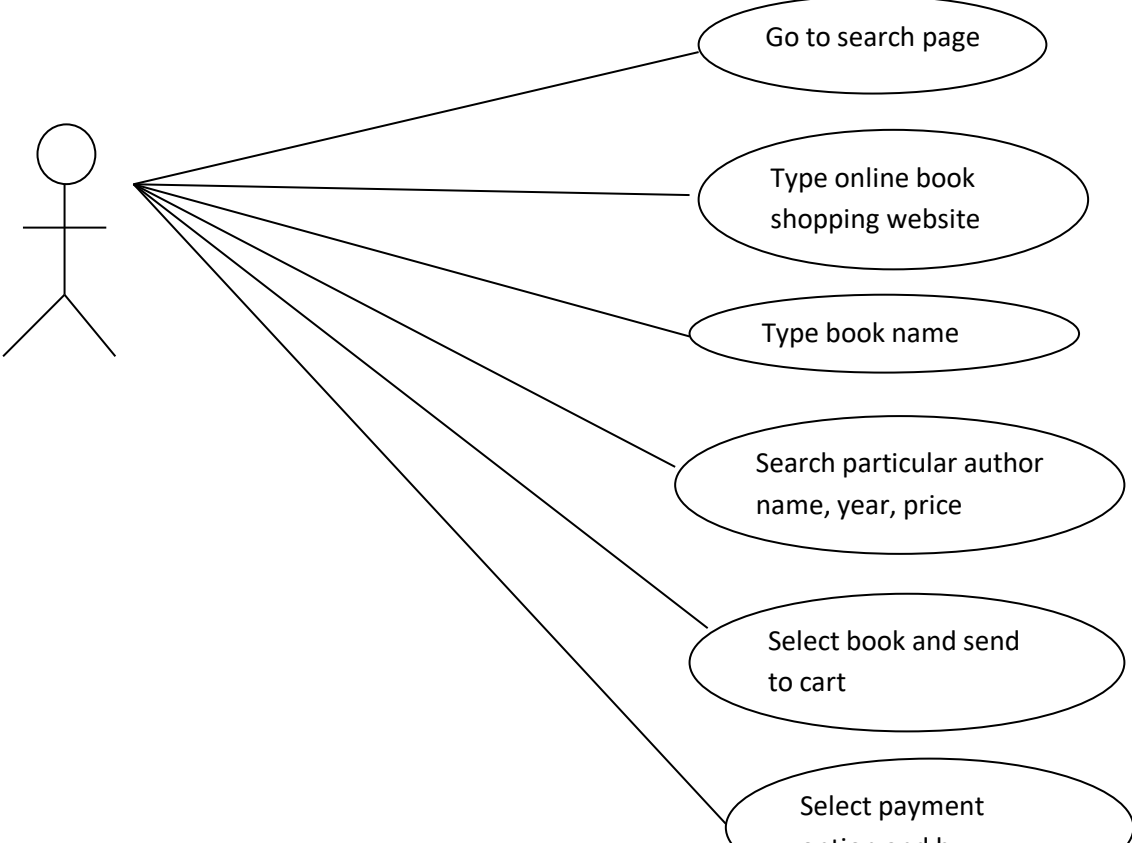
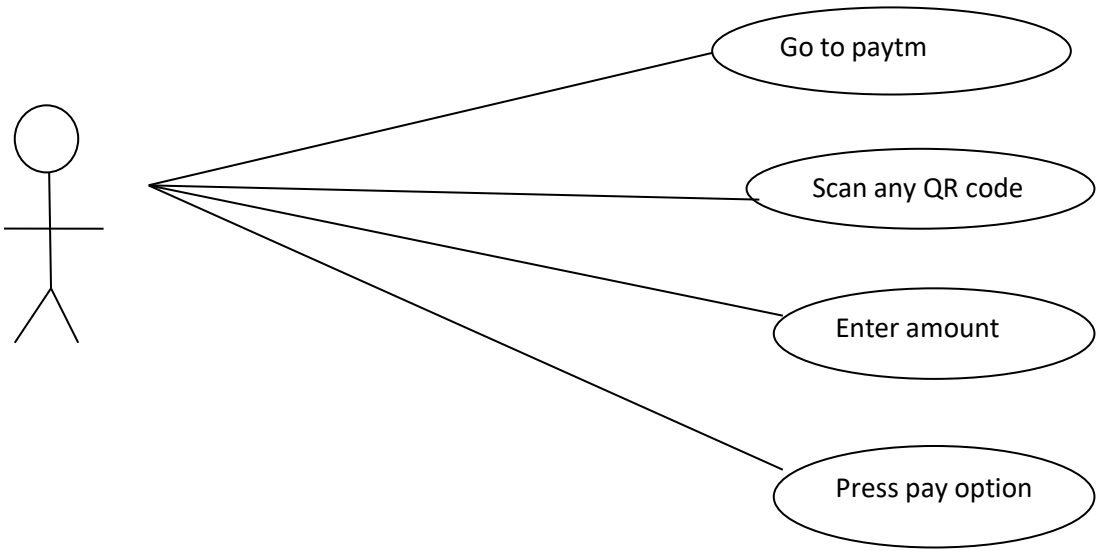


