# **Software Test Document**

For E-Banking System

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Aim : To prepare Software Test Document (STD) for your project.

Result: Attached a Document with this file.(Created using Latex Editor)

Postlab Questions:

Q 1. Differentiate between verification and validation.

Ans.

| **VERIFICATION** | **VALIDATION** |
| --- | --- |
| It includes checking documents, design, codes and programs. | It includes testing and validating the actual product. |
| Verification is the static testing. | Validation is the dynamic testing. |
| It does *not* include the execution of the code. | It includes the execution of the code. |
| Methods used in verification are reviews, walkthroughs, inspections and desk-checking. | Methods used in validation are Black Box Testing, White Box Testing and non-functional testing. |
| It checks whether the software conforms to specifications or not. | It checks whether the software meets the requirements and expectations of a customer or not. |
| It can find the bugs in the early stage of the development. | It can only find the bugs that could not be found by the verification process. |
| The goal of verification is application and software architecture and specification. | The goal of validation is an actual product. |
| Quality assurance team does verification. | Validation is executed on software code with the help of testing team. |
| It comes before validation. | It comes after verification. |

Q. 2. List down object oriented software testing strategies.

Ans.

Testing is a continuous activity during software development. In object-oriented systems, testing encompasses three levels, namely, unit testing, subsystem testing, and system testing.

### **Unit Testing**

In unit testing, the individual classes are tested. It is seen whether the class attributes are implemented as per design and whether the methods and the interfaces are error-free. Unit testing is the responsibility of the application engineer who implements the structure.

### **Subsystem Testing**

This involves testing a particular module or a subsystem and is the responsibility of the subsystem lead. It involves testing the associations within the subsystem as well as the interaction of the subsystem with the outside. Subsystem tests can be used as regression tests for each newly released version of the subsystem.

### **System Testing**

System testing involves testing the system as a whole and is the responsibility of the quality-assurance team. The team often uses system tests as regression tests when assembling new releases.

## **Object-Oriented Testing Techniques**

### **Grey Box Testing**

The different types of test cases that can be designed for testing object-oriented programs are called grey box test cases. Some of the important types of grey box testing are −

* **State model based testing** − This encompasses state coverage, state transition coverage, and state transition path coverage.
* **Use case based testing** − Each scenario in each use case is tested.
* **Class diagram based testing** − Each class, derived class, associations, and aggregations are tested.
* **Sequence diagram based testing** − The methods in the messages in the sequence diagrams are tested.

### **Techniques for Subsystem Testing**

The two main approaches of subsystem testing are −

* **Thread based testing** − All classes that are needed to realize a single use case in a subsystem are integrated and tested.
* **Use based testing** − The interfaces and services of the modules at each level of hierarchy are tested. Testing starts from the individual classes to the small modules comprising of classes, gradually to larger modules, and finally all the major subsystems.

### **Categories of System Testing**

* **Alpha testing** − This is carried out by the testing team within the organization that develops software.
* **Beta testing** − This is carried out by select group of co-operating customers.
* **Acceptance testing** − This is carried out by the customer before accepting the deliverables.

Outcome: Apply test case design for software test document

Conclusion: The Software Test Document was written for our project. Its importance and need were studied.