**Task -5 Manual Testing**

***Q2.1. Key Points on Test Scenario:***

1. A Test Scenario is a statement describing the functionality of the application to be tested.
2. It is used for end-to-end testing of a feature and is generally derived from the use cases.
3. Test scenarios can serve as the basis for lower-level test case creation.
4. A single test scenario can cover one or more test cases. Therefore, a test scenario has a one-to-many relationship with the test cases.

**Advantages of Test Scenario:**

1. Scenario testing can be carried out relatively faster than testing using test cases.
2. It can ensure good test coverage since the test scenarios are derived from user stories.
3. It saves a lot of time. Hence, these are better with projects having time constraints.
4. Test Scenario is easy to understand

**Template of Test Scenario:**

|  |  |  |
| --- | --- | --- |
| **Test Scenario ID** | **Test Scenario Name** | **Test Description** |
| TS\_01 | Login with valid credentials | Verify user is able to login with the valid username & password |
| TS\_02 | Login with invalid credentials | Verify user is not able to login with invalid username & password |

***Q2.2. Key Points on Test case:***

1. A test case is a defined format for software testing required to check if a particular application/software is working or not.
2. A test case consists of a certain set of conditions that need to be checked to test an application or software.
3. That is if the result output meets the expected output or not.
4. A test case consists of various parameters such as
5. **Module Name**: Subject or title that defines the functionality of the test.
6. **Test Case Id**: A unique identifier assigned to every single condition in a test case.
7. **Test scenario**: The test scenario provides a brief description to the tester, as in providing a small overview to know about what needs to be performed and the small features, and components of the test.
8. **Test Case Description**: The condition required to be checked for a given software.
9. **Test Steps**: Steps to be performed for the checking of the condition.
10. **Prerequisite**: The conditions required to be fulfilled before the start of the test process.
11. **Test Priority**: As the name suggests gives priority to the test cases that had to be performed first, or are more important and that could be performed later.
12. **Test Data**: The inputs to be taken while checking for the conditions.
13. **Test Expected Result**: The output which should be expected at the end of the test.
14. **Actual Result**: The output that is displayed at the end.
15. **Status**: The status of tests such as pass, fail, blocked, etc.
16. **Comments**: Remarks on the test regarding the test for the betterment of the software.

***Q2.3. Key Points on Test Strategy:***

1. The Test strategy document is a high-level document that outlines the testing technique used in the [Software Development Life Cycle](https://www.geeksforgeeks.org/software-development-life-cycle-sdlc/) and confirms the test kinds or levels that will be performed on the product.
2. A test strategy is a plan for defining an approach to the Software Testing Life Cycle (STLC).
3. The test strategy provides the following details, which are required while writing the test document.
4. What technique must be used in addition to this?
5. Which of the modules will be examined?
6. What criteria apply for entry and exit?
7. What kind of testing is necessary?

**Elements of Test Strategy:**

1. **Scope and Overview:**
2. An overview of the project, as well as information on who should utilize this page.
3. Include information such as who will evaluate and approve the document.
4. Define the testing activities and phases that will be performed, as well as the timetables that will be followed.
5. **Testing Methodology:**
6. Define the testing process, testing level, roles, and duties of each team member.
7. Describe why each test type is defined in the test plan (for example, unit, integration, system, regression) should be performed, as well as details such as when to begin, test owner, responsibilities, testing approach.
8. **Testing Environment Specifications:**
9. The information about the number of environments and the needed configuration for each environment should be included in the test environment setup.
10. Define the number of users supported in each environment, as well as each user’s access roles and software and hardware requirements, such as the operating system, RAM, free disc space, and the number of systems.
11. Define a backup and restoration strategy for test data.
12. **Testing Tools:**
13. Define the tools for test management and automation that will be utilized to execute the tests.
14. Describe the test approach and tools needed for performance, load, and security testing.
15. **Release Control:**
16. Different software versions in test and UAT environments can occur from unplanned release cycles.
17. Set up a build management process that answers questions like where the new build should be made available, where it should be deployed when to receive the new build, where to acquire the production build, who will give the go signal for the production release, and so on.
18. **Risk Analysis:**
19. All potential hazards associated with the project are described in the test strategy document and can become an issue during test execution.
20. Furthermore, a defined strategy is established for inclining these risks in order to ensure that they are carried out appropriately.
21. Also had a backup plan.
22. **Review and Approval:**
23. When all of the testing activities are stated in the test strategy document, it is evaluated by the persons that are involved, such as:
24. System Administration Team.
25. Project Management Team.
26. Development Team.
27. Business Team.
28. Starting the document with the right date, approver name, comment, and summary of the reviewed modifications should be followed.
29. It should also be evaluated and updated on a regular basis as the testing procedure improves.

***Q2.4. Key Points on Test Plan:***

1. A [test plan](https://www.geeksforgeeks.org/software-testing-test-plan-estimates-and-strategy/) is a document that consists of all future testing-related activities.
2. It is prepared at the project level and in general, it defines work products to be tested, how they will be tested, and test type distribution among the testers.
3. Before starting testing there will be a test manager who will be preparing a test plan.
4. In any company whenever a new project is taken up before the tester is involved in the testing the test manager of the team would prepare a test Plan.
5. The test plan serves as the blueprint that changes according to the progressions in the project and stays current at all times.
6. It serves as a base for conducting testing activities and coordinating activities among a QA team.
7. It is shared with Business Analysts, Project Managers, and anyone associated with the project.

**Main Objectives of Test Plan:**

1. **Overview of testing activities:** The test plan provides an overview of the testing activities and where to start and stop the work.
2. **Provides timeline:** The test plan helps to create the timeline for the testing activities based on the number of hours and the workers needed.
3. **Helps to estimate resources:** The test plan helps to create an estimate of the number of resources needed to finish the work.
4. **Serves as a blueprint:** The test plan serves as a blueprint for all the testing activities, it has every detail from beginning to end.
5. **Helps to identify solutions:** A test plan helps the team members they consider the project’s challenges and identify the solutions.
6. **Serves as a rulebook:** The test plan serves as a rulebook for following rules when the project is completed phase by phase.

***Q2.5. Key Points on Test Summary Report:***

1. Test Report is a document which contains a summary of all test activities and final test results of a testing project.
2. Test report is an assessment of how well the testing is performed.
3. Based on the test report, stakeholders can evaluate the quality of the tested product and make a decision on the software release.
4. Test report Contains following,
5. **Project Information:** All information of the project such as the project name, product name, and version should be described in the test report.
6. **Test Objective:** Test Report should include the objective of each round of testing, such as Unit Test, Performance Test, System Test …Etc.
7. **Test Summary:** Test summary should include the following
8. The number of test cases executed
9. The numbers of test cases pass
10. The numbers of test cases fail
11. Pass percentage
12. Fail percentage & comments.
13. **Test Defect:** One of the most important information in Test Report is defect. The report should contain following information.
14. Total number of bugs
15. Status of bugs (open, closed, responding)
16. Number of bugs open, resolved, closed
17. Breakdown by severity and priority