

(B) Association

(C) Generalization ✓

(D) Dependency

163   Which of the following is an example of aggregation in UML?

(A) A car and its wheels ✓

(B) A student and a classroom

(C) A function calling another function

(D) A variable storing data

164   What type of relationship is represented by a solid line with a filled diamond in UML?

(A) Association

(B) Aggregation

(C) Composition ✓

(D) Dependency

165   What does a "+" sign in a class diagram indicate?

(A) Private attribute

(B) Public attribute ✓

(C) Protected attribute

(D) Static attribute

166   What is an interface in UML class diagrams?

(A) A type of class with only abstract methods ✓

(B) A specific instance of a class

(C) A database structure

(D) A data type

167   In UML, how do we represent a private attribute?

(A) +

(B) - ✓

(C) #

(D) *

168 **Which type of UML relationship shows that one class depends on another?**

(A) Dependency ✓

(B) Aggregation

(C) Association

(D) Inheritance

169 **What does multiplicity in UML class diagrams indicate?**

(A) The number of attributes in a class

(B) The number of relationships between two classes ✓

(C) The number of instances of a class

(D) The visibility of a class

170 **What is the purpose of an association relationship in UML?**

(A) Shows that two classes are connected ✓

(B) Represents data flow

(C) Defines class properties

(D) Indicates class visibility

171 **What is the meaning of a dashed arrow in UML class diagrams?**

(A) Generalization

(B) Dependency ✓

(C) Aggregation

(D) Association

172 **What is the primary purpose of a Use Case Diagram?**

(A) To describe the flow of data in a system

(B) To model user interactions with a system ✓

(C) To define the classes in an application

(D) To document the internal structure of a database

173 **In a Use Case Diagram, what does an "actor" represent?**

(A) A function inside the system

(B) An external user or system that interacts with the system ✓

(C) A method inside a class

(D) A component of the system

174 **How is an actor represented in a Use Case Diagram?**

(A) Oval

(B) Rectangle

(C) Stick figure ✓

(D) Triangle

175 **What does a use case represent in a Use Case Diagram?**

(A) A specific functionality provided by the system ✓

(B) A decision tree

(C) A class

(D) A data structure

176 What symbol is used to represent a use case?

(A) Rectangle

(B) Oval ✓

(C) Diamond

(D) Arrow

177 What relationship is used when one use case depends on another?

(A) Association

(B) Inheritance

(C) Include ✓

(D) Aggregation

178 What does the "extend" relationship indicate in a Use Case Diagram?

(A) That one use case is a specialized version of another ✓

(B) That a use case is a mandatory part of another

(C) That the system has a class hierarchy

(D) That actors inherit roles

179 How is an "include" relationship represented?

(A) A solid line

(B) A dashed arrow labeled "<<include>>" ✓

(C) A bold arrow

(D) A line with a triangle

180 What is the purpose of an "include" relationship?

(A) To show optional behavior

(B) To represent behavior that must always happen ✓

(C) To show the inheritance of actors

(D) To define the flow of a program

181 If a use case is optional and occurs under certain conditions, which relationship should be used?

(A) Include

(B) Extend ✓

(C) Association

(D) Aggregation

182 In a Use Case Diagram, what does a system boundary represent?

(A) The division between actors and use cases ✓

(B) The flow of data

(C) The hardware used

(D) The security limits of the system

183 **Can an actor be a system instead of a human?**

(A) No, actors must be people

(B) Yes, as long as it interacts with the system ✅

(C) No, only end-users can be actors

(D) Yes, but only if it's an external system

184 **What is a "primary actor" in a Use Case Diagram?**

(A) The actor who initiates the use case ✅

(B) A supporting actor

(C) An inherited actor

(D) A secondary actor

185 **In a Use Case Diagram, what does an association line between an actor and a use case indicate?**

(A) That the actor owns the use case

(B) That the actor has a role in executing the use case ✅

(C) That the actor is a part of the system

(D) That the use case is a subclass of the actor

186 **What is the main difference between an "extend" and "include" relationship?**

(A) "Include" means mandatory behavior, while "extend" is optional ✅

(B) "Extend" is for use cases, while "include" is for actors

(C) "Include" is used for system boundaries

(D) "Extend" only applies to human actors

187 **Can a use case be connected to multiple actors?**

(A) No, each use case has only one actor

(B) Yes, if multiple actors can perform the same action ✅

(C) No, actors cannot share use cases

(D) Yes, but only in an "extend" relationship

188 **In UML, what does a "secondary actor" do?**

(A) Initiates the use case

(B) Supports the primary actor in completing the use case ✅

(C) Owns the use case

(D) Defines the system boundary

189 **Which UML diagram is most closely related to the Use Case Diagram?**

(A) Class Diagram

(B) Sequence Diagram ✅

(C) Component Diagram

(D) State Transition Diagram

190 **Which of the following is NOT a valid relationship in a Use Case Diagram?**

(A) Include

(B) Extend

(C) Association

(D) Inheritance ✅

191 **What is a Sequence Diagram used for in UML?**

(A) To model system architecture

(B) To represent the order of interactions between objects ✅

(C) To define system requirements

(D) To show physical deployment

192 **What does a "lifeline" represent in a Sequence Diagram?**

(A) A method in a class

(B) The sequence of user interactions

(C) The existence of an object over time ✅

(D) A data flow process

193 **How is a lifeline represented in a Sequence Diagram?**

(A) A rectangle

(B) A dashed vertical line ✅

(C) A solid arrow

(D) A cloud symbol

194 **What does a solid arrow between two lifelines represent?**

(A) An asynchronous message

(B) A synchronous message ✅

(C) A return message

(D) A use case

195 **What does a dashed arrow in a Sequence Diagram indicate?**

(A) A message call

(B) A return message ✅

(C) A deleted object

(D) A component connection

196 **What does an activation bar in a Sequence Diagram represent?**

(A) When an object is active and processing ✅

(B) The termination of an object

(C) The destruction of an actor

(D) A state transition

197 **What is an "actor" in a Sequence Diagram?**

(A) A system function

(B) A user or external entity interacting with the system ✓

(C) A class in a UML diagram

(D) A method inside an object

198 **What is the purpose of a self-message in a Sequence Diagram?**

(A) To represent an object sending a message to itself ✓

(B) To indicate an error in processing

(C) To destroy an object

(D) To execute a conditional statement

199 **What does a "loop fragment" in a Sequence Diagram indicate?**

(A) A repetitive process ✓

(B) A destroyed object

(C) A class definition

(D) A system crash

200 **What symbol represents a sequence message in a Sequence Diagram?**

(A) A solid line with a filled arrowhead ✓

(B) A dashed line with a diamond

(C) A solid line with an open arrowhead

(D) A dotted circle

201 **In a Sequence Diagram, what does a "guard condition" indicate?**

(A) A security mechanism

(B) A condition that must be true for a message to be sent ✓

(C) A termination of the object

(D) An asynchronous process

202 **What does an "alt" fragment represent in a Sequence Diagram?**

(A) A loop

(B) A conditional execution path ✓

(C) An object destruction

(D) An asynchronous message

203 **How is an object's destruction represented in a Sequence Diagram?**

(A) A bold arrow

(B) A cross (X) at the bottom of the lifeline ✓

(C) A solid rectangle

(D) A circle

204 **What type of interaction does a sequence diagram mainly describe?**

(A) Static interactions

(B) Dynamic interactions ✓

(C) Data storage interactions

(D) Architectural relationships

205 **What is the purpose of an "opt" fragment in a Sequence Diagram?**

(A) It represents an optional interaction ✓

(B) It forces a message to execute

(C) It marks a critical process

(D) It represents an inherited message

206 **What does an asynchronous message in a Sequence Diagram look like?**

(A) A solid line with a filled arrowhead

(B) A dashed line with a cross

(C) A solid line with an open arrowhead ✓

(D) A diamond shape

207 **What is the primary difference between a synchronous and asynchronous message?**

(A) A synchronous message waits for a response, while an asynchronous message does not ✓

(B) An asynchronous message waits for a response, while a synchronous message does not

(C) They are both identical

(D) A synchronous message is always faster

208 **What is the primary benefit of using Sequence Diagrams in software design?**

