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Roll - 10

## Software Engineering Assignment

GLJES  
SEP 19

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Monday

Q.1 Illustrate the requirement of software testing. What is test suite?

Ans Software testing is the process of verifying a system with the purpose of identifying any errors, gaps or missing requirement versus the actual requirement.

It is broadly categorised into two types - functional testing and non-functional testing.

Requirements are Testing must be carried out in a timely manner, it should add value to the software life cycle, hence it needs to be effective.

Test suite is a container that has a set of tests which helps testers in executing and reporting the test execution status. It can contain any type of test, functional or Non-functional.

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Q.2 Elaborate the software testing life cycle (STLC).

Ans Software testing life cycle is a sequence of different activities performed by the testing team to ensure the quality of the software. It is an integral part of software development life cycle. It provides

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a step by step process to ensure quality software. Software testing life cycle consists of 6 major phases:

- \* Requirement analysis
- \* Test planning
- \* Test Case Designing
- \* Test environment Setup
- \* Test Execution
- \* Test closure

Q.3 Compare the black box, white box and gray box testing.

Ans	Index	Black box	White box	Gray box
	1.	Knowledge is internal working structure is not required for this type of testing. Only GDI is required for test cases.	Knowledge of internal working structure is necessarily required for this type of testing.	Partially internal knowledge of the internal working structure is required.

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### Black box

### White box

### Grey box

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2. It is also known as functional testing, data-driven testing, and closed boxed testing.

It is also known as structural testing, clear box testing, code based testing etc.

It is also known as translucent testing.

3. The approach towards testing includes trial technique and error guessing method.

It is proceeded by verifying the system boundaries and data domains inherent in the software.

It is proceeded by validating data domains and internal system boundaries of the software.

Saturday

4. It is very difficult to discover hidden errors of the software.

It is simple to discover hidden errors of the software.

It is difficult to find hidden errors of the software.

Sunday

5. It is not considered for algorithm testing.

It is well suitable and recommended for algorithm testing.

It is not considered for algorithm testing.

6. It is less exhausting than other two

It is most exhaustive

It is partly exhaustive.

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Q.4 Explain the importance of test case using diagram. Explain a test case template. why test summary report is needed.

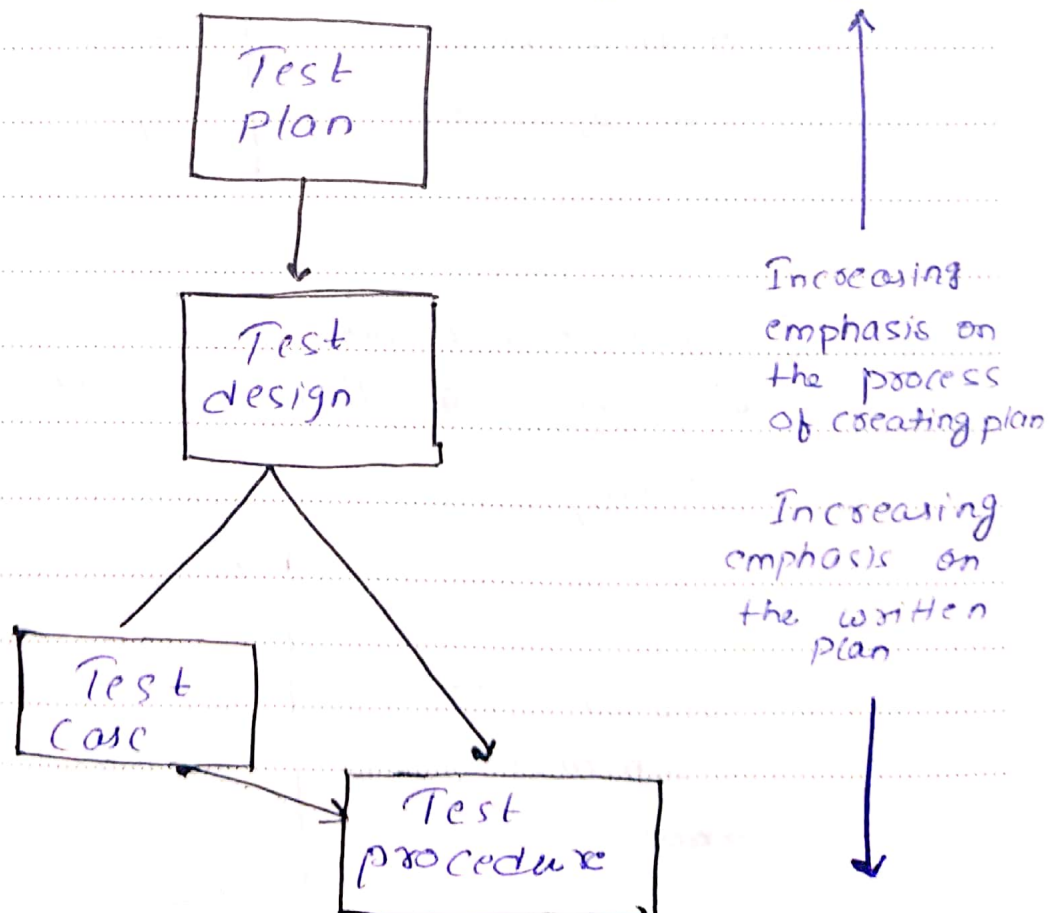
Ans A test case is a document which has a set of conditions or actions that are performed on the software application in order to verify the expected functionality of the feature.

Importance of test case:

- Test cases ensure good test coverage
- Help improve the quality of S/W.
- decrease the maintenance and software support cost.
- Help verify that the software meets the user end requirement.

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→ Test cases are reusable for the future.





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A test case template is a document containing an organized list of test cases for different test scenarios that check whether or not the software has the intended functionality. ~~document~~

A test report is an organized summary of testing objectives, activities and results. It is created and used ~~for~~ to help stakeholders understand product quality and decide whether a product, feature, or a defect resolution is on track for release.

Q. 5. Compare functional and non-functional testing. Why regression and sanity testing is required?

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### Functional Testing

1. It verifies the operations and actions of application.

2. It is based on requirement of customer.

3. It helps to enhance the behaviour of the application.

### Non-functional Testing

It verifies the behaviour of an application.

It is based on expectations of customer.

It helps to improve performance of the application.

4. Functional testing is easy to execute manually.

It is hard to execute non-functional test manually.

5. It tests what the product does.

6. It describes how the product does.

6. It is based on business req.

It is based on performance requirement.

Ex: Unit testing, smoke testing etc.

Ex - Performance testing, load testing etc.

Regression testing increases our chances of detecting bugs caused by changes to a software and application - either enhancement or defect fixes. It also detects undesirable side caused by changing the operating system.

Sanity testing is performed to ensure that the code changes that are made are working as properly. It is a stoppage to check whether testing for the build can proceed or not.