**1.Waterfall Model in Software Testing.**

It is an Example of Sequential model. In this software development activity is divided into several phases and each phase is consists of series of different task and objectives.

The development of first stage or phase is starts when the previous phase is completed.

1.Analysis of Requirement.

2.System Design

3.Implementation

4.Testing.

5.Deployment.

6.Maintainance.

Advantges-

1. It is easy to understand and simple to use.

2. During the process phases are completed at a time.

3. Stages are in proper manner(defined clearly).

4. Process and results are well documented.

Disadvantages-

1.It is difficult to measure progress with stages.

2.Errors can be fixed only during the phases.

3.If defect is found at a later or last stage then cost of fixing is very high.

4.It is not suitable for projects where requirements are at a very high risk.

**2.Prototype Model in Software Testing.**

It is an system development method in this prototype is build, tested and reworked until an acceptable model is achieved from which the complete system or product can be developed.

It is an sample,model or release of a product made to test a concept. It creates base to produce the final system or software.If all the modules are present then only developer or tester will perform prototype testing.

Advantages.

1.Errors are easy to detect.

2.Missing functionality can be find easily.

3.In future it can be used by an developer for an over complicated project.

4.It is satisfying for online system

Disadvantages.

1.Model is too much costly.

2.Documentation is poor because requirements of customers changes continuously.

3.The complexity of system may increase.

4. There may be too much variation in requirements.

**3. V model in Software Testing.**

It is an Software Development Lifecycle (SDLC) model .In this processes are executed in a sequential manner in an V shape. It can also be called as validitation and verification model.Here also each phase must be completed before the next phase.It may also considered as extension of the waterfall model.

Advantages .

1. It is Easy to use

2.It is Simple to use

3.Testing activities like planning, test designing happens well before coding.

4.Time saving, quick

5. Works well for small projects where requirements are easily understood

Disadvantages.

1.It isVery rigid

2.It isLeast flexible

3.Software is developed during the implementation phase, so no early prototypes of the software are produced

4.if any changes happen in midway, then the test documents along with requirement documents has to be updated Risky.

Acceptance test

Requirement

Analysis

A

System Test

System

Design.

Integration

Test

Archietecture

Design.

Module Design

Unit Test

Coding

**4.Agile Model in Software Testing.**

Agile means able to move quickly and easily. It is an process where softwares are developed like other software development methodologies- Waterfall model, V model, Iterative model etc.It is an software testing practice that follows the principles of agile software development. It is one of the simplest and effective processes to turn a vision for a business need into software solutions.

Advantages .

1.Software(working) are delivered frequently that is in weeks not in month.

2.Customer is satisfied by rapid continuous delivery of useful software.

3.Communication is face to face which is best way to communicate.

4.Customers, testers,developers interact with each other.

Disadvantages.

1.The documentation is less.

2.Sometimes in Agile methodology the requirement is not very clear hence it’s difficult to predict the expected result.

3.In few of the projects at the starting of the software development life cycle it’s difficult to estimate the actual effort required.

4.Because of the ever-evolving features, there is always a risk of the ever-lasting project.

**5.Spiral Model in Software Testing.**

It is an important SDLC model and has been one of the most preferred SDLC models for long-term and high-risk projects.It provide support in risk handling. This model is best used for large projects which involve continuous enhancements. There are specific activities that are done in one iteration (spiral) where the output is a small prototype of the large software.

It is a combination of sequential and prototype model.

Advantages-

1. It is produce early in Software Life Cycle.

2.Documentation is controlled and Approval is Strong.

3.Risk handling is one of important advantages of the Spiral model

4. It is good for large and complex projects.

Disadvantages.

1.It is expensive and is not suitable for small project.

2.Process is complex than other SDLC models.

3.Not suitable for low risk projects.

4.End of the project may not be known early.