(A) They describe system architecture

(B) They illustrate object interactions over time ✓

(C) They show the database structure

(D) They define component dependencies

209 **What UML diagram is most closely related to Sequence Diagrams?**

(A) Class Diagram

(B) Use Case Diagram

(C) State Transition Diagram

(D) Communication Diagram ✓

210 **What does a "ref" fragment in a Sequence Diagram indicate?**

(A) A reference to another sequence diagram ✓

(B) A database query

(C) A deleted object

(D) A system shutdown

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(C) A deleted object

(D) A system shutdown

230 **What is Software Architecture?**

(A) Code structure of software

(B) Detailed design of classes

(C) High-level structure of the software system ✓

(D) Database schema design

231 **Which of the following best describes software architecture?**

(A) The database layout

(B) The algorithm performance

(C) The overall structure and interaction of components ✓

(D) The UI look and feel

232 **What is the main benefit of using architectural models?**

(A) Makes code easier to debug

(B) Helps in algorithm selection

(C) Facilitates communication among stakeholders ✓

(D) Reduces network traffic

233 Which of the following is an advantage of software architecture?

(A) Increases hardware cost

(B) Decreases performance

(C) Helps in managing complexity ✓

(D) Leads to code duplication

234 Which of the following is NOT a use of architectural models?

(A) Guiding system implementation

(B) Documenting design decisions

(C) Improving UI design ✓

(D) Analyzing performance

235 What is an architectural pattern?

(A) A way of documenting requirements

(B) A reusable solution to an architectural design problem ✓

(C) A visual representation of a class

(D) A testing framework

236 Which of these is an example of an architectural pattern?

(A) Singleton

(B) Factory Method

(C) Client-Server ✓

(D) Adapter

237 What is the main characteristic of Layered Architecture?

(A) All components are independent

(B) Communication occurs only between adjacent layers ✓

(C) All layers can communicate with each other

(D) Data is stored in each layer

238 What is the advantage of using architectural patterns?

(A) Reduces memory

(B) Increases hardware dependency

(C) Provides proven solutions for common problems ✓

(D) Replaces testing phase

239 What is included in a pattern catalogue?

(A) Hardware specifications

(B) Test case results

(C) Collection of reusable patterns ✓

(D) Code snippets

240 Which of the following is a design pattern?

(A) Client-server

(B) Strategy ✓

(C) TCP/IP

(D) MVC

241 **What does a Factory Method pattern do?**

(A) Produces HTML reports

(B) Creates objects without specifying the exact class ✓

(C) Manages SQL queries

(D) Encrypts user data

242 **The Strategy Pattern is used to...**

(A) Encrypt passwords

(B) Implement multiple algorithms interchangeably ✓

(C) Handle database connections

(D) Format strings

243 **Which of the following defines "Pattern Format"?**

(A) The programming syntax of a pattern

(B) Standard format used to document a pattern ✓

(C) The source code

(D) The UML diagram

244 **Which of the following fields is NOT part of the standard design pattern format?**

(A) Name

(B) Intent

(C) Drawbacks ✓

(D) Structure

245 **What does the "Context" refer to in Strategy Pattern?**

(A) Algorithm

(B) Interface

(C) Class that uses a Strategy ✓

(D) Object returned by Factory

246 **In Factory Method, what role does the "Creator" class play?**

(A) It stores data

(B) It declares the factory method ✓

(C) It handles UI

(D) It manages the database

247 **Why is Strategy Pattern preferred over multiple if-else conditions?**

(A) It is faster in runtime

(B) It improves readability and maintainability ✓

(C) It avoids inheritance

(D) It is easier to test

248 **When should a design pattern be avoided?**

(A) When it increases performance

(B) When it adds unnecessary complexity ✓

(C) When team is experienced

(D) When project is small

249 **What is a Negative Design Pattern?**

(A) A bug in design

(B) A failed implementation

(C) An anti-pattern ✓

(D) A slow-performing pattern

250 **Which of the following is an example of a negative pattern?**

(A) Singleton

(B) God Object ✓

(C) Adapter

(D) Observer

251 **What is the main problem with "God Object"?**

(A) Too many dependencies ✓

(B) Too little logic

(C) Low coupling

(D) High cohesion

252 **When choosing a design pattern, what should you consider first?**

(A) Name of the pattern

(B) Problem to be solved ✓

(C) Language being used

(D) UML version

253 **What is the use of design patterns in OOP?**

(A) Reduce object size

(B) Promote best practices ✓

(C) Create libraries

(D) Enhance UI

254 **How are design patterns different from architectural patterns?**

(A) Design patterns focus on class-level problems ✓

(B) Design patterns are used in testing only

(C) Architectural patterns are smaller

(D) No difference

255 **What is the outcome of applying a pattern correctly?**

(A) Bug-free software

(B) Well-structured and reusable code ✓

(C) Faster algorithm

(D) Smaller binaries

256   In the pattern format, "Participants" refers to...

(A) Users

(B) Classes involved in the pattern ✅

(C) Testers

(D) Developers

257   In Factory Method, which class contains the business logic?

(A) Product

(B) ConcreteProduct

(C) Creator

(D) ConcreteCreator ✅

258   The Strategy Pattern promotes which principle?

(A) Tight coupling

(B) Open-Closed Principle ✅

(C) Encapsulation Break

(D) Dependency Pollution

259   What is the role of "Product" in Factory Method Pattern?

(A) Defines the interface of objects the factory creates ✅

(B) Creates the instance

(C) Stores configuration

(D) Represents the UI

260   What is Black Box Testing?

(A) Testing the internal code structure

(B) Testing performed by developers only

(C) Testing without knowing the internal code ✅

(D) Testing based on code walkthroughs

261   Which of the following is NOT a Black Box Testing technique?

(A) Equivalence Partitioning

(B) Boundary Value Analysis

(C) Decision Table Testing

(D) Statement Coverage ✅

262   Who generally performs black box testing?

(A) Developers

(B) Testers ✅

(C) Designers

(D) Architects

263   Boundary Value Analysis is used in black box testing to...

(A) Test extreme input values ✅

(B) Check program flow

(C) Optimize code

(D) Test algorithms

264 **Black box testing is also called:**

(A) Structural testing

(B) Glass box testing

(C) Behavioral testing ✓

(D) Static testing

265 **Which of the following is used to design test cases in black box testing?**

(A) Code logic

(B) Decision coverage

(C) Requirement specifications ✓

(D) Class diagrams

266 **In Equivalence Partitioning, input data is divided into:**

(A) Valid and invalid classes ✓

(B) Odd and even numbers

(C) Accepted and rejected files

(D) Logic groups

267 **Which one is an example of boundary value testing?**

(A) Testing value 100 if range is 1–100 ✓

(B) Testing input data format

(C) Testing program execution speed

(D) Testing user interface design

268 **Decision Table testing is best used when:**

(A) The system has complex logic with multiple conditions ✓

(B) The system is simple

(C) No inputs are needed

(D) GUI testing is done

269 **Black Box Testing focuses on:**

(A) Code coverage

(B) Functionality of software ✓

(C) Data structures

(D) Control flow paths

270 **Which of the following is not a valid black box testing technique?**

(A) Equivalence Partitioning

(B) Boundary Value Analysis

(C) Decision Table

(D) Loop Testing ✓

271 **What type of errors can black box testing detect?**
(A) Logic errors
(B) Syntax errors
(C) Interface and behavior errors ✅
(D) Memory leaks

272 **Which of these can be tested using black box testing?**
(A) Database design
(B) API responses ✅
(C) Loops in code
(D) Inheritance hierarchy

273 **State Transition Testing is used when:**
(A) There are no states
(B) The system has distinct states and transitions ✅
(C) Code is too complex
(D) Testing is manual only

274 **A Black Box test case must contain:**
(A) Code snippets
(B) Input, expected output, and test steps ✅
(C) Class hierarchy
(D) Branch diagrams

275 **Which technique is best for validating input fields in black box testing?**
(A) Regression testing
(B) Boundary Value Analysis ✅
(C) Unit testing
(D) Integration testing

276 **What is the primary objective of black box testing?**
(A) Evaluate performance
(B) Evaluate internal design
(C) Ensure functional correctness ✅
(D) Review code readability

277 **Can black box testing be automated?**
(A) No
(B) Yes ✅
(C) Only in unit testing
(D) Only for GUI

278 **Which testing level uses black box testing the most?**
(A) Unit testing
(B) System testing ✅

