

SET 5: CS Q&A

Q1. Which phase in the SDLC involves converting system specifications into a working system?

- A. Design
- B. Implementation
- C. Testing
- D. Maintenance

Correct Answer: B

Explanation: Implementation is where actual coding takes place and the system is built.

Q2. Which testing technique is used to check the interactions between integrated modules?

- A. Unit Testing
- B. Integration Testing
- C. System Testing
- D. Acceptance Testing

Correct Answer: B

Explanation: Integration Testing ensures that combined modules function correctly together.

Q3. Which tool is commonly used to track bugs and issues in software projects?

- A. Git
- B. Jenkins
- C. JIRA
- D. Eclipse

Correct Answer: C

Explanation: JIRA is a popular issue and bug tracking system used by software teams.

Q4. What command is used in Linux to view the last lines of a log file?

- A. head
- B. tail
- C. cat
- D. more

Correct Answer: B

Explanation: The tail command is used to display the last part of files, commonly logs.

Q5. What type of maintenance involves modifying software to improve performance or maintainability?

- A. Corrective
- B. Adaptive
- C. Perfective
- D. Preventive

Correct Answer: C

Explanation: Perfective maintenance improves performance or maintainability of the software.

Q6. What does the DRY principle in programming stand for?

- A. Do Retry Yourself
- B. Don't Repeat Yourself
- C. Data Repository Yield
- D. Debug Regularly Yourself

Correct Answer: B

Explanation: DRY (Don't Repeat Yourself) is a programming principle aimed at reducing code repetition.

Q7. Smoke Testing is also known as:

- A. Unit Testing
- B. Sanity Testing
- C. Confidence Testing
- D. Regression Testing

Correct Answer: C

Explanation: Smoke Testing is often referred to as Confidence Testing; it ensures basic functionality works before deeper testing.

Q8. What is the role of the “ping” command in IT support?

- A. Transfer files over a network
- B. Test network connectivity
- C. Secure a connection
- D. Restart a service

Correct Answer: B

Explanation: The ping command tests the reachability of a host on a network and measures round-trip time.

Q9. Which of the following is a version control system?

- A. Git
- B. Apache
- C. SQL
- D. Docker

Correct Answer: A

Explanation: Git is a distributed version control system used to track changes in source code.

Q10. What type of software maintenance is performed after a system crash to restore functionality?

- A. Preventive
- B. Adaptive
- C. Perfective
- D. Corrective

Correct Answer: D

Explanation: Corrective maintenance involves fixing bugs or errors found after the software is deployed.

Q11. What is the primary objective of unit testing?

- A. Validate the entire system
- B. Check the integration of modules
- C. Test individual components
- D. Identify UI issues

Correct Answer: C

Explanation: Unit testing focuses on testing individual functions or methods to ensure they work as expected.

Q12. In software development, what is a "use case"?

- A. A testing tool
- B. A bug report
- C. A list of modules
- D. A description of system behavior from the user's perspective

Correct Answer: D

Explanation: A use case describes how a user interacts with a system to achieve a goal.

Q13. What is the main purpose of version control systems?

- A. Format the code
- B. Test code
- C. Track changes and collaborate on code

D. Deploy software

Correct Answer: C

Explanation: Version control systems like Git help track code changes and manage team collaboration.

Q14. Which of the following is NOT a black-box testing technique?

A. Boundary Value Analysis

B. Equivalence Partitioning

C. Decision Table Testing

D. Statement Coverage

Correct Answer: D

Explanation: Statement coverage is a white-box testing technique.

Q15. What is the purpose of an API in software development?

A. Encrypt the database

B. Act as an interface between different software applications

C. Perform testing

D. Debug hardware

Correct Answer: B

Explanation: API (Application Programming Interface) allows communication between software applications.

Q16. Which file extension is commonly associated with configuration files in Linux?

A. .exe

B. .cfg

C. .bat

D. .docx

Correct Answer: B

Explanation: .cfg is commonly used for configuration files in Linux and other OS.

Q17. What type of software maintenance includes updating software due to changes in the environment?

