**Software Testing Assignment**

**Module – 1(Fundamental)**

* What is SDLC ?

SDLC is a structure that imposed the development of a software product that defines the process for Requirement Gathering , Analysis , Design , Implementation , Testing and Maintenance.

* What is Software Testing ?

Software Testing is a process used to identify the Correctness , Completeness and Quality of the developed software.

* What is Agile Methodology ?

Agile model is a combination of iterative and incremental model. It focuses on process adaptability and customer satisfaction by a rapid delivery of working software product.

In Agile the task are divided into small time frames to deliver specific feature for release.

* What is SRS ?

A software requirement specification is a complete description of the behaviour of the system to be developed.

It includes a set of use cases that describe all the iteration that the user will have with the software.

* What is OOPS ?

OOPS is an Object Oriented Programming System. Identifying objects and assigning responsibilities to these objects.

Objects communicate to other objects by sending messages.

Messages are received by the methods of an object.

* Write Basic concepts of OOPS.

There are six basic concepts of OOPS that is,

1.Class

2.Object

3.Encapsulation

4.Inheritance

5.Polymorphism and

6.Abstraction

* What is Object ?

Object is an instance of an class.

Object Is an variable of an class.

* What is Class ?

Class is a collection of data member (Variables) and member function (Process , methods) with its behaviour.

* What is Encapsulation ?

Wrapping up of data into a single unit.

Encapsulation is the practice of including in an object everything needs hidden from other objects.

The internal state is usually not accessible by other objects.

* What is Inheritance ?

Inheritance means that one class inherits the characteristics of another class. This is also called “is a” relationship.

Properties of parent class extends into child class.

* What is Polymorphism ?

Polymorphism means “having many forms”.

Ability to take one name having many forms or multiple forms.

There are mainly two types

1.Overloading (compile time)Polymorphism and

2.Overriding (run time)Polymorphism

* Draw a Use case on Online bill payment system(Paytm).
* Draw a Use case on Banking System for customers.
* Draw a Use case on Broadcasting System.
* Write SDLC phases with basic introduction.

SDLC is a essentially a series of steps that provide a model for the development.

1.**Requirement Gathering**

Requirements may be documented in written form. They may be incomplete , unambiguous or even incorrect.

Requirements can be changed during the project.

Requirements can be of (a) Functional and (b) non-functional.

2.**Analysis**

It defines the requirements of the system , how these requirements will be accomplished.

Ideally this document describes in a clear manner that what is to be built.

The Analysis represents the “what” phase.

3.**Designing**

Design the architecture of document.

Implementation plan.

Critical priority analysis.

Performance analysis.

Test plan.

The design team can now expand upon the information given in requirement document.

4.**Implementation**

The team should build exactly what has been requested.

This phase deal with issues of quality , performance , baselines , libraries and debugging,

The end deliverable is the product itself.

5.**Testing**

Simply stated, quality is very important.

The customer satisfied with the software and the process of software release is done.

6.**Maintenance**

Is a process of changing a system after it has been deployed.

There are three types of maintenance

1. Corrective maintenance
2. Adaptive maintenance
3. Perfective maintenance

* Explain phases of the water fall model
* Write phases of spiral model.

There are four phases of spiral model.

1.Planning

2.Risk Analysis

3.Engineering

4.Customer Evaluation

* Write Agile manifesto principles

1.Individual interaction

2.working software

3.customer collaboration

4.Responding to change

* Explain working methodology of Agile model and also write Pros and Cons.

Agile is a combination of iterative and incremental model. It focuses on process adaptability and customer satisfaction by a rapid delivery of working software product.

These builds are provided in iterations. Every iteration involve cross functional team working simultaneously on various areas like planning , requirements ,

Analysis , design , coding , unit testing and acceptance testing.

**Pros :**

1. Is a very realistic approach to software development.
2. Functionality can be developed rapidly and demonstrated.
3. Resource requirements are minimum.
4. Suitable for fixed or changing requirements.
5. Little or no planning required.
6. Easy to manage gives flexibility to developers.

**Cons :**

1. Not suitable for handling complex dependencies.
2. More risk of sustainability , maintainability and extensibility.
3. Depends heavily on customer interaction. So if customer is not clear team can be driven in wrong direction.
4. Transfer of technology to new team members may be quite challenging due to lake of documentation.

* Draw Use case on OTT platform.
* Draw a Use Case on E-Commerce Application
* Draw a Use Case on Online Shopping Product using Payment Gateway.