**Assignment 1**

**Module 1**

1. What is SDLC?

* SDLC (software development life cycle) is a process used by the Software industry to designing, developing and test high quality software.

1. What is agile methodology?

* It is focus on process adaptability and customer satisfaction by rapid delivery of working software product.

1. What is SRS?

* Software requirement specifications (SRS): is a complete description of the behavior of the system to be developed.

1. What is OOPS?

* Object oriented programming systems : identifying object and assigning responsibility to these objects to communicate with other objects by sending messages.

1. What is object?

* An object is a particular instance of a class.
* To access all the properties of class axcept private.

1. What is class?

* Class is a collection of data members (variable) and member function (process, methods) with its behavior.
* It is also blueprint for an object.

1. What is encapsulation?

* Wrapping up of data into single unit.
* Private your data member.

1. What is inheritance?

* Properties of parent class extend to the child class.
* Main purpose of it is, reusability and extensibility.

1. What is polymorphism?

Ability to take one name having different forms.

There are two types

1) Method overloading

2) Method overriding

1. What is RDBMS?

That incorporates the relational data model, normally including a structured query language application programming interface. It is a DBMS in which the database is organized and accessed according to the relationships between data items.

1. What is SQL?

* It is domain specific language used in programming and designed for managing data held in a relational database management system.

1. Write SQL commands?

* DDL:-data definition language
* Create database, create table, truncate, etc…
* DML:-data manipulation language
* Insert, update, delete
* DQL:-data query language
* select
* DCL:-data control language

1. Write SDLC phases with basic introduction

* There are six phases

1. Requirement gathering/ collection:- it is usually consist of natural language, supplemented by diagrams and tables.

* There are three types of problems can arise:

1. Lack of clarity.
2. Requirement confusion.
3. Requirement amalgamation.
4. Analysis:-it is defines the requirements of the system, independent of how these requirements will be accomplished.
5. Design:-design architecture document, implementation plan, performance analysis, test plane etc…
6. Implementation:- given the architecture document from the design phase and the requirement document from the analysis phase, the team should build exactly what has been requested, though there is still room for innovation and flexibility.
7. Testing:- it is the one of the phase of SDLC to testing software and find out the whole software work as per requirements of customer with best quality or not.
8. Maintenance:- it comes after deployment of the software into the field.
9. Explain phases of waterfall model:- the classical software lifecycle models the software development as a step by step “waterfall” between the various development phases.
10. Requirements must be “FROZEN” to early in the cycle.
11. Requirements are validated too late.

* When waterfall model is used?
* Requirements are very well documented, clear and fixed.
* Technology is understood and not dynamic.
* There are no ambiguous reauirements.
* Pros:-
  + Simple and easy to understand and use.
  + Process and results are well documented.
  + Clearly defined stages.
* Cons:-
  + High amount of risk and uncertainty.
  + Cannot accommodate changing requirements.
  + Adjusting scope during the life cycle can end a project.

1. Write phases of spiral model:- spiral model is very widely used in the software industry. It is a synch with the natural development process of any product. Also minimum risk for the customer as well as the development firms.

* There are four phases
  + Risk analysis
  + Engineering
  + Customer evolution
  + Planning
* Pros:-
  + Changing the requirements can be accommodated.
  + Users see the system early.
  + Requirements can be captured more accurately.
* Cons:-
  + Management is more complex.
  + Not suitable for small project.
  + Process is complex.
  + Excessive documentation.

Write agile manifesto principles:- focus on process adaptability and customer satisfaction by rapid delivery of working software product.

* Agile means “move quickly”.
* Agile breaks product into small incremental builds.
* These builds provided in iterations.
* There are four principles
* Individuals and interactions
* Working software
* Customer collaboration
* Responding to change

Pros:

1. Is a very realistic approach to software developements.
2. Functionality can be developed rapidly and demonstrated.
3. Gives flexibilities to developers.

Cons:

1) not suitable for handling complex dependences.

2 )more risk of sustainability, maintainability and extensibility.

3 )minimum documentation generated

1. What is join?

* A join clause is used to combine rows from two or more tables, based on

Related column between them.

1. Write types of joins

* Inner join
* Left (outer) join
* Right (outer) join
* Full (outer) join