- A. Adaptive
- B. Corrective
- C. Preventive
- D. Perfective

Correct Answer: A

Explanation: Adaptive maintenance adapts the software to changes in the operating environment.

Q18. What is the role of Jenkins in software development?

- A. Version control
- B. Continuous Integration/Delivery
- C. Code editor
- D. Test case generator

Correct Answer: B

Explanation: Jenkins is a tool for automating CI/CD pipelines.

Q19. Which software development model is best suited for projects with changing requirements?

- A. Waterfall
- B. V-Model
- C. Agile
- D. Spiral

Correct Answer: C

Explanation: Agile handles changes effectively due to its iterative and incremental approach.

Q20. What does the “try-catch” block handle in programming?

- A. Database calls
- B. Compilation
- C. Exceptions
- D. Input/output

Correct Answer: C

Explanation: The try-catch block is used to handle runtime exceptions in many programming languages.

Q21. Which tool is used for performance testing?

- A. Selenium
- B. JIRA
- C. JMeter
- D. Jenkins

Correct Answer: C

Explanation: JMeter is designed for load and performance testing of applications.

Q22. What is a common symptom of malware infection in a computer?

- A. Faster startup
- B. Increased security
- C. Unexpected pop-ups
- D. Improved performance

Correct Answer: C

Explanation: Malware often causes pop-ups, slowdowns, and unauthorized actions on a system.

Q23. What is refactoring in software development?

- A. Removing all comments
- B. Rewriting code to improve structure without changing behavior
- C. Testing code
- D. Updating the operating system

Correct Answer: B

Explanation: Refactoring improves code structure, readability, and maintainability without altering external behavior.

Q24. Which of the following is used to manage databases in IT support?

- A. Apache
- B. MySQL
- C. GitHub
- D. Nginx

Correct Answer: B

Explanation: MySQL is a relational database management system.

Q25. What is an example of preventive maintenance?

- A. Fixing a crash bug
- B. Installing a security update
- C. Updating software to support new OS
- D. Redesigning code for better performance

Correct Answer: B

Explanation: Preventive maintenance aims to avoid future problems, like applying security patches.

Q26. Which of the following best defines regression testing?

- A. Testing newly developed code
- B. Testing only the user interface

- C. Testing previously working functionality after changes
- D. Testing database performance

Correct Answer: C

Explanation: Regression testing ensures that existing functionality still works after code changes.

Q27. What does the acronym SSD stand for in computer hardware?

- A. Software System Drive
- B. Secure System Device
- C. Solid State Drive
- D. Standard System Disk

Correct Answer: C

Explanation: SSD is a high-speed storage device with no moving parts.

Q28. What is continuous integration (CI)?

- A. Integrating new hires
- B. Combining modules once at the end
- C. Frequently merging code into a shared repository
- D. Designing test cases

Correct Answer: C

Explanation: CI is a DevOps practice of merging code regularly to detect issues early.

Q29. Which of the following is a static code analysis tool?

- A. Selenium
- B. SonarQube
- C. Jenkins
- D. Postman

Correct Answer: B

Explanation: SonarQube is used to inspect code quality and perform static analysis.

Q30. What does Ctrl + Alt + Del typically do on a Windows system?

- A. Turns off the screen
- B. Opens Task Manager/Login options
- C. Formats the hard disk
- D. Opens BIOS settings

Correct Answer: B

Explanation: Pressing Ctrl + Alt + Del opens Task Manager options or a login screen in Windows.

Q31. What is the primary purpose of a constructor in object-oriented programming?

- A. Destroy objects
- B. Save memory
- C. Initialize an object
- D. Compile the code

Correct Answer: C

Explanation: Constructors initialize an object when it is created, setting default or initial values.

Q32. Which of the following is a major goal of software testing?

- A. Increase hardware speed
- B. Reduce code reuse
- C. Identify defects
- D. Write code

Correct Answer: C

Explanation: Software testing primarily aims to detect bugs and ensure software quality.

Q33. In IT support, which port is used by HTTP?

- A. 20
- B. 25
- C. 80
- D. 443

Correct Answer: C

Explanation: Port 80 is the default port used by HTTP protocol.

Q34. What is the purpose of the chmod command in Linux?