(C) White box testing

(D) Code review

279   Which is true about Black Box Testing?

(A) It requires deep programming knowledge

(B) It is always done before coding

(C) It does not require knowledge of internal implementation ✅

(D) It checks for syntax errors

280   What is White Box Testing?

(A) Testing without knowing internal code

(B) Testing with knowledge of internal logic ✅

(C) GUI testing

(D) End-user testing

281   White box testing is also known as:

(A) Black box testing

(B) Closed box testing

(C) Structural or clear box testing ✅

(D) Functional testing

282   Which of the following is NOT a white box testing technique?

(A) Control flow testing

(B) Loop testing

(C) Statement coverage

(D) Equivalence partitioning ✅

283   White box testing is mainly used by:

(A) End users

(B) Testers without technical knowledge

(C) Developers ✅

(D) Designers

284   The main focus of white box testing is on:

(A) Requirements

(B) Internal code structure ✅

(C) Usability

(D) Interface

285   Which of the following coverage is NOT a white box testing metric?

(A) Statement coverage

(B) Branch coverage

(C) Path coverage

(D) Decision table coverage ✅

286   Statement coverage ensures:

(A) All possible branches are tested

(B) All executable statements are tested ✓

(C) All inputs are tested

(D) Only boundary values are tested

287   In white box testing, test cases are derived from:

(A) Code logic ✓

(B) Use case diagrams

(C) Requirements

(D) User manuals

288   Which testing technique ensures every possible route through a given part of code is tested at least once?

(A) Path coverage ✓

(B) Loop coverage

(C) Functional testing

(D) State transition testing

289   White box testing is generally done at which level?

(A) System testing

(B) Acceptance testing

(C) Unit testing ✓

(D) Beta testing

290   Which of the following is a benefit of white box testing?

(A) It ensures the application looks good

(B) It detects hidden errors in logic and loops ✓

(C) It verifies user interface

(D) It validates documentation

291   What is the limitation of white box testing?

(A) Cannot test GUI

(B) Does not examine performance

(C) Cannot test usability

(D) All of the above ✓

292   Which of these is a type of white box testing?

(A) Alpha testing

(B) Integration testing

(C) Branch testing ✓

(D) Regression testing

293   In white box testing, which language knowledge is essential?

(A) English

(B) Database SQL

(C) Programming language of the system ✓

(D) HTML only

294 **Cyclomatic complexity is used to measure:**
(A) Test performance
(B) Test case quality
(C) Number of linearly independent paths ✓
(D) GUI responsiveness

295 **Which one is NOT a goal of white box testing?**
(A) Test all statements
(B) Test all user interfaces ✓
(C) Check all conditions
(D) Examine all loops

296 **Which of the following tools is used for white box testing?**
(A) Selenium
(B) JUnit ✓
(C) QTP
(D) TestLink

297 **White box testing helps in optimizing:**
(A) User experience
(B) Execution speed and logic ✓
(C) Database size
(D) Requirement documents

298 **White box testing ensures:**
(A) Code quality and reliability ✓
(B) Software is bug-free
(C) Interfaces are user-friendly
(D) All use cases are covered

299 **Branch coverage ensures:**
(A) Each branch (if/else) is executed ✓
(B) Each function is tested
(C) All boundary values are verified
(D) All users are satisfied

300 **What is the main objective of integration testing?**
(A) Testing individual units
(B) Testing the entire system
(C) Testing interfaces between components ✓
(D) Testing GUI performance

301 **Integration testing is usually performed after:**
(A) System testing
(B) Unit testing ✓

(C) Acceptance testing

(D) Regression testing

302 **Which of the following is NOT an integration testing technique?**

(A) Top-down testing

(B) Bottom-up testing

(C) Sandwich testing

(D) Boundary value analysis ✓

303 **In top-down integration testing, the modules are integrated:**

(A) From bottom level to top

(B) From top level to bottom ✓

(C) In parallel

(D) Randomly

304 **Which testing technique requires the use of drivers?**

(A) Top-down

(B) Bottom-up ✓

(C) Sandwich

(D) Regression

305 **In integration testing, stubs are used in:**

(A) Bottom-up testing

(B) Random testing

(C) Top-down testing ✓

(D) Black-box testing

306 **What is a stub in integration testing?**

(A) Simulated main module

(B) A temporary replacement for a called module ✓

(C) A performance tool

(D) A debugger

307 **What is a driver in integration testing?**

(A) A tool for GUI testing

(B) A temporary calling module ✓

(C) A code analyzer

(D) An end-user interface

308 **Which of the following combines both top-down and bottom-up testing?**

(A) Hybrid testing

(B) Sandwich testing ✓

(C) Big bang testing

(D) Unit testing

309 **Which testing is riskier due to lack of isolation of errors?**

(A) Sandwich testing
(B) Incremental testing
(C) Big bang testing ✓
(D) Top-down testing

310 **What is the main disadvantage of big bang integration testing?**
(A) Saves time
(B) Bugs are easy to find
(C) Difficult to isolate bugs ✓
(D) Needs stubs and drivers

311 **In which approach are modules integrated one by one and tested?**
(A) Big bang
(B) Incremental integration ✓
(C) System testing
(D) Regression testing

312 **Which test level focuses on communication between modules?**
(A) Unit testing
(B) Integration testing ✓
(C) System testing
(D) Acceptance testing

313 **Integration testing helps to detect:**
(A) Logical errors
(B) Interface errors ✓
(C) Functional errors
(D) Input errors

314 **Which is the most common strategy in integration testing?**
(A) Big bang
(B) Top-down
(C) Bottom-up
(D) Incremental testing ✓

315 **What is the purpose of stubs and drivers?**
(A) Performance testing
(B) Load testing
(C) Simulate missing components during testing ✓
(D) Debugging

316 **Which of these tools is NOT primarily used for integration testing?**
(A) JUnit
(B) NUnit

(C) LoadRunner ✓

(D) TestNG

317 **Integration testing is best suited for:**

(A) White-box testing

(B) Grey-box testing ✓

(C) Black-box testing

(D) Usability testing

318 **Who usually performs integration testing?**

(A) End users

(B) Business analysts

(C) Developers and testers ✓

(D) HR team

319 **Which of these types of errors is commonly found during integration testing?**

(A) Syntax errors

(B) Missing module errors

(C) Interface mismatches ✓

(D) Requirement gaps

320 **What is the main purpose of system testing?**

(A) To test individual modules

(B) To test system performance

(C) To test the complete integrated system ✓

(D) To fix bugs

321 **System testing is typically performed:**

(A) Before unit testing

(B) After integration testing ✓

(C) Before integration testing

(D) After acceptance testing

322 **System testing focuses on:**

(A) Testing internal logic

(B) Testing user interface only

(C) Testing the whole system behavior ✓

(D) Testing database performance only

323 **Which type of testing is NOT part of system testing?**

(A) Performance testing

(B) Load testing

(C) Unit testing ✓

(D) Stress testing

324 **Which team typically performs system testing?**

(A) Developers
(B) Independent QA team ✓
(C) End users
(D) Project managers

325   System testing is a type of:
(A) Black box testing ✓
(B) White box testing
(C) Unit testing
(D) Debugging

326   Which of the following is checked during system testing?
(A) Only code correctness
(B) Complete functionality ✓
(C) Only GUI
(D) Only input validation

327   Which test is conducted before system testing?
(A) Acceptance testing
(B) Integration testing ✓
(C) Regression testing
(D) Security testing

328   Which testing verifies the software meets business requirements?
(A) System testing ✓
(B) Unit testing
(C) Code testing
(D) Syntax testing

329   Which of the following is NOT a system testing type?
(A) Regression testing
(B) Usability testing
(C) Stress testing
(D) White box testing ✓

330   What is the key input for system testing?
(A) User stories
(B) SRS (Software Requirement Specification) ✓
(C) Test Plan
(D) Source code

331   Which testing includes end-to-end scenarios?
(A) Unit testing
(B) System testing ✓
(C) Code walkthrough

(D) Module testing

332   Which testing is usually done in a staging or QA environment?
(A) System testing ✓
(B) Acceptance testing
(C) Unit testing
(D) Pilot testing

333   Which of the following is true about system testing?
(A) It is performed by developers
(B) It is not a part of SDLC
(C) It is performed after integration testing ✓
(D) It checks only one module

