Software Testing Assignment

Module–1(Fundamental)

1. What is SDLC?

SDLC is a Systematic Process for building software that ensures the quality and correctness of the software built.

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?

It is a combination iterative and incremental model.

It divides the software into small incremental builds, this build are provided in iteration, that means the project are divided into small chunks. (iteration)

4. What is SRS?

Software requirement specification.

SRS is a complete description of an application which is to be developed.

SRS contains use case diagram that describes all the interaction use will have with the software application.

5. What is oops?

Object oriented programming is way of written the programs in organized way.

6. Write basic concepts of oops.

- Object
- Class
- Inheritance
- Polymorphism
  - -Over ridding
  - -Over loading
- Encapsulation
- Abstraction

7. What is Object?

Object gives the permission to access functionality of class.

8. What is Class?

Class is a collection of data members and members function.

9. What is encapsulation?

The process wrapping the data in single unit to secure the data from outside world.

10. What is inheritance?

Making a class from an existing class deriving the attribute of some other class.

11. What is polymorphism?

One name Multiple form.

Type: **Over ridding**

Same name of function with same parameter but definition will be different.

Over loading

Same function name but different parameter.

12. Write SDLC phases with basic introduction.

1. Requirements collection/gathering
   Requirements Definitions usually consist of natural language supplemented by (exp. UML) diagrams and tables.
   Types of requirements
   1. functional requirements Describe system services or function
   2. non-functional requirement are constraint on the system or development process.

2. Analysis
   Details on computer programming languages and environments, machines, packages, application architecture, distributed architectures layering, memory size, platform, algorithms, data structures, global type definition, interfaces and many other engineering details are established.

3. Design
   Implementation plan
   Critical priority analysis
   Performance analysis
   Test plan

4. Implementation

   In the Implementation phase the team builds the component either from scratch or by composition.
   Implementation-code
   Critical error removal

5. Testing

   Testing phase is a separate phase which is performed by different team after the implementation is completed.

6. Maintenance

   Maintenance is the process of changing a system after it been deployed.
   There are three type of maintenance.

   1. Corrective maintenance
      Identifying and repairing defects.
   2. Adaptive maintenance
      Adapting the existing solution to the new platforms.
   3. Perfective Maintenance
      Implementing the new requirement in spiral lifecycle

   everything after the delivering and deployment the first prototype can be considered “maintenance”

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

It is a combination iterative and incremental model.

It divides the software into small incremental builds, this build are provided in iteration, that means the project are divided into small chunks. (iteration)

Each iteration last about one to three weeks.

Each iteration involves all team member working simultaneously on areas like planning, requirement, analysis, design, codding, unit testing and acceptance testing.

At the end of the iteration the working product is displayed to the customer or the important stake holder and it is released in the market.

After the release we check for the feedback of the deployed software.

If any enhancement is needed in the project then it’s done and its re-released.

Advantage of Agile method

- Frequent delivery
- Face to face communication with the customer.
- less time
- Adaptability

Disadvantages

- Less documentation
- Maintenance problem.

14. Explain Phases of the waterfall model

The waterfall is unrealistic for many reason, especially requirement must be "frozen" to early in the lifecycle

- Requirement
- Analysis
- Design
- Implementation
- Testing
- Maintenance

15. Write phases of spiral model

- Planning: Determination of objective, alternatives and constraints initial requirements completion
- Risk Analysis: Analysis of alternatives and identification/resolution of risk
- Customer Evaluation: Assessment for result engineering
- Engineering: Development of the "next level" product

16. Write agile manifesto principle.

1) **Customer satisfaction through early continuous software delivery.**
   - Customer are very happier when receive working software at regular intervals, rather than waiting extended periods of time between release.
2) **Accommodate changing requirements throughout development process.**
   - The ability to avoid delays when requirement feature request changes.
3) **Frequent delivery of working software**
   - Scrum accommodates this principle since the team operates I software sprints or iteration that ensure regular delivery of working software.
4) **Collaboration between the business stakeholders and developers throughout the project**
   - Better decisions are made when the business and technical team are aligned.
5) **Support, trust and motivate the people involved.**
   - Motivated teams are more likely to deliver their best work than unhappy teams.
6) **Enable face to face interaction.**
   - Communication is more successful when development teams are co-located.

7) **Working software is the primary measure of progress.**

- Delivering functional software to the customer is the ultimate factor that measures progress.