- A. Change hostname
- B. Change file ownership
- C. Change file permissions
- D. Create directories

Correct Answer: C

Explanation: chmod changes the permission of a file or directory.

Q35. Which metric indicates the average time to fix a defect after it's found?

- A. MTTF
- B. MTTR
- C. MTBF
- D. MTTA

Correct Answer: B

Explanation: Mean Time To Repair (MTTR) measures how long it takes to fix a problem.

Q36. What is the role of assertions in unit testing?

- A. Compile code
- B. Check that conditions are true

- C. Build user interfaces
- D. Track memory

Correct Answer: B

Explanation: Assertions check expected outcomes in tests and raise errors if conditions fail.

Q37. What is meant by "hotfix" in software maintenance?

- A. A major upgrade
- B. Temporary removal of features
- C. Quick bug fix applied in production
- D. Security scan

Correct Answer: C

Explanation: A hotfix is a fast, targeted update to resolve critical issues in production.

Q38. Which keyword is used to define a function in Python?

- A. func
- B. define
- C. method
- D. def

Correct Answer: D

Explanation: def is used in Python to define a function.

Q39. Which type of test is performed by the client before accepting the product?

- A. Regression testing
- B. Integration testing
- C. Alpha testing
- D. User Acceptance Testing

Correct Answer: D

Explanation: User Acceptance Testing (UAT) is done by the client to validate if requirements are met.

Q40. What does SaaS stand for in cloud computing?

- A. Software as a Service
- B. Software as a Script
- C. System as a Solution
- D. Security as a Standard

Correct Answer: A

Explanation: SaaS delivers software applications over the internet as a service.

Q41. Which of the following is used for system restore in Windows?

- A. Task Manager
- B. Control Panel
- C. System Configuration
- D. System Restore

Correct Answer: D

Explanation: System Restore reverts the system files to a previous state without affecting personal files.

Q42. What is the purpose of a debugger?

- A. Execute SQL
- B. Create user interface
- C. Find and fix program errors
- D. Encrypt passwords

Correct Answer: C

Explanation: A debugger helps in identifying and fixing errors in code by running step-by-step.

Q43. Which HTTP status code indicates "Not Found"?

- A. 200
- B. 301
- C. 403
- D. 404

Correct Answer: D

Explanation: HTTP status code 404 means the requested resource was not found.

Q44. What is meant by “scalability” in software systems?

- A. Ability to use more hardware
- B. Ability to handle growth or increased load
- C. Ability to detect bugs
- D. Ability to generate code

Correct Answer: B

Explanation: Scalability is a system's capacity to grow in usage without performance loss.

Q45. What is the first step in the debugging process?

- A. Write test cases
- B. Identify the bug
- C. Replace libraries
- D. Compile the program

Correct Answer: B

Explanation: Debugging starts with identifying or reproducing the bug before fixing it.

Q46. In the Agile methodology, what is a "sprint"?

- A. A documentation cycle
- B. A short development cycle with defined goals

- C. A user interface framework
- D. A marketing tool

Correct Answer: B

Explanation: A sprint is a time-boxed effort in Agile where a specific set of tasks is completed.

Q47. Which protocol is used for sending email?

- A. FTP
- B. POP3
- C. SMTP
- D. HTTP

Correct Answer: C

Explanation: SMTP (Simple Mail Transfer Protocol) is used to send emails between servers.

Q48. What is a memory leak?

- A. Loss of data due to virus
- B. CPU overload
- C. Unused memory that is not released
- D. Storage overflow

Correct Answer: C

Explanation: Memory leak happens when programs do not release unused memory, affecting performance.

Q49. What is the benefit of code reviews?

- A. Increases runtime
- B. Catches errors early
- C. Slows down development
- D. Reduces documentation

Correct Answer: B

Explanation: Code reviews help in detecting bugs, enforcing standards, and improving quality.

Q50. What does 127.0.0.1 represent in networking?

- A. Broadcast address
- B. External IP
- C. Loopback (localhost)
- D. Gateway IP

Correct Answer: C

Explanation: 127.0.0.1 is the loopback address used to test networking on the local machine.