334   Which test case is considered in system testing?
(A) Code-level test case
(B) Integration-level test case
(C) Functional and non-functional test case ✓
(D) Only GUI test case

335   Which testing includes checking security loopholes?
(A) System testing ✓
(B) Unit testing
(C) Integration testing
(D) Code inspection

336   What is verified during system testing?
(A) Internal code
(B) Data structures
(C) System performance, usability, and compliance ✓
(D) Variable initialization

337   Which of the following is NOT required in system testing?
(A) Test plan
(B) Code walkthrough ✓
(C) Test cases
(D) Test data

338   What is regression testing?
(A) Testing new modules
(B) Testing only once
(C) Retesting after changes ✓
(D) GUI testing

339   Why is system testing important?
(A) To test code logic
(B) To ensure system works as a whole ✓

(C) To design GUI

(D) To test only performance

340   What is the purpose of acceptance testing?

(A) To test internal functions

(B) To test modules separately

(C) To verify the system meets user requirements ✅

(D) To test code logic

341   Acceptance testing is usually performed by:

(A) Developers

(B) Project managers

(C) End users or clients ✅

(D) Test engineers only

342   Which of the following is a type of acceptance testing?

(A) System testing

(B) Alpha and Beta testing ✅

(C) Regression testing

(D) Unit testing

343   Which document is most important for acceptance testing?

(A) Test Plan

(B) Design Document

(C) SRS (Software Requirement Specification) ✅

(D) Source Code

344   When is acceptance testing performed?

(A) After unit testing

(B) After integration testing

(C) After system testing ✅

(D) Before system testing

345   Alpha testing is typically conducted by:

(A) End users

(B) Developers at the development site ✅

(C) Third-party clients

(D) Marketing team

346   Beta testing is performed:

(A) In the company

(B) On dummy data

(C) At customer site by real users ✅

(D) Only by the QA team

347   Which of the following best describes acceptance testing?

(A) It is functional testing

(B) It is user-level validation ✓

(C) It is code-level testing

(D) It is black-box unit testing

348 **What is the result of successful acceptance testing?**

(A) Bug report

(B) Code refactoring

(C) Approval for release ✓

(D) Requirement changes

349 **Which is NOT a form of acceptance testing?**

(A) Alpha testing

(B) Beta testing

(C) Gamma testing ✓

(D) User acceptance testing

350 **Acceptance testing ensures that the software is:**

(A) Bug-free

(B) Performance optimized

(C) Ready for delivery ✓

(D) Designed as per UML

351 **Who approves the software after acceptance testing?**

(A) Developer

(B) Test lead

(C) Client or user ✓

(D) Technical writer

352 **Which is TRUE about user acceptance testing (UAT)?**

(A) It is conducted by testers

(B) It is optional

(C) It validates software against user needs ✓

(D) It is an informal process

353 **Acceptance testing is considered part of which phase?**

(A) Design phase

(B) Testing phase

(C) Validation phase ✓

(D) Maintenance phase

354 **What is the main goal of beta testing?**

(A) Internal testing

(B) External feedback ✓

(C) Unit checking

(D) Code optimization

355 **Which environment is used for acceptance testing?**

(A) Development
(B) Live production
(C) Staging / UAT environment ✓
(D) Debugger

356 **Acceptance testing is usually:**
(A) Black-box testing ✓
(B) White-box testing
(C) Code inspection
(D) Performance-only testing

357 **The final phase of testing before release is:**
(A) Unit testing
(B) Regression testing
(C) Acceptance testing ✓
(D) Integration testing

358 **What is verified during acceptance testing?**
(A) Architecture
(B) Business requirements ✓
(C) Test cases
(D) Algorithms

359 **Which type of testing is acceptance testing closely related to?**
(A) Integration
(B) Usability ✓
(C) Stress
(D) Static

360 **What is the main objective of validation testing?**
(A) To check internal code logic
(B) To verify software requirements are met ✓
(C) To identify syntax errors
(D) To optimize performance

361 **Validation testing ensures:**
(A) Code is compiled correctly
(B) Software meets design specifications
(C) User requirements are fulfilled ✓
(D) Functions are integrated

362 **Validation testing is primarily:**
(A) White-box testing
(B) Black-box testing ✓
(C) Structural testing
(D) Debug testing

363 **Validation testing focuses on:**
(A) Correct implementation
(B) Internal paths
(C) End-user needs ✓
(D) Test coverage

364 **Which of the following comes under validation testing?**
(A) Unit testing
(B) Integration testing
(C) Acceptance testing ✓
(D) Code inspection

365 **Which question does validation testing answer?**
(A) Are we building the product right?
(B) Are we building the right product? ✓
(C) Is the product performing fast?
(D) Is the product testable?

366 **Which document is crucial for validation testing?**
(A) Design document
(B) Code repository
(C) Requirement specification ✓
(D) Technical manual

367 **What is typically used to perform validation testing?**
(A) Test harness
(B) Requirement-based test cases ✓
(C) Debugger
(D) IDE

368 **Validation testing is usually performed:**
(A) At code level
(B) During maintenance
(C) After verification testing ✓
(D) During design phase

369 **Which of the following is NOT part of validation testing?**
(A) Acceptance testing
(B) Functional testing
(C) System testing
(D) Syntax checking ✓

370 **What does validation testing mainly check?**
(A) Test coverage
(B) Code correctness
(C) User requirement fulfillment ✓

(D) Code optimization

371 **Validation testing comes under:**
(A) Dynamic testing ✓
(B) Static testing
(C) Code review
(D) Debugging

372 **Which of the following is an example of validation testing?**
(A) Code walkthrough
(B) System testing ✓
(C) Unit testing
(D) Peer review

373 **Validation testing ensures that the software:**
(A) Has minimal bugs
(B) Matches user expectations ✓
(C) Is efficient
(D) Follows design patterns

374 **Which is a popular technique used in validation testing?**
(A) Equivalence partitioning ✓
(B) Statement coverage
(C) Path testing
(D) Code complexity analysis

375 **Validation testing is part of:**
(A) Coding
(B) Verification
(C) Quality Assurance ✓
(D) Planning

376 **What is the key input for validation testing?**
(A) Source code
(B) Design document
(C) Test plan
(D) Requirement specification ✓

377 **Validation testing is done:**
(A) Before coding starts
(B) While integrating code
(C) After all modules are complete ✓
(D) Only if bugs are found

378 **Which type of testing is closely related to validation testing?**
(A) Regression testing
(B) Alpha/Beta testing ✓

