Assignment

Module 1:-

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. There are a number of different development models

->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.

2. What is software testing?

->Software Testing is a process used to identify the correctness, completeness, and quality of developed computer software.

3. What is agile methodology?

->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 produc

4. What is SRS?

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

5. What is oops?

->An object-based programming language is one which easily supports object-orientation.

6. Write Basic Concepts of oops

- Object
- Class
- Encapsulation
- Inheritance
- Polymorphism
    - Overriding
    - Overloading
- Abstraction

7. What is object?

->An object represents an individual, identifiable item, unit, or entity, either real or abstract, with a well-defined role in the problem domain.

->An "object" is anything to which a concept applies.

->This is the basic unit of object oriented programming(OOP).

8. What is class?

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

9. What is Encapsulation?

->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.

10. What is inheritance?

->Inheritance means that one class inherits the characteristics of another class. This is also called a “is a” relationship

->To Access property of one class to another class is called Inheritance

11. What is polymorphism?

->Same Function name but having different functionality is called Polymorphism.

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

12. Draw Usecase on Online book shopping.

https://drive.google.com/file/d/10v5UjHTsRLdFLmasURtCJJxYLR3wD7c_/view?usp=sharing

13. Draw Usecase on online bill payment system (paytm)

https://drive.google.com/file/d/1GIp23WR7yRmHEusqBfq58Q5MiYshOGTu/view?usp=sharing

14. Write SDLC phases with basic introduction.

->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. There are a number of different development models.

->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.

- **SDLC Phases**

Requirements Collection	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

15. Explain Phases of the waterfall model.

1. Requirement Gathering :

● Although requirements may be documented in written form , they may be incomplete or even incorrect .

● Requirements will change ! during the project .

● Validation needed throughout the software lifecycle , not only when the “Final system” is delivered .

2. Analysis Phase :

● Analysis defines the requirements of the system, independent of how these requirements will be accomplished .

● Deliverable result at the end of this phase is a requirement document .

● Ideally , this document states it is clear & what to be Built .

3.Design Phase :

● Define the overall structure & components of the software .

● Design the user interface (UI) & user experience (UX) to ensure ease of use .

● Design Architecture Document .

● Performance Analysis , Test Plan .

3. Implementation Phase :

● Team builds the components from scratch .

● Implementation code

● Critical Error Removal

4. Testing Phase :

● Test the entire software system to ensure it meets requirements & performs as expected

● A customer satisfied with the quality of a product will remain loyal & wait for new functionality in the next version .

5. Maintenance Phase :

● Maintenance is the process of changing a system after it has been deployed .

● M.P is the phase which comes after deployment of the software into the field .

16. Write phases of spiral model.

- Planning - Determination of objective,alternatives and constraints
- Risk Analysis - Analysis of alternatives an identification/resolution of risks
- Engineering - Development of the next level product
- Customer Evaluation - Assessment of the result of engineering

17. Write agile manifesto principles

->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.

->Agile thought process had started early in the software development and started becoming popular with time due to its flexibility and adaptability.

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

- **Agile Model Methodology**

  - 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.

  - Agile Methods break the product into small incremental builds. These builds are provided in iterations. Each iteration typically lasts from about one to three weeks.

  - Every iteration involves cross functional teams working simultaneously on various areas like planning, requirements analysis, design, coding, unit testing, and acceptance testing.

- **Pros**
  - Is a very realistic approach to software development
  - Promotes teamwork and cross training
  - Functionality can be developed rapidly and demonstrated
  - Resource requirements are minimum
  - Suitable for fixed or changing requirements
  - Delivers early partial working solutions

- **Cons**
  - Not suitable for handling complex dependencies.
  - More risk of sustainability, maintainability and extensibility
  - An overall plan, an agile leader and agile PM practice is a must without which it will not work.
  - Strict delivery management dictates the scope, functionality to be delivered, and adjustments to meet the deadlines

19. Draw usecase on Online shopping product using COD.

https://drive.google.com/file/d/1PwP3J7zC1zLU3VSpIKtIFXS3NjP1TQhv/view?usp=sharing

20. Draw usecase on Online shopping product using payment gateway.

https://drive.google.com/file/d/1_Hmq1n2wgQl2ZgUamfaPqA-ory7I9LWl/view?usp=sharing