1. **What is SDLC?**

* 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 and support.
* A Software Development Life Cycle is essentially a series of steps, or phases, that provide a model for the development and lifecycle management of an application or piece of software.

1. **What is software testing?**

* Testing is the process of evaluating a system or its component(s) with the intent to find that whether it satisfies the specified requirements or not.
* In simple words, testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual desire or requirements.
* Software testing is a process of executing a program or application with the intent of finding the software bugs.

1. **What is agile methodology?**

* It is a combination of iterative and increment model.
* It divides the software into small incremental builds, this build is provided in iterations that means the big projects are divided into small chunks (iterations).
* Each iteration involves all the team members working simultaneously on areas like planning, requirement analysis, design, coding, unit testing and acceptance testing.
* At the end of the iteration the working product is displayed to the customer or the important stake holder and it is released in the market.
* After the release we check for the feedback of the deployed software.
* If any enhancement is needed in the project then it’s done and it’s re-released.

**Advantages**

* Frequent delivery
* Face to face communication
* Less time
* Adaptability

**Disadvantages**

* Less documentation
* Maintenance problem

1. **What is SRS?**

* SRS (Software Requirement Specification) is a complete description of an application which is to be developed.
* SRS contains use case diagram that describes all the interactions user will have with the software application.

1. **What is oops?**

* Object oriented programming is a way of writing the programs in organized way
* Objects are like black box, where data is hidden.

1. **Write basic concepts of opps?**
2. Class
3. Object
4. Inheritance
5. Polymorphism

* Over ridding
* Over loading

1. Encapsulation
2. Abstraction

1. **What is object?**

* Object gives the permission to access functionality of class.

1. **What is class?**

* Class is a collection of data member and member function.

int a=10;

voidFunc()

1. **What is encapsulation?**

* The process of wrapping the data in a single unit.
* This helps to secure the data from outside world.

1. **What is inheritance?**

* Making class from an existing class and deriving the attribute of some other class.

1. **What is polymorphism?**

* Polymorphism means “having many forms”.
* One name, multiple forms.
* **Types**

1. **Over Riding**

Same name of function with same parameter but definition will be different.

1. **Over Loading**

Function overloading: Same function name but different parameter.

Constructor overloading: Same constructor name but different parameter.

Operator overloading: Using the operator to add the object instead of variable operands.

1. **Draw use case on online book shopping.**
2. **Draw use case on online bill payment system (paytm).**
3. **Write SDLC phases with basic introduction.**

|  |  |
| --- | --- |
| 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 |

1. **Explain phases of the waterfall model.**

* The waterfall model has five phases:
  + Planning
  + Design
  + Implementation
  + Verification
  + Maintenance

1. **Write phases of spiral model.**

* The spiral model has four phases:
  + Planning
  + Risk Analysis
  + Product Development
  + Evaluation

1. **Write agile manifesto principles.**

* The four principles of Agile Manifesto are:
  + Individuals and interactions over processes and tools
  + Working software over comprehensive documentation
  + Customer collaboration over contract negotiation
  + Responding to change over following a plan

1. **Explain working methodology of agile model and also write pros and cons.**

**PROS**

* It is a very realistic approach to software development
* Promotes teamwork and cross training
* Suitable for fixed or changing requirements
* Little or no planning required
* Easy to manage
* Gives flexibility to developers

**CONS**

* Not suitable for handling complex dependencies
* More risk of sustainability, maintainability and extensibility
* Less documentation
* Maintenance problem

1. **Draw use case on online shopping product using COD.**
2. **Draw use case on online shopping product using payment gateway.**