(C) Unit testing

(D) Integration testing

379 Who is involved in validation testing?

(A) Developers

(B) System designers

(C) End users and testers ✓

(D) Database administrators

380 What is regression testing?

(A) Testing after deployment

(B) Testing to check broken features after a change ✓

(C) Testing database only

(D) Testing with invalid inputs

381 Regression testing is mainly performed after:

(A) Code review

(B) Performance testing

(C) Changes or enhancements ✓

(D) Unit testing

382 The purpose of regression testing is to:

(A) Check code quality

(B) Ensure no new bugs are introduced ✓

(C) Measure performance

(D) Review design

383 Regression testing involves:

(A) Testing only new features

(B) Testing previously working features ✓

(C) UI testing only

(D) Code optimization

384 Which tool is commonly used for regression testing?

(A) Photoshop

(B) JUnit ✓

(C) MS Word

(D) Git

385   Regression testing can be:

(A) Done once

(B) Ignored for small changes

(C) Automated ✓

(D) Skipped after unit testing

386 Which of the following is NOT a type of regression testing?

(A) Partial

(B) Complete

(C) Random ✓

(D) Unit

387   When should regression testing be avoided?

(A) Never — it's always useful ✓

(B) After initial development

(C) For critical modules

(D) Before UAT

388   Regression testing helps in:

(A) Project planning

(B) Finding new defects due to changes ✓

(C) Compiling source code

(D) Performance enhancement

389   Regression testing is part of:

(A) Verification

(B) Validation ✓

(C) Deployment

(D) Compilation

390   What is smoke testing?

(A) Testing for fire safety

(B) Initial testing to check basic functionality ✓

(C) Final testing before deployment

(D) Security testing

391   Smoke testing is also known as:

(A) Unit testing

(B) Surface testing

(C) Build verification testing ✓

(D) Black box testing

392   Smoke testing is done:

(A) After every change

(B) After the build is deployed ✓

(C) Only in production

(D) Once per project

393   Smoke tests are usually:

(A) Comprehensive

(B) Exhaustive

(C) Shallow and wide ✓

(D) Deep and narrow

394   Which of these is a key benefit of smoke testing?

(A) Improves UI design

(B) Ensures stability of the build ✅

(C) Fixes all bugs

(D) Measures performance

395   If a smoke test fails, what should be done?

(A) Continue with testing

(B) Deploy the build

(C) Reject the build ✅

(D) Ignore the issue

396   Smoke testing is performed by:

(A) Developers only

(B) Testers ✅

(C) End users

(D) Analysts

397   Which of the following best describes smoke testing?

(A) Testing with valid and invalid data

(B) Basic tests to verify critical functions ✅

(C) Performance stress testing

(D) Security testing of the build

398   Smoke testing is typically:

(A) Automated only

(B) Manual only

(C) Manual or automated ✅

(D) Not done regularly

399   The main goal of smoke testing is to:

(A) Perform a full system test

(B) Reject bad builds early ✅

(C) Write test cases

(D) Analyze requirements

400   Extreme Programming is a type of:

(A) Waterfall model

(B) Agile methodology ✅

(C) Spiral model

(D) V-model

401   Who is the creator of XP methodology?

(A) Ken Schwaber

(B) Jeff Sutherland

(C) Kent Beck ✅

(D) Martin Fowler

402   **Which of the following is not a core practice of XP?**
(A) Pair programming
(B) Daily stand-ups
(C) On-site customer
(D) Stage gate review ✓

403   **XP emphasizes:**
(A) Detailed documentation
(B) Quick deliveries and frequent releases ✓
(C) Minimal communication
(D) Independent testing teams

404   **The planning game in XP is used to:**
(A) Schedule vacations
(B) Estimate and prioritize features ✓
(C) Assign salaries
(D) Track bugs

405   **XP works best in:**
(A) Static requirements
(B) Large projects
(C) Dynamic and changing requirements ✓
(D) Hardware development

406   **Which of the following is not an XP practice?**
(A) Refactoring
(B) Test-driven development
(C) Pair programming
(D) Gantt chart creation ✓

407   **XP teams work in:**
(A) Isolated environments
(B) Waterfall cycles
(C) Short iterations with feedback ✓
(D) Strict hierarchy

408   **Which is not a core value of XP?**
(A) Communication
(B) Courage
(C) Simplicity
(D) Competition ✓

409   **In XP, simplicity means:**
(A) Writing minimal tests
(B) Designing the simplest solution that works ✓
(C) Using simple code editors

(D) Avoiding comments

410 Feedback in XP helps in:
(A) Delaying delivery
(B) Understanding change impact early ✓
(C) Writing less code
(D) Increasing cost

411 Respect in XP means:
(A) Criticizing code
(B) Accepting every idea
(C) Trusting and valuing each other's contributions ✓
(D) Never questioning

412 Courage in XP means:
(A) Ignoring deadlines
(B) Writing untested code
(C) Rewriting bad code when needed ✓
(D) Avoiding hard work

413 Test-first development is also known as:
(A) Test-last development
(B) Test-driven development ✓
(C) Black-box testing
(D) System testing

414 In test-first development, tests are written:
(A) After coding
(B) During system testing
(C) Before coding ✓
(D) After deployment

415 What is the benefit of TDD?
(A) Slower coding
(B) Delayed bugs
(C) Early bug detection ✓
(D) Avoiding testing

416 In TDD, what is the typical cycle?
(A) Write → Deploy → Test
(B) Test → Code → Refactor ✓
(C) Build → Test → Analyze
(D) Test → Compile → Deliver

417 TDD helps improve:
(A) Test coverage ✓
(B) Documentation

(C) Coding speed only

(D) Manual testing effort

418 The main focus of TDD is:

(A) Code optimization

(B) Writing tests before logic ✓

(C) Customer interviews

(D) Marketing

419 Refactoring means:

(A) Adding new features

(B) Improving code structure without changing functionality ✓

(C) Deleting code

(D) Ignoring bugs

420 Which is not a benefit of refactoring?

(A) Cleaner code

(B) Increased maintainability

(C) Enhanced performance

(D) Feature enhancement ✓

421 Refactoring should be done:

(A) Only during testing

(B) Frequently throughout development ✓

(C) Once after delivery

(D) Never

422 A sign of needed refactoring is:

(A) Optimized code

(B) Repeated code blocks ✓

(C) Updated documentation

(D) Well-commented code

423 In pair programming, how many people work on one machine?

(A) 1

(B) 2 ✓

(C) 3

(D) 4

424 In pair programming, the person who writes code is called the:

(A) Tester

(B) Observer

(C) Driver ✓

(D) Pilot

425 The person who reviews and thinks about the code is the:

(A) Navigator ✓

(B) Compiler

(C) Operator

(D) Reviewer

426 A benefit of pair programming is:

(A) Fewer ideas

(B) Slower development

(C) Better code quality ✓

(D) No need for testing

427 Continuous integration is used to:

(A) Stop builds

(B) Delay code merge

(C) Frequently merge code to main branch ✓

(D) Avoid testing

428 CI systems often include:

(A) Build and test automation ✓

(B) UI design

(C) Static documentation

(D) Long planning phases

429 A benefit of CI is:

(A) Late bug discovery

(B) Deployment delays

(C) Early error detection ✓

(D) Bigger merges

430 Tools used for CI include:

(A) Canva

(B) GitHub Actions ✓

(C) MS Excel

(D) WordPress

431 XP emphasizes:

(A) Testing at the end

(B) No testing

(C) Continuous testing throughout development ✓

(D) Delayed test planning

432 Unit tests in XP are written by:

(A) Testers

(B) Developers ✓

(C) Customers

(D) Product owners

433 Acceptance tests in XP are based on:

(A) Developer requirements
(B) Use cases
(C) Customer-defined stories ✓
(D) Marketing plans

434 XP encourages:
(A) Manual testing only
(B) Automated testing ✓
(C) Post-deployment testing
(D) No testing for small changes

435 The Scrum process is based on:
(A) Waterfall model
(B) Predictive approach
(C) Iterative and incremental development ✓
(D) Sequential tasks

436 What is a sprint in Scrum?
(A) A long planning session
(B) A phase of deployment
(C) A time-boxed development cycle ✓
(D) A system shutdown

437 Scrum roles include:
(A) Project Manager, Tester, Designer
(B) Product Owner, Scrum Master, Development Team ✓
(C) Manager, QA, Architect
(D) Sponsor, Supplier, User

438 The daily Scrum is a:
(A) Design meeting
(B) Status update and planning meeting ✓
(C) Testing review
(D) Code refactor session

439 Cyclomatic complexity is a measure of:
(A) Code readability
(B) Code lines
(C) Logical complexity of a program ✓
(D) Time complexity

440 Who introduced the concept of cyclomatic complexity?
(A) Kent Beck
(B) Tom DeMarco
(C) Barry Boehm
(D) Thomas McCabe ✓

441 **Cyclomatic complexity helps in:**
(A) Counting variables
(B) Measuring memory usage
(C) Determining the number of independent paths in a program ✅
(D) Compiling programs

442 **The formula for cyclomatic complexity is:**
(A) $V(G) = E - N + 1$ ✅
(B) $V(G) = N - E + 2$
(C) $V(G) = E + N - 2$
(D) $V(G) = N + E - 1$
Where:
E = Number of edges
N = Number of nodes

443 **In structured programming, a high cyclomatic complexity value indicates:**
(A) Simpler logic
(B) Better performance
(C) More testing effort required ✅
(D) Fewer bugs

444 **What is the cyclomatic complexity of a program with 10 edges and 8 nodes?**
(A) 1
(B) 2
(C) 3
(D) 3 ✅
$V(G) = 10 - 8 + 1 = 3$

445 **Cyclomatic complexity of a sequence of statements (no decision points) is:**
(A) 0
(B) 1 ✅
(C) 2
(D) N (number of lines)

446 **Cyclomatic complexity is mainly used to:**
(A) Check UI quality
(B) Estimate effort
(C) Determine minimum number of test cases ✅
(D) Measure execution time

447 **The minimum value of cyclomatic complexity is:**
(A) 0

(B) 1 ✓
(C) 2
(D) Depends on code

448 Higher cyclomatic complexity generally implies:
(A) Simpler code
(B) Lower test coverage
(C) Higher probability of defects ✓
(D) Better maintainability

449 What phase of the software development lifecycle is first?
(A) System Design
(B) Coding
(C) System Testing
(D) Preliminary Investigation and Analysis
ANS. D

450 What does RAD stand for?
(A) Rapid Application Document
(B) Rapid Application Development
(C) Relative Application Development
(D) None of the above
ANS. B

451 What does it mean to study a present system?
(A) System Analysis
(B) Details of diagram
(C) System Planning
(D) System testing
ANS. A

452 Which among the following models doesn't demand that requirements be defined as early in the lifecycle as possible?
(A) Waterfall
(B) Prototyping
(C) Increment
(D) None
ANS. B

453 There are several phases that make up the software life cycle. The waterfall model is the term used to describe the traditional model. Which stage is characterized by the following statement: "The concept is investigated and refined, and the client's requirements are elicited?"

