1. **SDLC (Software Development Life Cycle):**

**The following phases Describes the Project Development process.**

**1. Project Initiation/planning**  
>> generate a high-level view of the intended project

>> determine the goals of the project.

>> The feasibility study is sometimes used to present the project to management in an attempt to gain funding / Budget for the project.

Projects are typically evaluated in three areas of feasibility:

Economical, Operational, and Technical.

Client, Arc, PM, TM

**2. Analysis / Requirement Gathering**  
During this phase, Project Manager / Business Analyst should be responsible to discuss with the Stake Holders (Business users) and find out the requirements for the project

**Following are the Different Categories of Requirements**  
Customer Requirements  
Functional Requirements  
Non-functional Requirements  
Performance Requirements  
Design Requirements

**3. Design**   
**In systems design** functions and operations are described in detail, including screen layouts, business rules, process diagrams and other documentation.

Design elements describe the desired software features in detail

and generally include functional hierarchy diagrams,

screen layout diagrams,

tables of business rules,

business process diagrams.

These design elements are intended to describe the software in sufficient detail that skilled programmers may develop the software with minimal additional input.

**4. Build or coding**

**Developers will do coding and develop the application.**Unit testing are done in this stage by the developers.

This stage is intermingled with the next in that individual modules will need testing before integration to the main project.

Code will be tested in every section.

**5. Testing**The code is tested at various levels in software testing.

Sanity, system and user acceptance testing are often performed.

**Types of testing:**System testing  
Integration testing  
Black box testing  
White box testing  
Module testing  
Regression testing  
Automation testing  
User acceptance testing  
Performance testing

**6. Release and maintenance**

The deployment of the system includes changes and enhancements before decommissioning or sunset of the system. Maintaining the system is an important aspect of SDLC. As key personnel change positions in the organization, new changes will be implemented, which will require system updates.

1. **STLC (Software Test Life Cycle)**

Software Testing Life Cycle has the below phases in execution of Testing a project  
**1. Analysis & Planning**  
During this phase Analyze the

project testing is manual / Automation testing,

Identify Resource required,

Types of Testing Required.

Also discuss with Business Analyst, Project manager, Business users and understand the Development Schedule, Project Build Release dates, Project Release dates.

**Forming the Testing Team:**  
In this phase Test Lead / Manager has to decide what are in scope for testing, Estimations, Budget, Schedules, Type of Testing to be conducted, Identify the deliverables, Approach.

During this phase preparation of high level **test plan**- is designed to prescribe the scope, approach, resources, and schedule of all testing activities.

The plan must identify the items to be tested, Items not to be tested, the types of testing to be performed, the team responsible for testing, the resources and schedule required to complete testing, and the risks associated with the plan.).

**2. Test Design**  
After Test Plan is prepared / During the Plan KT (Knowledge transfer) sessions are also conducted to the Testing Team members to understand the Project Requirements / Functionalities.

After understanding the Requirements **Test Scenarios/Test Cases** were developed for Functional testing / System Testing.

The Test Case should have the Details like TestCaseID, Priority, Test Name, Steps, Description, Expected Results, Actual Results and Status

Test Cases are designed for  
Sanity Test Cases  
Functional Test Cases  
Regression Test Cases  
Negative Test Cases

Automation Test Scripts are developed for the existing Test Cases /Functionalities

**3. Test Execution**  
The application is validated for the Test cases and check the application is working as per Requirements. To execute the application **Test Setup** is prepared with the required Environment and the application is tested with Different **Test Data**.

**4. Reporting & Tracking**  
Report any **Bug/Defects** to the Development team if any functionality is not working as per the Requirements.  
The defect Report should have details  
Defect ID, Summary, Detected By, Date, Assigned To, Severity, Priority, Status, Module, Build Ver, Environment, Reproducible, Expected, Actual, Comments

**5. Test Closure**  
After Testing is completed plan for Test Closure based on if no new defects are found, No risk in the project, all the functionalities are tested and all the defects are closed

**3. General Testing Process in the Company**

* Whenever we get a new project for Testing, we have a initial Project meetings are conducted to get the familiarity of the project and also to understand the details like about the project, scope, is it manual testing / Automation is required? Who are the Development Team, Who is Testing Team, how many resource are required and available, who project manager, about Client, The Technology of the project is like is the project is developed in Java / .Net…etc (Kickoff meeting)
* Initially for the Team members / Test Lead KT (knowledge transfer)/walkthrough sessions are conducted by the Sr. Resource of the project so that the team can understand about the Project, The Testing Team also can go through the SRS/ FRS…etc or if already developed applications go through the application and understand the project functionality
* Based on the Project Requirements Test Plan is prepared as specified in the STLC.
* Once the plan is prepared, the Test Scenarios are derived from the functionalities
* For the Scenarios Test Cases are prepared
* After the Test Cases are prepared Reviews are conducted to ensure the Test Cases are correct
* During this phase as per the planned schedule when the build is released by the Developers , Testing is conducted in the Test Environment to ensure the application is working if the application is not working Defects are posted to the developers

**4. Responsibility of a QA Tester**

* Understand the Project Requirements
* Review of the Requirements / Test Requirement Specification (TRS)
* Prepare the Scenarios
* Design the Test Cases (specified in the above STLC Section)
* **Execute/Run/Validate** the application to ensure the application is working as per the requirements.
* Report the Defects to the Development Team and Track the defects.
* Ensure the Product / Project satisfies the Standards
* Communication with the Business users, Developers
* Preparing daily/weekly status reports
* Conducting meetings