Q51. Which programming construct is used to repeat a block of code multiple times?

- A. If-else
- B. Switch
- C. Loop
- D. Function

Correct Answer: C

Explanation: Loops such as for, while, and do-while are used to execute code repeatedly.

Q52. What is the purpose of load testing?

- A. Check the look and feel of an application
- B. Test the performance under expected load
- C. Identify broken links
- D. Validate source code

Correct Answer: B

Explanation: Load testing determines how a system behaves under a specific expected load.

Q53. Which command in Windows shows the IP configuration of the machine?

- A. ping
- B. netstat
- C. ipconfig
- D. tracert

Correct Answer: C

Explanation: The ipconfig command displays IP address, subnet mask, and default gateway.

Q54. Which of the following is an example of preventive maintenance?

- A. Fixing a runtime error
- B. Upgrading to a newer programming version
- C. Adding new features
- D. Cleaning unused files and dependencies

Correct Answer: D

Explanation: Preventive maintenance is done to avoid future problems, like cleaning up files.

Q55. Which access modifier in Java makes variables accessible only within the class?

- A. public
- B. protected
- C. private
- D. static

Correct Answer: C

Explanation: private limits the scope of variables and methods to the class they are declared in.

Q56. What is a regression test?

- A. A test to check new features
- B. A test to verify old features after updates
- C. A performance test
- D. A security test

Correct Answer: B

Explanation: Regression testing ensures that new code changes have not affected existing functionality.

Q57. What is BIOS responsible for?

- A. Booting the operating system
- B. Compiling the code
- C. Running Python scripts
- D. Managing user accounts

Correct Answer: A

Explanation: BIOS (Basic Input Output System) initializes hardware and starts the OS on boot.

Q58. What is the output of `5 == "5"` in most strongly typed programming languages?

- A. true
- B. false
- C. Error
- D. Undefined

Correct Answer: B

Explanation: In strongly typed languages, `==` checks both value and type, so number and string won't match.

Q59. What is the main aim of software configuration management?

- A. Software testing
- B. Version control and tracking changes
- C. UI design
- D. Performance monitoring

Correct Answer: B

Explanation: Configuration management ensures consistency and control over software changes.

Q60. What is the primary benefit of exception handling in software?

- A. Faster code
- B. Security
- C. Manage runtime errors gracefully
- D. Increase memory

Correct Answer: C

Explanation: Exception handling allows graceful handling of errors without crashing the program.

Q61. Which test is usually done by end-users at the client site?

- A. Unit testing
- B. Load testing
- C. Beta testing
- D. Smoke testing

Correct Answer: C

Explanation: Beta testing is performed by end-users in a real environment before full release.

Q62. What is the use of the nslookup command?

- A. Check IP configuration
- B. Find domain name to IP mapping

- C. Display MAC address
- D. Show running services

Correct Answer: B

Explanation: nslookup is used to query DNS and resolve domain names to IP addresses.

Q63. What is the outcome of skipping maintenance activities for software?

- A. Faster performance
- B. Reduced errors
- C. Increased risk of failure and outdated software
- D. Better documentation

Correct Answer: C

Explanation: Lack of maintenance can lead to vulnerabilities, bugs, and outdated features.

Q64. In SQL, what does the JOIN clause do?

- A. Combines rows from two or more tables
- B. Deletes tables
- C. Creates indexes
- D. Adds columns

Correct Answer: A

Explanation: JOIN is used to combine data from multiple tables based on a related column.

Q65. Which method is used in object-oriented programming to achieve runtime polymorphism?

- A. Method Overloading
- B. Method Overriding
- C. Inheritance

D. Encapsulation

Correct Answer: B

Explanation: Method overriding allows a subclass to provide specific implementation of a method at runtime.

Q66. What does black box testing focus on?

- A. Source code structure
- B. Algorithm efficiency
- C. Functionality of the application
- D. Class inheritance

Correct Answer: C

Explanation: Black box testing checks the application's output without knowing internal code.

Q67. What is the function of a DHCP server?

- A. Stores email
- B. Assigns IP addresses dynamically
- C. Encrypts passwords
- D. Routes web traffic

Correct Answer: B

Explanation: DHCP dynamically assigns IP addresses to devices on a network.