Software Testing Assignment

Module-1 (Fundamental)

1.	What is SDLC?
Ans:	SDLC is a methodology or step by step approach to produce software with high quality, lowest cost in the shortest possible time by defining the phases like planning, Analysis & Design, coding & Implementation and testing & maintenance.
2.	What is software testing?
Ans:	Software testing is a process used to identify the correctness, completeness and quality of developed computer software. <ul style="list-style-type: none">- Software testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is defect free.
3.	What is agile methodology?
Ans:	Agile thought process had started early in the software development and started becoming popular with time due to its flexibility and adaptability.
4.	What is SRS?
Ans:	A software requirements specification (SRS) is a complete description of the behavior of the system to be developed.
5.	What is oops?
Ans:	Oops identifying objects and assigning responsibilities to these objects.
6.	Write basic concepts of oops?
Ans:	There are six (6) basic concepts of oops. (1) Object (2) Class (3) Encapsulation (4) Inheritance (5) Polymorphism (6) Abstraction
7.	What is object?
Ans:	An object is the basic unit of oop which is accessed by its properties called data member & member function. It creates the memory for the class.
8.	What is class?
Ans:	Class is a collection of a data member (variables) and member

	function with its behavior. Class is a blueprint or a template to describe the properties and behavior of the objects.
9.	What is encapsulation?
Ans:	A wrapping up of data and functions into a single unit is called encapsulation. It hide/include private access of data member & member function.
10.	What is inheritance?
Ans:	One class (super,base) inherits the properties of another class (sub,derived). There are 5 types of inheritance.: (1) Single inheritance (2) multiple inheritance (3) multilevel inheritance (4) hierarchical inheritance (5) Hybrid inheritance
11.	What is polymorphism?
Ans:	<p>An ability to take one name having many different forms .</p> <p>There are 2 types of polymorphism :</p> <ul style="list-style-type: none"> (1) compile time polymorphism: (operator overloading) <ul style="list-style-type: none"> - method name should be same but its behavior (arguments,datatype)is different. (2) Run time polymorphism: (operator over riding) <ul style="list-style-type: none"> - Method should be same in super class and sub class but its behavior is different.
12.	Draw usecase on online book shopping:
Ans:	 <pre> graph LR Actor((Actor)) --- UC1([Go to search page]) Actor --- UC2([Type online book shopping website]) Actor --- UC3([Type book name]) Actor --- UC4([Search particular author name, year, price]) Actor --- UC5([Select book and send to cart]) Actor --- UC6([Select payment option and buy]) </pre>

13.	Draw usecase on online bill payment system (paytm)
Ans:	 <pre> graph LR Actor((Actor)) --- UC1([Go to paytm]) Actor --- UC2([Scan any QR code]) Actor --- UC3([Enter amount]) Actor --- UC4([Press pay option]) </pre>
14	Write SDLC phases with basic introduction.
Ans:	<p>There are six (6) sdlc phases:</p> <ol style="list-style-type: none"> (1) Requirement gathering: <ul style="list-style-type: none"> - Although requirements may be documented in written form, they may be incomplete, unambiguous, or even incorrect. Requirements will change. - Three types of problems can arise. <ol style="list-style-type: none"> (1) Lack of clarity : it is hard to write documents that are both precise and easy to read. (2) Requirements confusion: functional and non functional requirements tend to be intertwined (3) Requirements amalgamation: several different requirements may be expressed together. <p>There are two (2) types of requirements:</p> <ol style="list-style-type: none"> (1) Functional requirements: describe system services or functions (2) Non functional requirements: Non functional Requirements may be more critical than functional requirements. <p>(2) Analysis phase: The Analysis phase defines the requirement of the system. -This phase defines the problem that the customer is</p>

