**Manual Testing:**

Manual testing is the process of testing software manually without the use of automation tools. Testers simulate end-user behaviour and verify that all features work as expected.

Example: Checking if a login page works by entering different usernames and passwords manually.

**Automation Testing**

Involves using tools/scripts to automate repetitive or complex test cases.

Example: Running a script that checks if a login page works for multiple users without typing manually.

**Functional Testing:**

Functional testing verifies the operations and actions of the application to ensure it meets the specified requirements.

Example: Clicking the "Add to Cart" button should add the item to the cart.

**Non-Functional Testing**

Non-functional testing evaluates how the application performs under various conditions, focusing on quality attributes such as performance, scalability, and reliability.

Example: Checking how fast a webpage loads.

**Unit Testing**

Testing small parts or modules of software.

Examples: Checking if a loop executes correctly, Checking if a calculator app correctly adds two numbers.

**Integration Testing**

Checking if different parts of the software working together.

Example: A banking app should correctly update the balance when a transfer is made.

**System Testing**  
System testing is a process of validating the entire software system to ensure it meets the client’s requirements

Example: Checking if all features of an e-commerce website like add to cart ,search, payment.

**Smoke Testing**

Quick testing to check if the main features work before detailed testing.

Example: After a new update, checking if the login page and home page load correctly.

**Sanity Testing**

Testing specific changes to confirm they work.

Example: If a developer fixes a "forgot password" issue, sanity testing ensures the fix works without testing everything else.

Regression Testing

Regression Testing ensures that changes like bug fixes, new functionalities, or modifications made by developers do not negatively impact the existing functionality of the application

Example: After adding a new payment method, ensuring old payment methods still work.

**Performance Testing**

Testing how fast and stable the software is.

Example: Checking if a website crashes when 1000 users try to log in at once.

**Stress Testing**

Testing how software behaves under extreme conditions.

Example: Checking what happens when a shopping app gets 10x more traffic than usual.

**Security Testing**

Ensuring data and user information are safe.

Example: Checking if an e-commerce website protects customer credit card details.

**Usability Testing**

Testing how easy and user-friendly the software is.

Example: Checking if users can easily find the "Sign Up" button on a website.

**Exploratory Testing**

Testing without predefined test cases to find unexpected bugs.

Example: Randomly clicking buttons and entering different inputs to see if anything breaks.

**Acceptance Testing**

Testing if the software meets business and user requirements.

Example: Before launching a food delivery app, testing if users can order food without issues.

**Alpha Testing**

Definition: Testing done by developers and testers before releasing software to real users.

Example: Internal employees testing a new banking app before making it public.

Beta Testing

Testing by real users before the official launch.

Example: A game company releases a beta version of a new game for players to try and report bugs.