- **(A)** Implementation
- **(B)** Design
- **(C)** Specification
- **(D)** Requirements
- **ANS.** D

454 Which of the key phases in the software engineering spiral model?
- **(A)** Defining, Prototyping, Testing, Delivery
- **(B)** Requirements
- **(C)** Planning, Risk Analysis, Engineering, Customer Evaluation
- **(D)** Quick Design, Build Prototype, Evaluate Prototype, Refine Prototype
- **ANS.** C

455 Making use of prototypes is suitable for.........?
- **(A)** All of the mentioned
- **(B)** Data-oriented applications
- **(C)** Applications with emphasis on the user interface
- **(D)** Applications which are highly interactive
- **ANS.** A

456 Software engineering is the process of creating a software product utilising these principles and techniques is referred to as_____.
- **(A)** System Models
- **(B)** Evolution of software
- **(C)** Software Engineering
- **(D)** Software Models
- **ANS.** B

457 Which of the following models wouldn't be good for adaptation to any change?
- **(A)** RAD Model
- **(B)** Prototyping Model
- **(C)** Waterfall Model

(D) Spiral Model

ANS. C

458 The waterfall model is problematic for?
(A) Maintenance Projects
(B) Small projects
(C) Complex projects
(D) Accommodating changes

ANS. D

459 The Verification and Validation Model is also known as which of the following?
(A) Waterfall Model
(B) Spiral Model
(C) Prototype Model
(D) V-Model

ANS. D

460 The waterfall method of developing software involves
(A) A reasonable approach when requirements are well defined.
(B) A good approach when a working program is required quickly.
(C) The best approach to use for projects with large development teams
(D) An old fashioned model that is rarely used any more

ANS. A

461 models of evolutionary software process is/are.......
(A) Are iterative in nature
(B) All of the mentioned
(C) Can easily accommodate product requirements changes
(D) Do not generally produce throwaway systems

ANS. B

462 "If the project is behind schedule, increasing the number of programmers can reduce the time gap" these myth is from ....side.
(A) System
(B) Developer
(C) User

(D) Management

ANS. D

463 "Software is flexible; hence software requirement changes can be added during any phase of the development process"these myth is from ....side.

(A) User

(B) Management

(C) Developer

(D) System

ANS. A

464 In MoScoW Technique M states........?

(A) Most

(B) Must

(C) Max

(D) Min

ANS. B

465 Which one is not requirements prioritization techniques?

(A) Numerical Assignment

(B) Ranking

(C) One Dollar Method

(D) Bubble Sort Technique

ANS. C

466 Which one is requirements prioritization techniques?

(A) MoSco Technique

(B) Selection Sort Technique

(C) One Dollar Method

(D) Ranking

ANS. D

467 Which Techniques is Requirement Elicitation Techniques?

(A) Domain Analysis

(B) System Analysis

(C) Hundred Dollar Method

(D) Test Analysis

ANS. A

468 .... feasibility assesses the context in which the software needed performs a variety of levels to solve business problems and consumer needs

(A) Domain
(B) Technical
(C) Economic
(D) Operational
ANS. D

469 ....feasibility determines if the software required to produce financial benefits for an organization.

(A) Testing
(B) Technical
(C) Economic
(D) Operational
ANS. C

470 Which one is not attributes of SRS?
(A) Concise
(B) The right level of abstraction
(C) Structured
(D) Verifiable
ANS. B

471 Which one is Requirements Validation Techniques ?
(A) Requirements reviews/inspections
(B) Conceptual integrity
(C) Economic Feasibility
(D) MoScoW Technique
ANS. A

472 Which one is not Requirement Elicitation Techniques?
(A) Observation
(B) Questionnaires
(C) One Dollar Method
(D) Interviews

ANS. C

473 Evolution qualities belong to which requirements?
(A) Functional requirements
(B) Non-functional requirements
(C) User requirements
(D) System requirements
ANS. B

474 In MoScoW Technique W states.........
(A) What
(B) Why
(C) Where
(D) Would
ANS. D

475 In MoScoW Technique C states........
(A) Could
(B) Can
(C) Can't
(D) Correctness
ANS. A

476 Which step is not belongs to Requirement Engineering Process.?
(A) Feasibility Study
(B) Software Requirement Specification
(C) System requirements and Testing
(D) Requirement Elicitation and Analysis
ANS. C

477 What does it mean to study an existing system?
(A) Details of DFD
(B) Feasibility Study
(C) System Analysis
(D) System Planning
ANS. C

478 Which stage of the following involves the design of test cases?

(A)	Test recording
(B)	Test configuration
(C)	Test planning
(D)	Test specification
ANS.	B

479	Which of the following is not a Test Type?
(A)	Database Testing
(B)	Security Testing
(C)	Statement Testing
(D)	Functional Testing
ANS.	C

480	White-box testing can be started
(A)	After installation
(B)	After SRS creation
(C)	After programming
(D)	After designing.
ANS.	C

482	Testing of software with actual data and in actual environment is known as?
(A)	Regression testing
(B)	Beta testing
(C)	Alpha testing
(D)	Unit testing
ANS.	B

483	Beta Testing is done at
(A)	Developer's end
(B)	User's & Developer's end
(C)	User's end
(D)	None
ANS.	C

484	Unit testing is done by
(A)	Users
(B)	Developers

(C) User's & Developer's end

(D) None

ANS. B

485 Which of the subsequent is not a phase of the software development life cycle?

(A) Requirements Gathering

(B) Test Closure

(C) Coding

(D) Testing

ANS. B

486 The non-functional parts include the_____

(A) Re usability

(B) Adaptability

(C) Reliability

(D) All

ANS. D

487 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 of the above

ANS. C

488 What UML diagram of the ones below has a static view?

(A) Use case

(B) Collaboration

(C) DFD

(D) Activity

ANS. A

489 Which one is not a Vital components of a Class Diagram

(A) Class name

(B) Attributes
(C) Method
(D) Actor
ANS. D

490 _____represents an external entity that interacts with a system.
(A) Usecase
(B) Actor
(C) Generalization
(D) Attributes
ANS. B

491 _____represents a functionality (typically a requirement) that is expected to be implemented by the system
(A) Usecase
(B) Actor
(C) Generalization
(D) Attributes
ANS. A

492 ____represents a relationship between actors or between use cases
(A) Class name
(B) Attributes
(C) Method
(D) Generalization
ANS. D

493 _____represents a two-way communication between an actor and a use case and hence is a binary relation
(A) Generalization
(B) Extend
(C) Class name
(D) Association
ANS. D

494 ____diagram represents the flow of messages in the system and is also termed as an event diagram
(A) Activity diagram

(B) sequence diagram

(C) Class diagram

(D) Use case diagram

ANS. B

495 In class diagram the middle section constitutes_____

(A) Class name

(B) Attributes

(C) Method

(D) Association

ANS. B

496 In class diagram the upper section constitutes_____

(A) Class name

(B) Attributes

(C) Method

(D) Association

ANS. A

497 In class diagram the lower section constitutes_____

(A) Class name

(B) Attributes

(C) Method

(D) Association

ANS. C

498 _____is a semantic relationship between two or more classes where a change in one class cause changes in another class.

(A) Dependency

(B) Association

(C) Generalization

(D) None

ANS. A

499 ___is a relationship between a parent class (superclass) and a child class (subclass).

