Module 1

1. What is sdlc?

>> Software Devlopement life cycle is a series of steps that provide a model for the development and life cycle management of an application

What is software testing?

* Software testing is a process used to identity the correctness completeness and qulity of a product or a software

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What is agile methodology?

Agile model is a combination of iterative and incremental process model with focus on process

Adaptability and customer satisfaction by rapid delivery of working software product

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A software requirements specification is a complete description of the behaviour of the system to be developed

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What is oops

Object oriented programming is identifying objects and assigning responsibilities to these objects

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Write Basic Concepts of oops

An object based progragramming language is one which esasily supports object –orientation

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What is object

An object represents an individual ,identifiable item, unit, or entity either or abstract , with a well –defined role the problem domain

What is class

Class is a blueprint for an object

What is encapsulation ?

Encapsu;ation is the practice of including in an object everything it needs hidden fromother objects .the internal state is usually nnnot accessible by other objects.

What is inheritance ?.

0Inheritance means that one class inherits the characteristics of another class.this also called isa relationship

What is polymorphism

Poly refers to many that is a single function or an operator functioning in many ways different upon the usage is

Write SDLC phases with basic introduction

Requirement --- Built/collect customer need/Requirement

Analysis---- analysis the needs and understand what to built

Design-----create model as per requirement

Implementation ----- construct a solution in software

Testing ------ Validate the solution against the requirements

Maintenance ---- Repair defects and adapt the solution to the new requirement

**Explain the phases of waterfall model**

The waterfall model was the first prosses model to be introduced .It is also referred to as a **linear-sequential life cycle model** . It is very simple to understand and use . in a waterfall model,each phase must be completed before the next phase can begin and there is no overlapping in the phases. The water fall model is the earliest SDLC approach that was used for software devolvement

**Write phases of Spiral model**

The Spiral model is designed to be flexible and adaptable to changing requirements and circumstances. The iterative nature of the model allows for ongoing feedback and refinement, which helps to ensure that the software meets the needs of the users and the organization.

The Spiral model is a software development model that combines elements of both waterfall and iterative development models. It involves a series of phases, each of which is repeated in a cyclic, iterative fashion, gradually building up a complete software system. The phases of the Spiral model are:

1. Planning: In this phase, the project objectives, requirements, constraints, and risks are identified and analysed. A preliminary plan is developed to guide the subsequent phases of the project.
2. Risk Analysis: In this phase, potential risks are identified and evaluated, and strategies are developed to mitigate them. The risk analysis process is iterative and continues throughout the project.
3. Engineering: In this phase, software is designed, developed, tested, and integrated. The engineering phase is iterative and involves feedback loops to refine the design and ensure that the software meets the requirements.
4. Evaluation: In this phase, the software is evaluated against the objectives and requirements established in the planning phase. The evaluation phase also involves user testing and feedback, which is used to improve the software.

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

Agile methodology is a flexible and iterative approach to software development that prioritizes customer satisfaction and rapid response to change. It is based on the Agile Manifesto, a set of guiding principles for software development that emphasize collaboration, communication, and responsiveness.

The Agile methodology involves breaking down a project into small, manageable chunks called sprints. Each sprint typically lasts two to four weeks, during which the development team works on a set of prioritized features or user stories. The team meets regularly to discuss progress, share feedback, and adjust the project plan as needed.

The key features of Agile methodology include:

1. Continuous feedback and collaboration with customers or stakeholders throughout the development process.
2. Regular review and adaptation of project plans to respond to changing requirements or feedback.
3. Emphasis on teamwork, communication, and self-organization.
4. Use of iterative and incremental development cycles.

Pros of Agile methodology:

1. Flexibility: Agile methodology allows for continuous adaptation to changes in the project scope, requirements, or priorities.
2. Customer satisfaction: By involving customers or stakeholders in the development process and prioritizing their feedback, Agile methodology ensures that the final product meets their needs and expectations.
3. Early and frequent delivery: Agile methodology emphasizes delivering small, working increments of the software at regular intervals, providing value to the customer sooner and reducing the risk of failure.
4. Team empowerment: Agile methodology empowers development teams to take ownership of their work, collaborate effectively, and continuously improve their processes.

Cons of Agile methodology:

1. Lack of predictability: Agile methodology can be unpredictable, as it relies on continuous adaptation and change, making it difficult to accurately estimate project timelines and costs.
2. Lack of documentation: Agile methodology places less emphasis on documentation and formal processes, which can make it difficult to maintain a comprehensive record of project progress.
3. Overemphasis on technical excellence: Agile methodology prioritizes technical excellence and may overlook other aspects of software development such as design, architecture, and usability.
4. Dependency on customer feedback: Agile methodology relies heavily on customer feedback, which can be a challenge if the customer is not available or engaged in the development process