	<p>trying to solve.</p> <ul style="list-style-type: none"> - This Analysis represents the “what” phase. <p>(3) Design Phase:</p> <p>The Design team can now expand upon the information established in the requirement document.</p> <p>4) Implementation phase:</p> <p>Implementation phase the team builds the components either from scratch or by composition.</p> <ul style="list-style-type: none"> -the implementation phase deals with issues of quality, performance, baselines, libraries and debugging. <p>(5) Testing Phase:</p> <p>The Testing phase is a separate phase which is performed by a different team after the implementation is completed.</p> <p>(6) maintenance phase:</p> <p>Software maintenance is also one of the phases in sdlc. As it applies to software development. The maintenance phase is the phase which comes after deployment of the software into the field.</p> <ul style="list-style-type: none"> -maintenance is the process of changing a system after it has been deployed. <ol style="list-style-type: none"> 1. corrective maintenance: - Identifying and repairing defect. 2. adaptive maintenace:- adapting the existing solution to the new platforms. 3. perfective maintenance:- Implementing the new requirements in a spiral lifecycle, everything after the delivery and deployment of the first prototype canbe considered. Maintenance.
15.	Explain phases of the waterfall model.
Ans:	<ul style="list-style-type: none"> - Requirements must be “frozen” to early in the life cycle - Requirements are validated too late <p>Requirements are very well documented, clear and fixed.</p> <ul style="list-style-type: none"> - Product definition is stable. - Technology is understood and is not dynamic - There are no ambiguous requirements - Ample resources with required expertise are available to support the product.

	The project is short.
16.	Write phases of spiral model
Ans:	<p>Spiral Model is very widely used in the software industry as it is in synch with the natural development process of any product i.e. learning with maturity and also involves minimum risk for the customer as well as the development firms.</p> <p>There are 4 type of phases.</p> <ol style="list-style-type: none"> (1) Planning :- Determination of objectives, alternatives and constraints. (2) Risk Analysis:- Analysis of alternatives and identification resolution of risk. (3) Customer evaluation:- Assesment of the results of engineering. (4) Engineering:- development of the next level product.
17.	Write agile manifesto principles.
Ans:	<ul style="list-style-type: none"> - 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.
Ans:	<p>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.</p> <p>Agile Methods break the product into small incremental builds.</p> <ul style="list-style-type: none"> - 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. - At the end of the iteration a working product is displayed to the customer and important stakeholders.

- **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.
- Good model for environments that change steadily.
- Minimal rules, documentation easily employed.
- Enables concurrent development and delivery within an overall

planned context.

- 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.
- 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.

- Depends heavily on customer interaction, so if customer is not

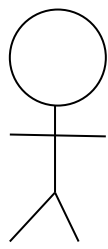
clear, team can be driven in the wrong direction.

- There is very high individual dependency, since there is minimum

documentation generated.

- Transfer of technology to new team members may be quite challenging due to lack of documentation.

19	Draw use case on online shopping product using cod
Ans:	<pre>graph LR; User((User)) --- UC1([Go to amazon app]); User --- UC2([Search product]); User --- UC3([Select size, color]); User --- UC4([Add to cart]); User --- UC5([Go to cart and select delivery address]); User --- UC6([Select payment option (cash on delivery)]); User --- UC7([Select place your order.]);</pre> <p>The diagram illustrates the process of purchasing a product online using Cash on Delivery (COD). It features a stick figure actor labeled '(User)' on the left. Seven use cases, represented by ovals, are connected to the user by lines. The use cases are: 'Go to amazon app', 'Search product', 'Select size, color', 'Add to cart', 'Go to cart and select delivery address', 'Select payment option (cash on delivery)', and 'Select place your order.'.</p>
20.	Draw use case on online shopping product using payment gateway.
Ans:	



(user)

Go to amazon app

Search product

Select size,color

Add to cart

Go to cart and select
delivery adresss

Select payment
gateway option (paytm)

Enter email id,
password, card
number , valid thru
date

Press pay
option