

**Q- What is SDLC?**

**A-** SDLC is a structure imposed on the development of a software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance.

**Q- What is software testing?**

**A-** Testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual desire or requirements.

**Q- What is agile methodology?**

**A-** Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product.

**Q- What is SRS?**

**A-** A software requirements specification(SRS) is a complete description of the behavior of the system to be developed.

**Q- What is oops?**

**A-** Identifying objects and assigning responsibilities to these objects.

**Q- Write Basic Concepts of oops?**

**A-**

- 1) Object
- 2) Class
- 3) Encapsulation
- 4) Inheritance
- 5) Polymorphism
- 6) Abstraction

**Q- What is object?**

**A-** TangibleThings, Roles, Incidents, Interactions, Specifications

**Q- What is class?**

**A-** A class represents an abstraction of the object and abstracts the properties and behavior of that object.

**Q- What is encapsulation?**

**A-** Encapsulation is the practice of including in an object everything it needs hidden from other objects. The internal state is usually not accessible by other objects.

**Q- What is inheritance?**

**A-** Inheritance means that one class inherits the characteristics of another class. This is also called a "isa" relationship.

**Q- What is polymorphism?**

**A-** Polymorphism means “having many forms”.

It allows different objects to respond to the same message in different ways, the response specific to the type of the object.

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

**A-**

Requirements Collection/Gathering	Establish Customer Needs
Analysis	Model And Specify the requirements- “What”
Design	Model And Specify a Solution – “Why”
Implementation	Construct a Solution In Software
Testing	Validate the solution against the requirements
Maintenance	Repair defects and adapt the solution to the new requirements

**Q- Explain Phases of the waterfall model.**

**A-** The sequential phases in Waterfall model are –

**1) Requirement Gathering and analysis** – All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

**2) System Design** – The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.

**3)Implementation** – With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

**4)Integration and Testing** – All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

**5)Deployment of system** – Once the functional and non-functional testing is done; the product is deployed in the customer environment or released into the market.

**6)Maintenance** – There are some issues which come up in the client environment. To fix those issues, patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.

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

**A-** Planning , Risk analysis , Engineering , Customer Evaluation.

**Q- Write agile manifesto principles.**

**A- 1)Individuals and interactions** – In Agile development, self-organization and motivation are important, as are interactions like co-location and pair programming.

**2)Working software** – Demo working software is considered the best means of communication with the customers to understand their requirements, instead of just depending on documentation.

**3)Customer collaboration** – As the requirements cannot be gathered completely in the beginning of the project due to various factors, continuous customer interaction is very important to get proper product requirements.

**4)Responding to change** – Agile Development is focused on quick responses to change and continuous development.

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

**A-** Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In agile the tasks are divided to time boxes (small time frames) to deliver specific features for a release. Iterative approach is taken and working software build is delivered after each iteration. Each build is incremental in terms of features the final build holds all the features required by the customer.

**Pros:1)** Is a very realistic approach to software development

**2)** Promotes team work and cross training?

**3)** Functionality can be developed rapidly and demonstrated.

**4)** Resource requirements are minimum.

**5)** Suitable for fixed or changing requirements

**6)** Delivers early partial working solutions.

- Cons:**
- 1) Not suitable for handling complex dependencies.
  - 2) More risk of sustainability, maintainability and extensibility.
  - 3) An overall plan, an agile leader and agile PM practice is a must without which it will not work.
  - 4) Strict delivery management dictates the scope, functionality to be delivered, and adjustments to meet the deadlines.
  - 5) Depends heavily on customer interaction, so if customer is not clear, team can be driven in the wrong direction.
  - 6) There is very high individual dependency, since there is minimum documentation generated.
  - 7) Transfer of technology to new team members maybe quite challenging due to lack of documentation use – case

**Q- Draw usecase on Online shopping product.**

**A-**



