SOFTWARE TESTING ASSIGNMENT

MODULE 1

1. What is SDLC?
1. Software Development Life Cycle is essentially a series of steps, or phases that provide a model for development and life cycle management of an application or piece of software.

2. What is Software testing?
2. Software testing is a process of evaluating a system or its components with the intent to find that whether it satisfies the specific requirements or not.

3. What is Agile Methodology?
3. The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, team cycle through a process of planning, executing, and evaluating.

4. What is SRS?
4. SRS is a complete description of an application which is to be developed.
SRS contains use case diagram that describes all the interaction user will have with the software application.

5. What is oops?
5. Object Oriented Programming is a way of writing the programs in organized way.
Objects are like a black box where data are hidden.

6. Write basic concepts of oops.
6. Basic concepts of oops are:

1. Class
2. Object
3. Inheritance
4. Polymorphism
5. Encapsulation
6. Abstraction

7. What is object?
7. Object gives the permission to access functionality of class.

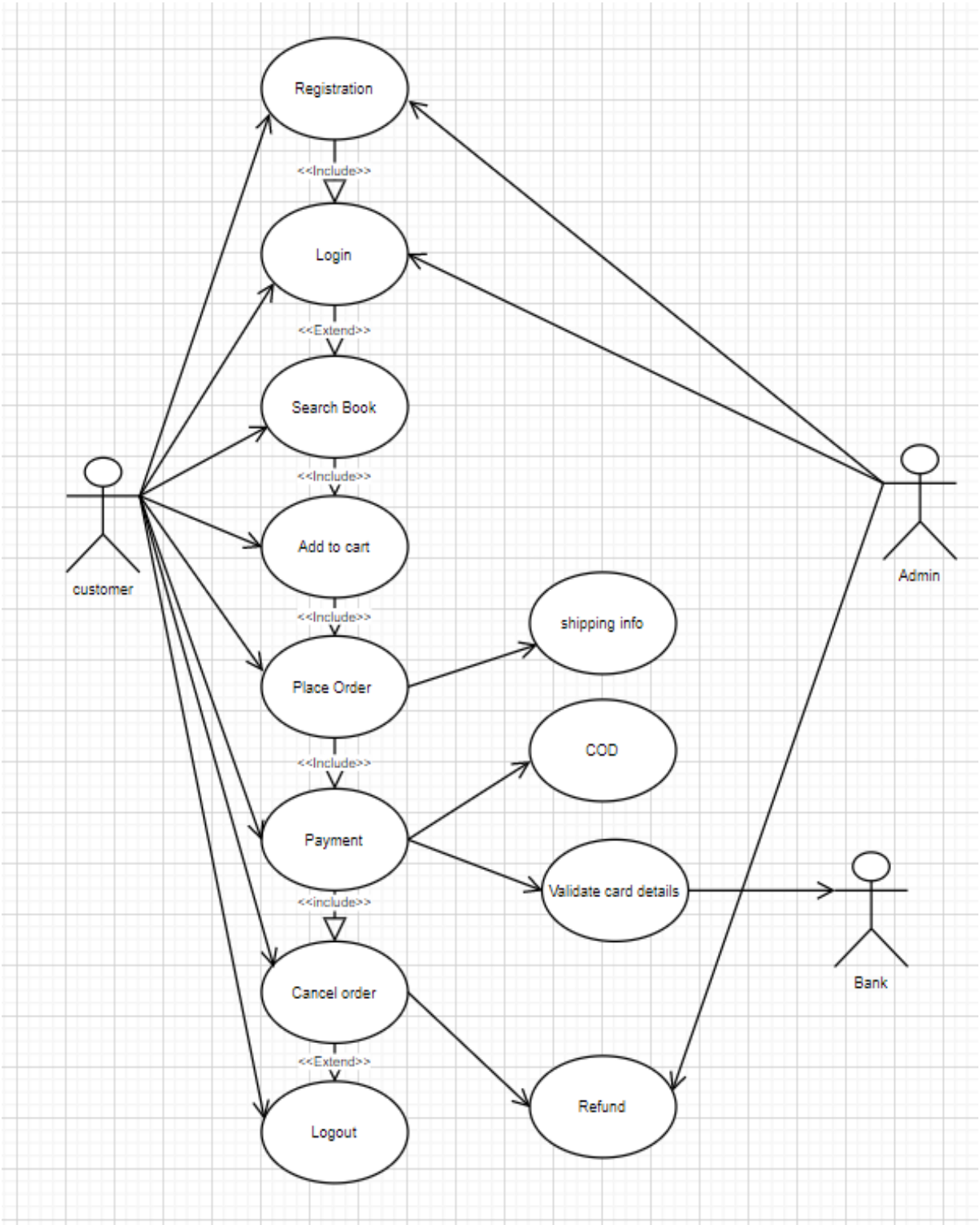
8. What is class?
8. Class is a collection of data member and member function.

