**Module: - 1**

**Q1.** **What is software? What is software engineering?**

🡪 Software is the **“**collection of computer programs, procedures, rules, associated document and concerned data with the operation of the data processing system**”**

* **Software engineering**

Software engineering is the process of designing, developing,

Testing, maintaining software.

That aims to create high-quality, reliable, and maintainable software.

**Q2. Explain types of software?**

🡪Software is manly dived in to three types.

* System software.
* Application software.
* Utility software.

🡪**System Software**

* It is responsible for controlling, integrating the hardware components of a system so the software and the users can work with them.
* Example of system Software.

🡪Operating system

🡪Driver Software.

🡪**Application Software**

* It is used to accomplish some specific task.
* It should be collection of small programs.
* Example of application software

🡪 Third party application

🡪 Microsoft Word

🡪 Excel etc

🡪**Utility Software**

* Utility software is a program or tools that performs specific task.
* Example of Utility Software

🡪CAM(computer Aided manufacturing )

🡪 CAD (computer Aided designing)

**Q3**. **What is SDLC? Explain each phase of SDLC?**

**🡪** SDLC is a framework that describes the activities performed at each stage of a software development project.

* SDLC is dived in too many stages

🡪**planning**

**🡪 analysis**

🡪 **Design**

**🡪** **Development**

🡪 **Testing**

🡪 **maintenance**

**:-Planning**

The first phase of the SDLC is the project planning stage where you are gathering business requirements from your client or stakeholders.

**:-Analysis**

The analysis phase also gathers business requirements and identifies any potential risks. This step in SDLC also includes a feasibility study, which defines all fortes and weak points of the project to assess the overall project viability.

**:- Design**

The design phase will include the development of a prototype model.

**:- Development**

The actual development phase is where the development team members divide the project into software modules and turn the software requirement into code that makes the product.

**:-Testing**

After the development of the product, testing of the software is necessary to ensure its smooth execution.

**:-Maintenance**

Software maintenance is a part of the Software Development Life Cycle.. Software is a model of the real world. When the real-world changes, the software require alteration wherever possible.

**Q4. What is DFD? Create a DFD diagram on Flipkart**

🡪DFD is also called as bubble chart or data flow graph.

DFDs are very useful in understanding the system and can be effectively used during analysis.

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🡪**DFD diagram**

Customer

Payment Gateway

Registration

Payment process

Product search

Order Placement

**Q5. What is Flow chart? Create a flowchart to make addition of two numbers?**

🡪Flowchart is Graphical or Pictorial Representation of problem

* Flowcharts are better way of communicating the logic of the system.
* Using Flowchart, it is easy to analyse Problem.
* Flowchart represents problem solution using different standard Symbol

**🡪Flow chart of two No addition**

Start

Num1, Num2

Num1> Num2

Num1 is Big

Num2 is Big

End

**Q6. What is Use case Diagram? Create a** **use-case on bill payment on Paytm.**

* Use case Provides software behaviour.
* Use cases represent the different ways in which a system can be used by the users
* The purpose of use case is to define the logical behaviour of the system without knowing the internal structure of it
* A use case represents a sequence of interactions between the user and the system.

🡪 **Use-case Diagram**