**Q: What is SDLC?**

A: SDLC stands for software development life cycle. It is a process of building a software from scratch to its final product.

**Q: What is software testing?**

A: It is a process of checking the product that is being prepared to see if it satisfies the requirements and it also checks the quality of product.

**Q: What is agile methodology?**

A: It’s a SDLC methodology. It is a combination of iterative and incremental methodology. In this process the product is break into small modules. Each module is tested, reviewed and sent back to coder if there’s some defect in it until it functions properly. So building and testing is done part by part.

**Q: What is SRS?**

A: SRS stands for Software Requirement Specification. It is a document which contains the requirements of the product along with the specification. So when a product is ready it is checked against the SRS document to see whether it fulfils the requirement or not.

**Q: What is OOPS?**

A: OOPS stands for Object Oriented Programming System. It is a methodology to design a program using classes and objects. It consists of 4 types that is Abstraction, Inheritance, Polymorphism and Encapsulation.

**Q: Write basic concepts of OOPS.**

A: Object, Class, Abstraction, Inheritance, Polymorphism and Encapsulation.

**Q: What is object?**

A: Object is an instance of a class. It contains the data and method.

**Q: What is class?**

A: Class can be considered as a blueprint of an object and describes the properties and behaviour of that object.

**Q: What is Encapsulation?**

A: Encapsulation is a process of hiding the data and the behaviour of an object into single unit. This unit is the class.

**Q: What is Inheritance?**

A: If one class inherits characteristics from other class, it’s called inheritance. So a code need not to be written again if the code does the same function as the other code.

**Q: What is Polymorphism?**

A: As name suggests poly means many and morphism means forms, so if a single function or operator is used to function in many ways then it is called Polymorphism.

**Q: Write SDLC phases with basic introduction.**

A: There are six phases in SDLC. Requirement, Analysis, Design, Implementation, Testing and Maintenance.

Requirement: In this phase the overall requirements of the product is discussed with customers and a report is prepared according to the requirements.

Analysis: In this phase the analysis is done on how the product is to be made along with the functions.

Design: In this phase a detail design is prepared just like the blueprint.

Implementation: This is a phase of coding, all the coding part is done in this phase.

Testing: After coding the product is tested in this phase. Testing strategy changes according to the product.

Maintenance: Once the product is launched, it may require maintenance if some defect arises after the launch. So in this phase the maintenance of product is done.

**Q: Explain phases of waterfall method.**

A: As name suggests in this method if one phase is completed then after going to next phase it cannot go back to previous phase. The phases of waterfall method are Requirement, Analysis, Design, Implementation, Testing and Maintenance.

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**Q: Write phases of spiral model.**

A: There are four phases of Spiral model

1. Planning

2. Risk Analysis

3. Product Development

4. Evaluation

**Q: Write Agile Manifesto principles.**

A: There are 12 Agile Manifesto principles

1. Satisfying customers through early and [continuous delivery](https://www.techtarget.com/searchitoperations/definition/continuous-delivery-CD) of valuable work.
2. Breaking big work down into smaller tasks that can be completed quickly.
3. Recognizing that the best work emerges from self-organized teams.
4. Providing motivated individuals with the environment and support they need and trusting them to get the job done.
5. Creating processes that promote sustainable efforts.
6. Maintaining a constant pace for completed work.
7. Welcoming changing requirements, even late in a project.
8. Assembling the project team and business owners on a daily basis throughout the project.
9. Having the team reflect at regular intervals on how to become more effective, then tuning and adjusting behaviour accordingly.
10. Measuring progress by the amount of completed work.
11. Continually seeking excellence.
12. Harnessing change for a competitive advantage.

**Q: Explain working methodology of Agile model and also write pros and cons.**

A: Agile is a combination of Iterative and Incremental model. In this method the system is broke into little builds and these builds are tested and approved. If the build is failed it is sent back to coder for the faults just like iterative method. And after the success new build is tested just like incremental method.

Pros:

* Easy to manage
* Gives flexibility to producers
* Suitable for changing environments
* Functionality can be developed rapidly and demonstrated
* Immediate feedback

Cons:

* Requires more time
* Lack of documentation
* Not suitable for handling complex dependencies
* High individual dependency