8) **Agile processes to support a consistent development pace.**

- Teams establish a repeatable and maintainable speed at which they can deliver working software, and they repeat it with each release.

9) **Attention to technical detail and design enhances agility.**

- The right skill and good design ensures the team can maintain the pace, constantly improve the product, and sustain change.

10) **Simplicity.**

- Develop just enough to get the job done for right now.

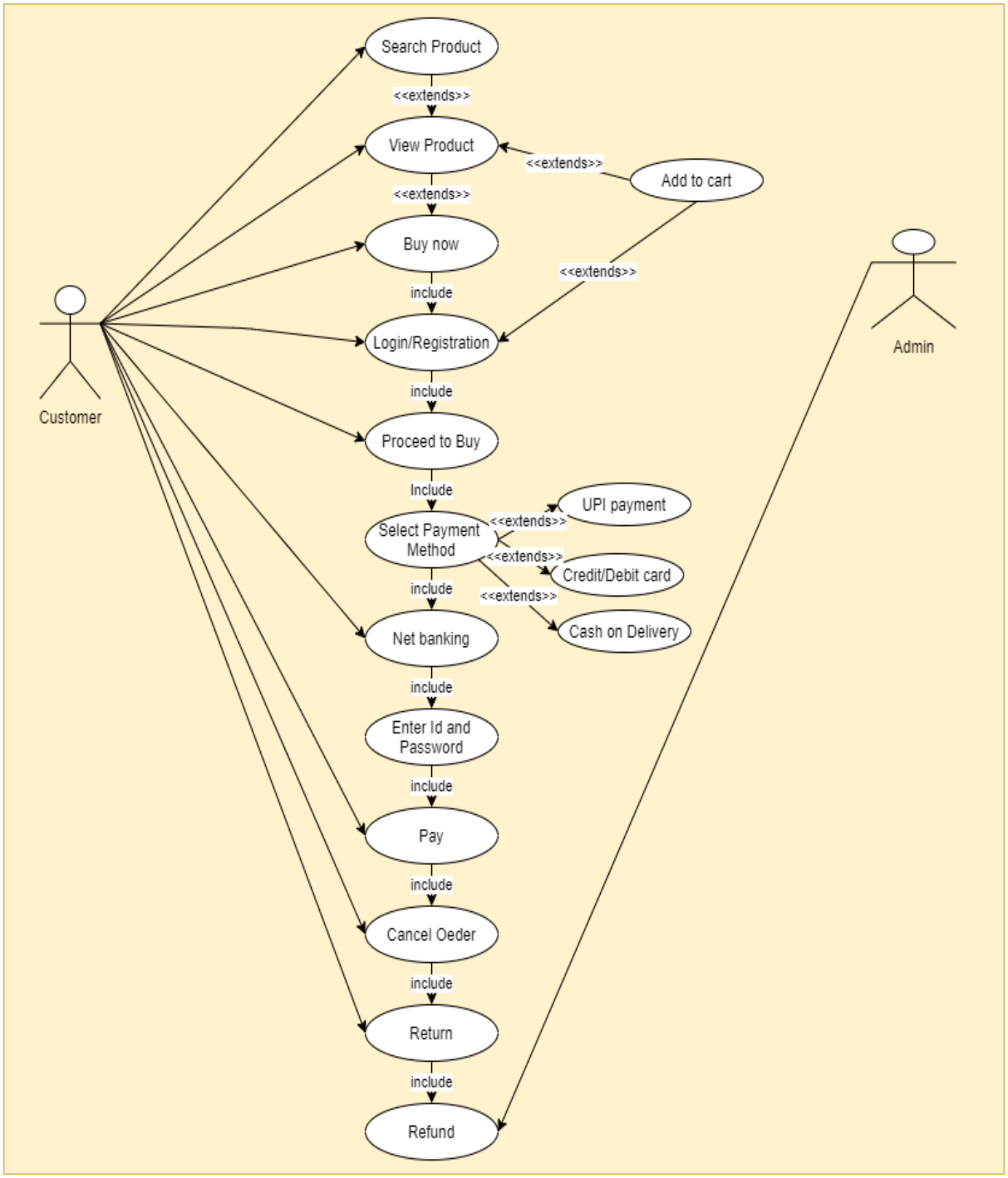
11) **Self-organization teams encourage great architectures. requirements,and designs.**

- Skilled and motivated team members who have decision-making power, take ownership, communicate regularly with other team members, and shares ideas that deliver quality products.