(A) Dependency

(B) Association

(C) Generalization

(D) Method

ANS. C

500 ___defines a specific range of allowable instances of attributes

(A) Multiplicity

(B) Dependency

(C) Association

(D) Generalization

ANS. A

501 _____is a subset of association

(A) Multiplicity

(B) Dependency

(C) Association

(D) Aggregation

ANS. D

502 _____defines a part-whole or part-of relationship. In this kind of relationship, the child class can exist independently of its parent class

(A) Multiplicity

(B) Association

(C) Aggregation

(D) Generalization

ANS. C

503 The _____is a subset of aggregation

(A) Composition

(B) Association

(C) Multiplicity

(D) Generalization

ANS. A

504 _____portrays the dependency between the parent and its child, which means if one part is deleted, then the other part also gets discarded

(A) Composition

(B) Association

(C) Multiplicity

(D) Generalization

ANS. A

505 _____diagram is used to break down a large object-oriented system into the smaller components, so as to make them more manageable

(A) Component Diagram

(B) DFD Diagram

(C) Use case Diagram

(D) Activity Diagram

ANS. A

506 _____diagram represent how software is installed on the hardware component

(A) Use case Diagram

(B) Component Diagram

(C) Activity Diagram

(D) Deployment Diagram

ANS. D

507 Which UML diagram represent the dynamic behavior of a system

(A) DFD Diagram

(B) Activity Diagram

(C) Use case Diagram

(D) State Diagram

ANS. C

508 Which UML diagram portrays the communication between any two lifelines as a time-ordered sequence of events.

(A) Sequence Diagram

(B) DFD Diagram

(C) Activity Diagram

(D) Use case Diagram

ANS. A

509 In sequence diagram _____is represented by a thin rectangle

(A) Life line

(B) Messages

(C) Actor

(D) Fragments

ANS. A

510 In DFD diagram circle represent___

(A) Entity

(B) Process

(C) Data store

(D) flow

ANS. B

511 In DFD diagram Rectangle represent___

(A) Entity

(B) Process

(C) Data store

(D) flow

ANS. A

512 In DFD diagram arrow represent___

(A) Entity

(B) Process

(C) Data store

(D) flow

ANS. D

513 In DFD diagram two parallel lines represent___

(A) Entity

(B) Process

(C) Data store

(D) flow

ANS. C

514 In which Software Architecture Patterns consist three layers

(A) Layered Pattern

(B) Level Pattern

(C) – Client-Server Pattern

(D) – Event-Driven Pattern

ANS. A

515 E-commerce web applications development like Amazon is the example of _____ pattern

(A) – Client-Server Pattern

(B) Level Pattern

(C) Layered Pattern

(D) – Event-Driven Pattern

ANS. C

516 Email is the example of __pattern

(A) – Client-Server Pattern

(B) Level Pattern

(C) Layered Pattern

(D) – Event-Driven Pattern

ANS. B

517 WWW is the example of __pattern

(A) Level Pattern

(B) Layered Pattern

(C) – Event-Driven Pattern

(D) – Client-Server Pattern

ANS. D

518 Building websites with JavaScript and e-commerce websites in general is the example of __pattern

(A) Level Pattern

(B) Layered Pattern

(C) – Event-Driven Pattern

(D) – Client-Server Pattern

ANS. C

519 Product-based applications and scheduling applications is the example of __pattern

(A) Microkernel Pattern

(B) Layered Pattern

(C) – Event-Driven Pattern

(D) – Client-Server Pattern

ANS. A

520 Which pattern is using plug-in moduals?
(A) Microkernel Pattern
(B) Microservice Pattern
(C) – Event-Driven Pattern
(D) – Client-Server Pattern
ANS. A

521 Netflix is the example of __pattern
(A) Microkernel Pattern
(B) Microservice Pattern
(C) – Event-Driven Pattern
(D) – Client-Server Pattern
ANS. B

522 _____ represented by In UML diagrams, relationship between component parts and object.
(A) ordination
(B) aggregation
(C) segregation
(D) increment
ANS. B

523 which type they considered Activity diagram, use case diagram, collaboration diagram, and sequence diagram?
(A) non-behavioral
(B) non-structural
(C) structural
(D) behavioral
ANS. D

524 which diagrams are used to distribute files, libraries, and tables across topology of the hardware
(A) collaboration
(B) sequence
(C) use case
(D) deployment

ANS. D

525 which of these abstractions class consist?
(A) Set of the objects
(B) Operations
(C) Attributes
(D) All
ANS. D

526 which of the following attribute is a data item held by?
(A) Class
(B) Object
(C) Class and attricutes
(D) None
ANS. C

527 Multiplicity for an association _____.
(A) association is the number of instances with a single instance
(B) association is the number of instances with a number instance
(C) All
(D) None
ANS. A

528 _____diagram is time-oriented?
(A) Collaboration
(B) Sequence
(C) Activity
(D) Use case
ANS. B

529 Which type of diagram is a sequence diagram?
(A) Structural Diagram
(B) Behavioral UML Diagrams
(C) Interaction diagram
(D) None
ANS. B

530 A message type that indicates an activation of the target lifeline's operation is sent.

(A) Call message
(B) Return Message
(C) Self Message
(D) Recursive Message

ANS. A

531 A message type that defines a particular communication between the lifelines of interaction that represent the flow of information from the receiver of the corresponding caller message

(A) Call message
(B) Return Message
(C) Self Message
(D) Recursive Message

ANS. B

532 A message type that describes a communication, particularly between the lifelines of an interaction that represents a message of the same lifeline, has been invoked.

(A) Call message
(B) Return Message
(C) Self Message
(D) Recursive Message

ANS. C

533 A message type that sent for recursive purpose

(A) Call message
(B) Return Message
(C) Self Message
(D) Recursive Message

ANS. D

534 A message type that describes a communication, particularly between the lifelines of an interaction describing that the target (lifeline) has been expressed.

(A) Create Message
(B) Return Message

(C) Self Message

(D) Recursive Message

ANS. A

535 A message type that describes a communication, particularly between the lifelines of an interaction that depicts a request to destroy the lifecycle of the target.

(A) Create Message

(B) Return Message

(C) Self Message

(D) Destroy Message

ANS. D

536 A message type that describes a communication particularly between the lifelines of an interaction, which portrays the time passage of the message while modeling a system.

(A) Create Message

(B) Return Message

(C) Duration Message

(D) Destroy Message

ANS. C

537 Full form of DFD diagram is_____

(A) Data Flow Diagrams

(B) Data Forward Diagrams

(C) Dictionory Flow Diagram

(D) Data First Diagram

ANS. A

538 DFD Level___ is also called a Context Diagram

(A) 0

(B) 1

(C) 2

(D) None

ANS. A

539 In software architecture which one is not the contributory facor?

(A) IT Enviroment
(B) Human design
(C) Business Strategy
(D) Qulity attributes
ANS. B

540 In software architecture which one is the contributory facor?
(A) Design
(B) Human design
(C) Risk strategy
(D) Testing attributes
ANS. A

541 Which one is not the type of Software Architecture Patterns
(A) Level Pattern

(B) Easy-Driving Pattern

(C) Micro Pattern

(D) N-tier architecture Pattern
ANS. D

542 In layered pattern _____layer is represent executing business logic as per the request
(A) Presentation layer
(B) Business layer
(C) Application layer
(D) Data layer
ANS. B

543 In layered pattern _____layer is represent The user interface layer where we see and enter data into an application
(A) Presentation layer
(B) Business layer
(C) Application layer
(D) Data layer
ANS. A

544 In layered pattern _____layer is represent medium for communication between the two layers.

(A) Presentation layer
(B) Business layer
(C) Application layer
(D) Data layer
ANS. C

545 In layered pattern _____layer is represent database for managing data.

(A) Presentation layer
(B) Business layer
(C) Application layer
(D) Data layer
ANS. D

546 Event-Driven Architecture is an_____ approach in which services (operations) of the software are triggered by events

(A) agile
(B) waterfall
(C) Red
(D) None
ANS. A

547 "A new user fills the signup form and clicks the signup button on Facebook and then a FB account is created for him" this is an example of _____pattern.