Q68. What does a stack overflow error usually indicate?

- A. Infinite loop
- B. Memory leak
- C. Recursion without termination
- D. Too many files open

Correct Answer: C

Explanation: Stack overflow often results from unbounded recursion consuming stack memory.

Q69. Which SDLC phase includes feasibility analysis and requirement gathering?

- A. Design
- B. Development
- C. Planning
- D. Deployment

Correct Answer: C

Explanation: Planning includes feasibility study and gathering initial software requirements.

Q70. Which command is used to stop a process in Linux by its PID?

- A. pause
- B. quit
- C. kill
- D. close

Correct Answer: C

Explanation: The kill command is used with a process ID to stop running processes.

Q71. Which principle in Object-Oriented Programming promotes hiding internal details?

- A. Inheritance
- B. Abstraction
- C. Encapsulation
- D. Polymorphism

Correct Answer: C

Explanation: Encapsulation hides internal object details and shows only necessary features through interfaces.

Q72. Which type of testing is conducted to ensure that a fix has not affected other parts of the application?

- A. Sanity Testing
- B. Regression Testing
- C. Load Testing
- D. Usability Testing

Correct Answer: B

Explanation: Regression testing is done after code changes to ensure existing functionality remains unaffected.

Q73. Which port is typically used for HTTP?

- A. 20
- B. 21
- C. 80
- D. 443

Correct Answer: C

Explanation: Port 80 is the default for HTTP (HyperText Transfer Protocol) traffic.

Q74. What type of maintenance is required when software is updated to run on a newer OS?

- A. Adaptive
- B. Corrective
- C. Preventive
- D. Perfective

Correct Answer: A

Explanation: Adaptive maintenance involves updating software to run in a new environment.

Q75. Which keyword in Java is used to inherit a class?

- A. implements
- B. super
- C. extends
- D. inherits

Correct Answer: C

Explanation: The extends keyword is used to inherit a class in Java.

Q76. What is the aim of usability testing?

- A. Check performance
- B. Check how user-friendly an application is
- C. Check security
- D. Check memory usage

Correct Answer: B

Explanation: Usability testing focuses on the ease of use and user experience.

Q77. What is the function of a firewall?

- A. Optimize software
- B. Control network traffic based on rules
- C. Manage memory
- D. Connect printers

Correct Answer: B

Explanation: Firewalls filter network traffic to protect against unauthorized access.

Q78. Which design pattern provides a simplified interface to a complex system?

- A. Factory
- B. Singleton
- C. Facade
- D. Observer

Correct Answer: C

Explanation: The Facade pattern offers a high-level interface to a complex subsystem.

Q79. What does SDLC stand for?

- A. Software Design and Logic Compilation
- B. Software Development Lifecycle
- C. System Design and Launch Cycle
- D. Software Debugging and Launch Control

Correct Answer: B

Explanation: SDLC stands for Software Development Lifecycle, covering phases from planning to maintenance.

Q80. Which type of test is performed by the developers themselves before handing over to testers?

- A. Alpha Testing
- B. System Testing
- C. Unit Testing
- D. Smoke Testing

Correct Answer: C

Explanation: Developers perform unit testing to test individual modules of code.

Q81. What is the use of the chmod command in Unix/Linux?

- A. Change file ownership
- B. View directory
- C. Modify file permissions
- D. Edit text files

Correct Answer: C

Explanation: chmod changes the permissions of a file or directory.

Q82. What is the term for the process of locating and fixing bugs?

- A. Compiling
- B. Refactoring
- C. Debugging
- D. Deploying

Correct Answer: C

Explanation: Debugging is the process of finding and resolving defects in code.

Q83. Which software model is best suited for small projects with well-defined requirements?

- A. Agile
- B. Spiral
- C. Waterfall
- D. V-Model

Correct Answer: C

Explanation: Waterfall is suitable for small, well-understood projects with clear requirements.

Q84. Which HTTP method is used to send data to the server to create/update a resource?

- A. GET

- B. POST
- C. DELETE
- D. HEAD

Correct Answer: B

Explanation: POST is used to send data to the server, often used in form submissions.