12) **Regular reflection on how to become more effective.**

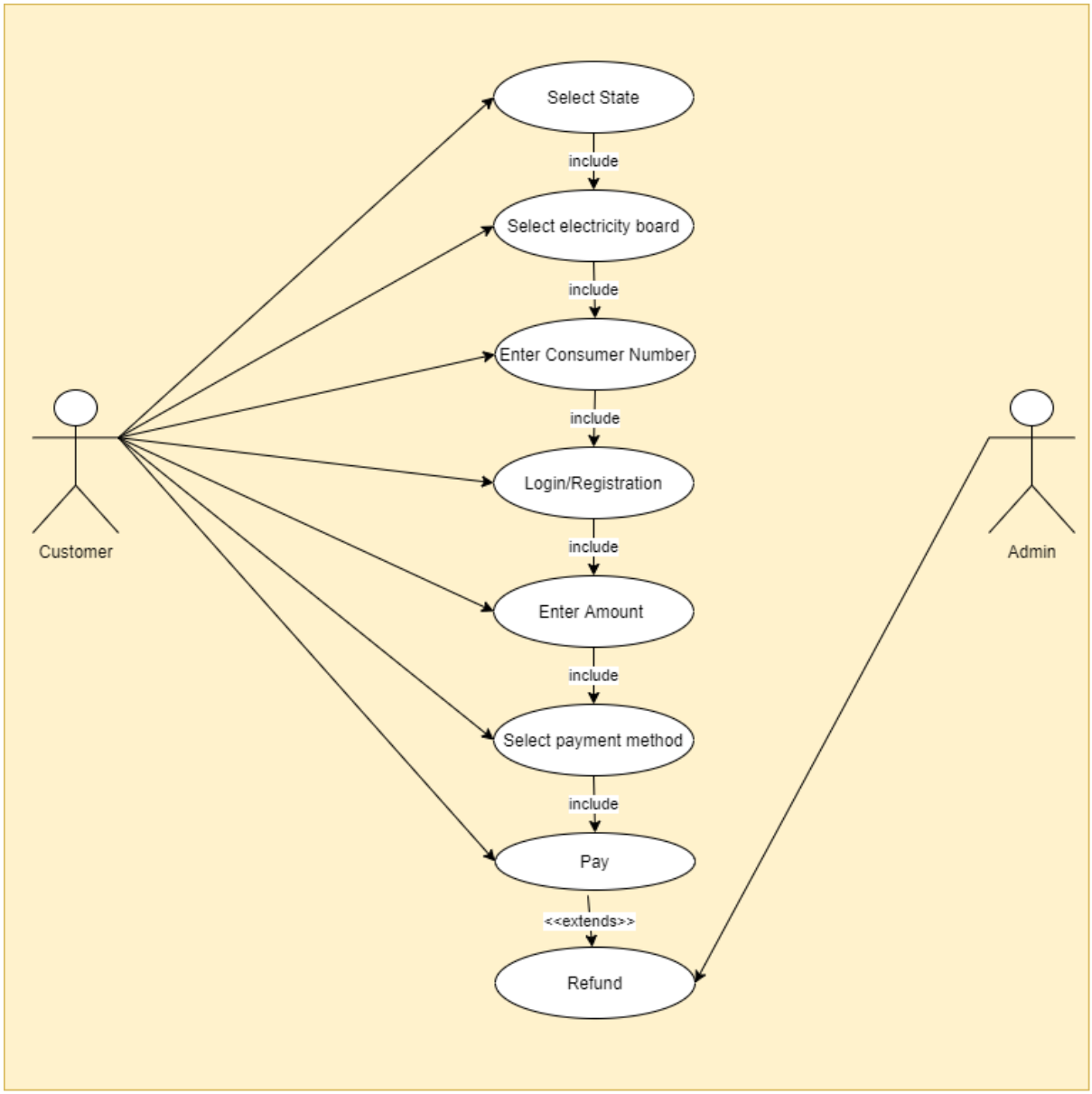
- Self-improvement, process improvement, advancing skills, and techniques help team members work more efficiently.

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



17. Draw use case on Online shopping product using COD.

18. Draw use case on online bill payment system (paytm).



19. Draw use case for online book shopping .