Roll no: 2023020106?.

Assignment No 4.

Q1 Mention the responsibility of the Test managers?

→ The Test manager play a crucial role in ensuring the quality of the s/w product by playing co-ordinating and overseeing testing activates. there are the key responsibilities:-

a) Test Strategy & planning:-
Develop a comprehensive test strategy and test plans, ensuring alignment with project goal and quality requirements.

b) Resource management:-
Allocate and manage testing resources including personal tools and environments, to ensure efficient test executions.

c) Test Process Improvement:-
Continuously improve testing processes methodologies and tools to enhance the efficiency and effectiveness of the testing efforts.

d) Risk management:-
Identify, assess and mitigate risks related to testing and the overall s/w delivery process

e) Test Execution oversight:-
Test oversee execution, ensuring adherence to the test schedules scope & a quality standards

f) Defect management:-
Track & manage defect throughout the testing lifecycle ensuring timely reporting, resolution, and retesting.

Q2. What is Configuration Management?

→ Configuration management is a process used in s/w engineering and It that ensure the consistency of products performance, functionality and design throughout its lifecycle. It involve the systematic management of changes of the configuration of a system ensuring that s/w h/w & associated documentation are updated in a controlled and reliable manner.

- Key aspects:-

1) Version control:-
It can involve tracking & controlling changes to s/w code doc and other critical assets. It ensure that multiple versions of these assets are maintained & changes can be traced.

2) Change control:-
It can manage change to configuration items, ensuring that change are introduce in a structured and control manner.

3) Configuration Identification:-
This involve identifying the item that need to be managed and establishing baselines that serve as references for further change.

4) Configuration status Accounting:-
This contain record and responding the current state of configuration item including details, of change version & updates.

5) Build management :-
It can help in automating the process of building s/w from its source code ensuring consistency & reliability in every version.

Q.3) What is Test cases?
→ Test Cases :-
A Test Cases is detailed docs or set of steps designed to validate whether a s/w appln fun^n as expected. It defines the condition and criteria that will be used to determine wether a features or functionality of the appl^n is working correctly.

* Key Components :-
1) Test Case Id :- A unique identifier for the test cases
2) Test Description :- A brief description of the Test objective & what is being tested.
3) Preconditions :- Any conditions or prerequisits that that must be met before the test can executed.
4) Test Steps :- A steps-by-steps guide detailing the action that need to be performed to execute the test.
5) Test Data :- Input data that is used in the test
6) Expected Record :- The expected outcome of the test cases if the system fun^n correctly.

* Purpose :-
1) Validation :- Ensures that the appln meet the specified requirement
2) Traceability :- Providers clear path from requirements to tests, helping to ensuring comprehensive tests.

3) Reusability :- well-written test cases can be reused for future testing efforts, such as regression testing.

Q.4) What diff. betn Test Scenarious and Test case?
→

	Test Scenario	Test Case
1)	A high-level description of what need to be tested. covering broad functn or a specifics features	A detailed docs specifying exact steps inputs, and expected outcomes to validate a particular functionality.
2)	High-level focuses on what needs to be tested	Low-level focused on how to test and the specific steps involved.
3)	More abstract - covers multiple test conditions or functionality	More specific often focus on one condition or functionality
4)	Less Docs! usually brief description of test objective	More detailed docs including test step, test data precondition & expected docs.
5)	Helps ensures fully coverage of all possible functionalities feature or user flows	Provides steps-by-step instructions for testers to verify specific functionalities under specific conditions

Q5) What is test planning? What are work products in testing?
→ Test planning is the process of defining the obj. scope, approach research and schedule for the testing activities of s/w project. The goal is to

ensure a clear understanding of what need tobe test how. It will be tested and risks and set quality goals the test plan document is the main deliverable of this process.

Work product in Testing are deliverables created as part of the testing process. They are essential for planning execution monitoring and evalution the testing is conducted in an organized tracable and measurable way.

* Common Work product in Testing :-

1) Test plan :- A docs that outline the testing approach resources schedule & scop.
2) Test Scenarios :- High-level descriptions of what functionality will be tested.
3) Test Scripts :- code or instructions for automated testing
4) Test Data :- The data used to execute test case
5) Test scripts :- code or instructions for automated testing

Q6 What is Testing? How to ~~find~~ set test case priority in TestNG?

→ TestNG

TestNG is a testing framework inspired by JUnit and NUnit but introduced additional fun that make it more powerful and flexible. NG stands for Next Generation.

TestNG is designed to simplify test configuration and execution, particularly in Java app. It support various of testing such as unit testing integration testing and end-to-end testing.

In TestNG you can set the priority of test cas to determine the order in which they are executed by default. TestNG does not guarantee the order of test cases execution unless the priority is explicitly specified.

* Step to set Test cases priority :-

a) Use the priority Attribute :-

The @Test annotation in TestNG include an optional priority attribute that allows you to assign an execution priority to each test method.

b) Lower Priority first :-

TestNG runs test in ascending order of prio A test method with priority = 0 will be executed befor one with priority = 1 and so on.

c) Default Priority :-

If no priority is specified the default value is '0' Test method without priority will run in any order after the once with defined priority.

Q7. How do you organize a test plan?

→ Organizing a test plan is critical step in the Sh testing process to ensure that all aspects of testing are planned, executed, and managed effectively.

A well-structured test plan provides a roadmap for the testing team and ensure clarity for al Stakeholder. Bellow is a typical structure for organizing a test plan.

a) Test Plan Identifier :-
A unique identifier for the test plan, such as version number or project code. This helps in tracking the test plan throughout the SDLC development lifecycle.

b) Introduction :-
Clearly state the purpose of the test plan & what you aim to achive through testing. Define the boundaries of the testing efforts including feature & functionality to be tested.

c) Test Items :-
List the specific component modules or functionality that will be tested, such as UI, API, database, or specific features.

d) Test Objective :-
Clearly define the objectives of testing. This could include :-
- Verifying functional requirement
- Identifying and resolving defects
- Ensuring performance, security, and usability requirement are met.

e) Test Scope :-
- In-scope :- Identify the features & functionalities that will be tested.
- Out-of-scope :- Specify areas or features that will not be tested due to resource constraints, risk prioritization, or other reasons.

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