Q85. What is refactoring in software development?

- A. Fixing bugs
- B. Improving internal structure without changing behavior
- C. Adding new features
- D. Rewriting from scratch

Correct Answer: B

Explanation: Refactoring is improving the code structure without altering its external behavior.

Q86. What does the acronym “VPN” stand for?

- A. Virtual Private Network
- B. Visual Protected Node
- C. Verified Personal Network
- D. Variable Protocol Node

Correct Answer: A

Explanation: VPN creates a secure private network over the internet.

Q87. Which of the following is NOT a valid data type in Python?

- A. list
- B. set
- C. map
- D. tuple

Correct Answer: C

Explanation: map is a function in Python, not a data type.

Q88. What does the term "hotfix" refer to in software maintenance?

- A. Urgent patch to fix a bug
- B. Scheduled upgrade
- C. Minor feature update
- D. Code refactor

Correct Answer: A

Explanation: A hotfix is a quick fix to resolve critical issues in production systems.

Q89. What tool would you use for automated testing in Java?

- A. Maven
- B. JUnit
- C. Notepad++
- D. Jenkins

Correct Answer: B

Explanation: JUnit is a popular framework for writing and running unit tests in Java.

Q90. What is an SLA in IT support?

- A. Software Licensing Agreement
- B. Service Level Agreement
- C. System Log Access
- D. Secure Login Authority

Correct Answer: B

Explanation: SLA (Service Level Agreement) defines the level of service expected between provider and client.

Q91. Which of the following Agile frameworks uses sprints and daily stand-ups?

- A. Waterfall
- B. Scrum
- C. Spiral
- D. V-Model

Correct Answer: B

Explanation: Scrum is an Agile framework that uses fixed-length sprints and daily meetings.

Q92. What is the purpose of the try-except block in Python?

- A. Looping through data
- B. Exception handling
- C. Defining a function
- D. Writing comments

Correct Answer: B

Explanation: The try-except block is used to handle exceptions and prevent program crashes.

Q93. What kind of testing is performed without knowledge of internal code or structure?

- A. White-box Testing
- B. Unit Testing
- C. Black-box Testing
- D. Static Testing

Correct Answer: C

Explanation: Black-box testing evaluates software functionality without looking into internal code.

Q94. Which key is typically used in Windows to open Task Manager quickly?

- A. Ctrl + Alt + Delete
- B. Ctrl + Shift + Esc
- C. Alt + F4
- D. Windows + R

Correct Answer: B

Explanation: Ctrl + Shift + Esc directly opens Task Manager.

Q95. Which metric indicates the time between failure and recovery of a system?

- A. MTTR
- B. MTTF
- C. MTBF
- D. SLA

Correct Answer: A

Explanation: Mean Time To Repair (MTTR) measures the average time taken to recover from a failure.

Q96. In Git, what does the git clone command do?

- A. Uploads changes
- B. Creates a branch
- C. Makes a copy of a repository
- D. Commits changes

Correct Answer: C

Explanation: git clone is used to copy a remote repository to your local machine.

Q97. Which phase of testing is carried out by the end users?

- A. Unit Testing

- B. Regression Testing
- C. User Acceptance Testing
- D. Integration Testing

Correct Answer: C

Explanation: UAT is the final testing phase performed by actual users to ensure requirements are met.

Q98. Which file format is typically used to describe software dependencies in Node.js?

- A. pom.xml
- B. build.gradle
- C. package.json
- D. requirements.txt

Correct Answer: C

Explanation: package.json contains metadata and dependencies in Node.js projects.

Q99. What does “scalability” refer to in software systems?

- A. Reducing bugs
- B. Supporting increasing loads efficiently
- C. Speeding up builds
- D. Writing documentation

Correct Answer: B

Explanation: Scalability is the ability of a system to handle growth in workload effectively.

Q100. What is the primary purpose of version control?

- A. Debugging
- B. Code optimization
- C. Tracking changes in code over time

D. Minimizing file size

Correct Answer: C

Explanation: Version control systems like Git are used to track and manage changes in code over time.

The Mann Maker