(A) Microkernel Pattern
(B) Microservice Pattern
(C) – Event-Driven Pattern
(D) – Client-Server Pattern
ANS. C

548 Which pattern is extended functionalities (like extra features) and customized processing

(A) Microkernel Pattern
(B) Microservice Pattern

(C) – Event-Driven Pattern

(D) – Client-Server Pattern

ANS. A

549 "small programs are bundled together to be a full-fledged application" is the example of_____ pattern.

(A) Microkernel Pattern

(B) Microservice Pattern

(C) – Event-Driven Pattern

(D) – Client-Server Pattern

ANS. B

550 Which one is the Type of integration testing?

(A) Top-down

(B) Validation

(C) Event

(D) Registration

ANS. A

551 _____ Testing is a level of the software testing where a system is tested for acceptability.

(A) Beta

(B) Acceptance

(C) Unit

(D) Integration

ANS. B

552 _____testing, sometimes called glass-box testing

(A) Gray-box

(B) Black-box

(C) White-box

(D) Green-box

ANS. C

553 ____box testing, also called behavioral testing

(A) Gray-box

(B) Black-box

(C) White-box

(D) Green-box

ANS. B

554 UML diagram that shows the interaction between users and system, is known as____

(A) Activity diagram

(B) Class diagram

(C) Use case diagram

(D) E-R diagram

ANS. C

555 A UML diagram that facilitates requirements gathering and interacts between system and external users, is called as

(A) Flowchart diagram

(B) Sequence diagram

(C) Data flow diagram

(D) Use case diagram

ANS. D

556 ____diagram constructs the executable by incorporating forward and reverse engineering.

(A) Component diagram

(B) DFD diagram

(C) Deployment diagram

(D) Class diagram

ANS. A

557 Which diagram is the example of behaviour diagram.

(A) Class diagram

(B) Component diagram

(C) Deployment diagram

(D) Use case diagram

ANS. D

558 Which diagram is not the example of behaviour diagram.

(A) Use case diagram

(B) Class diagram

(C) Activity Diagram

(D) Sequence diagram

ANS. B

559 Which diagram is the example of Structure diagram.

(A) Use case diagram

(B) Class diagram

(C) Activity Diagram

(D) Sequence diagram

ANS. B

560 Which diagram is not the example of Structure diagram.

(A) Deployment diagram

(B) Component diagram

(C) Class diagram

(D) Sequence diagram

ANS. D

561 What different testing levels are there?

(A) Unit Testing

(B) System Testing

(C) Integration Testing

(D) All

ANS. D

562 Alpha testing is done at

(A) Developer's end

(B) User's end

(C) Developer's & User's end

(D) None

ANS. A

563 Requirement prioritization and negotiation belongs to _____?

(A) Feasibility study

(B) Requirement elicitation

(C) Requirement validation

(D) Requirements reviews

ANS. B

564 What type of software testing is generally used in Software Maintenance

(A) Regression Testing

(B) System Testing

(C) Integration Testing

(D) Unit Testing

ANS. A

565 The process in which specifications are described, recorded and maintained throughout the design process is called____

(A) System Testing

(B) Feasibility Study

(C) Test planning

(D) Requirement Engineering

ANS. D

566 What is Software Engineering?

(A) Designing a software

(B) Testing a software

(C) Application of engineering principles to the design a software

(D) None of the above

ANS. C

567 A Software consists of _____ .

(A) Programs + hardware manuals

(B) Set of instructions + operating procedures

(C) Set of programs

(D) Programs + documentation + operating procedures

ANS. D

568 What does SDLC stands for?

(A) System Design Life Cycle

(B) Software Design Life Cycle

(C) Software Development Life Cycle

(D) System Development Life cycle

ANS. C

569 Describe the Spiral Model's drawback.
(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
ANS. A

570 Which two approaches restrict specifying requirements at an early stage of the development cycle?
(A) Waterfall & RAD
(B) Prototyping & Spiral
(C) Prototyping & RAD
(D) Waterfall & Spiral
ANS. B

571 What one of the following is a part of SRS?
(A) Cost
(B) Design Constraints
(C) Staffing
(D) Delivery Schedule
ANS. B

572 Which model in system modelling depicts the dynamic behaviour of the system ?
(A) Context Model
(B) Behavioral Model
(C) Data Model
(D) Object Model
ANS. B

572 Which of the following property does not correspond to a good SRS ?
(A) Verifiable
(B) Ambiguous
(C) Complete
(D) Traceable
ANS. B

573 We generally use the _____ for Software Maintenance.
 (A) Integration Testing
 (B) Unit Testing
 (C) System Testing
 (D) Regression Testing
ANS. D

574 Why is Requirements Management Important ? It is due to the changes
 (A) to the environment
 (B) in technology
 (C) in customer's expectations
 (D) in all of the mentioned.
ANS. D

575 Classes and interfaces are a part of____
 (A) Structural things
 (B) Behavioral things
 (C) Grouping things
 (D) Annotational things
ANS. A

576 White Box techniques are also classified as_____
 (A) Design based testing
 (B) Structural testing
 (C) Error guessing technique
 (D) None of the mentioned
ANS. B

577 Alpha testing is done at
 (A) Developer's end
 (B) User's end
 (C) Developer's & User's end
 (D) None of the mentioned
ANS. D

578 In which step of SDLC actual programming of software code is done?

(A) Development and Documentation
(B) Maintenance and Evaluation
(C) Design
(D) Analysis
ANS. A

579 Software Testing with real data in real environment is known as
(A) alpha testing
(B) beta testing
(C) regression testing
(D) none of the mentioned
ANS. B

580 Risk management is one of the most important jobs for a_____
(A) Client
(B) Investor
(C) Production team
(D) Project manager
ANS. D

581 What is validating the completeness of a product?
(A) Identification
(B) Software
(C) Auditing and Reviewing
(D) Status Accounting
ANS. C

582 If the requirement gathering is completed, a ___ is/are produced.
(A) Slow design
(B) Quick design
(C) Slow design and Quick design both
(D) None of the mentioned above
ANS. B

583 Spiral Model is useful when,
(A) Project is large
(B) Releases are required to be frequent
(C) Requirements are unclear and complex

(D) All of the mentioned above

ANS. D

584 System design is a blueprint of the ___.

(A) Problem

(B) Solution

(C) System structure

(D) None of the mentioned above

ANS. A

585 What is a Functional Requirement?

(A) specifies the tasks the program must complete

(B) specifies the tasks the program should not complete

(C) specifies the tasks the program must not work

(D) All of the mentioned

ANS. A

586 _____ specification is also known as SRS document.

(A) white-box

(B) grey-box

(C) black-box

(D) none of the mentioned

ANS. C

587 The word which describes the importance of software design is?

(A) Complexity

(B) Quality

(C) Efficiency

(D) Accuracy

ANS. B

588 The importance of software design can be summarized in a single word which is:

(A) Efficiency

(B) Accuracy

(C) Quality

(D) Complexity

ANS. C

589 Which of the following document contains the user system requirements?
(A) SRD
(B) DDD
(C) SDD
(D) SRS
ANS. D

590 The UML was designed for describing _____
(A) object-oriented systems
(B) architectural design
(C) SRS
(D) Both object-oriented systems and Architectural design
ANS. D

591 Why is Requirements Elicitation a difficult task ?
(A) Problem of scope
(B) Problem of understanding
(C) Problem of volatility
(D) All of the mentioned
ANS. D

592 Which approach considers the project risk factor?
(A) Waterfall model.
(B) incremental model
(C) Spiral model.
(D) None of the above
ANS. C

593 By whom is unit testing done?
(A) User
(B) Developer
(C) Manager
(D) Entire Project team
ANS. B

594 What is the simplest model of software development paradigm?

(A) Spiral model
(B) Waterfall model.
(C) incremental model
(D) Agile model

ANS. B

595 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

ANS. D

596 Alpha and Beta Testing are forms of _____ .
(A) Integration testing
(B) System Testing
(C) Acceptance testing
(D) Unit Testing

ANS. C

597 Which testing is the re-execution of some subset of tests that have already been conducted to ensure the changes that are not propagated?

(A) Regression testing
(B) System Testing
(C) Acceptance testing
(D) Unit Testing

ANS. A

598   What is the waterfall model's main drawback?
  (A)   The system testing
  (B)   The difficulty in accommodating changes after requirement analysis
  (C)   The difficult in accommodating changes after feasibility analysis
  (D)   The maintenance of system
ANS.   B