9. What is encapsulation?
9. The process of wrapping the data in a single unit. To secure the data from outside world.

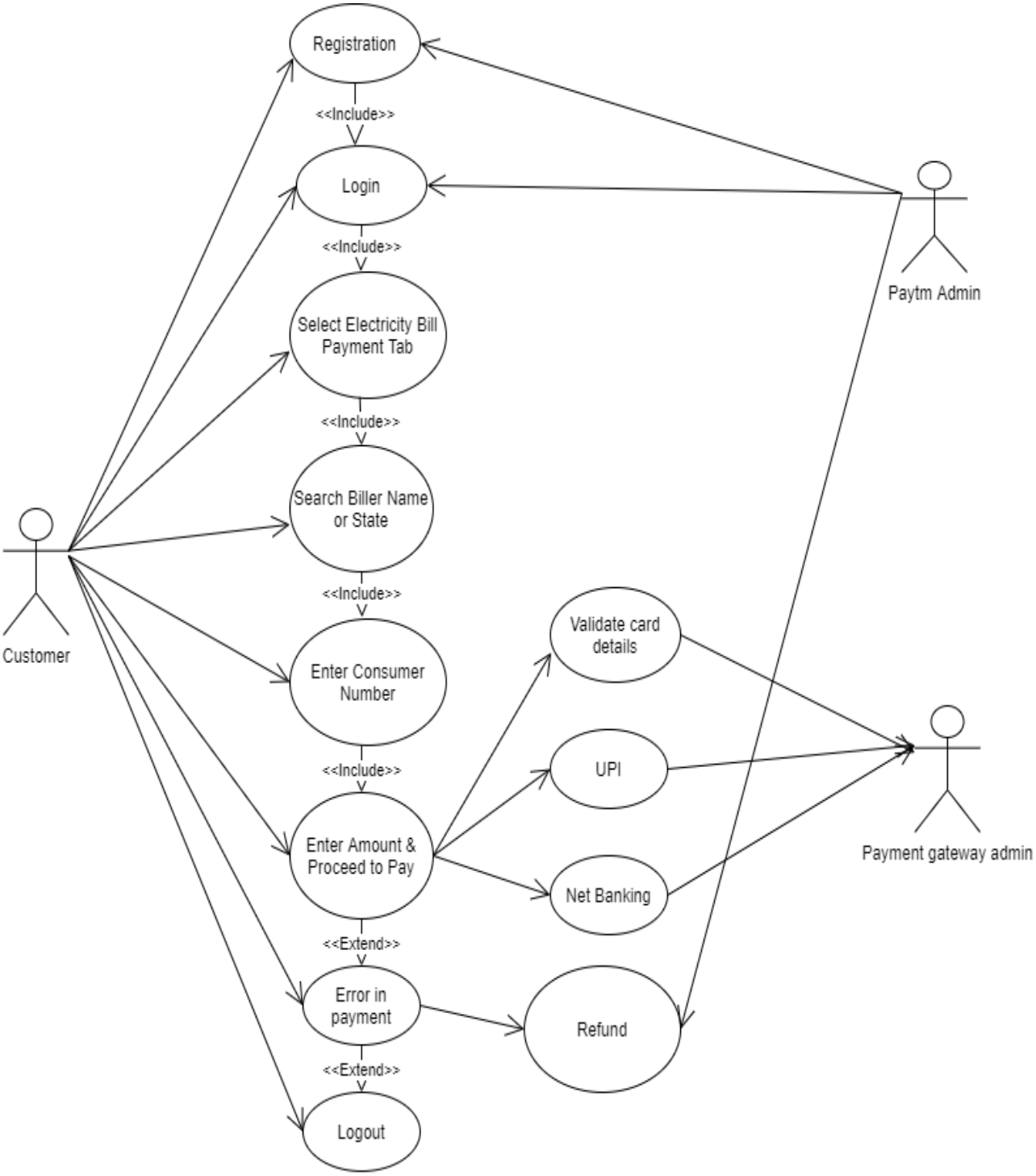
10. What is inheritance?
10. Making a class from existing class. Deriving the attribute of some other class.

11. What is polymorphism?
11. One name multiple form.

12. Draw use case on online book shopping.



13. Draw use case on online bill payment system.



14. Write SDLC phases with basic introduction.
14. SDLC phases:

1. Requirement collection -> Establish customer needs.

2. Analysis -> Model and specify the requirements – “What”

3. Design -> Model and specify a solution – “Why”

4. Implementation -> Construct a solution in software

5. Testing -> Validate the solution against the requirement

6. Maintenance -> Repair defects and adapt the solution to the new requirements.

15. Explain phases of the waterfall model.
15. Phases of waterfall model:

1. Requirements gathering -> Requirement gathering is a crucial phase in the software development life cycle and project management. It involves collecting, documenting, and managing the requirements that define the features and functionalities of a system or an application.

2. Analysis -> The analysis phase defines the requirements of the System, independent of how these requirements will be accomplished.
   - This phase defines the problem that the customer is trying to solve.

- Ideally, this document states in a clear and precise way what is to be built.
- This analysis represents the “What” phase.
- This phase starts with the requirement document delivered by the requirement phase and maps the requirements into architecture.

3. Design -> Design Architecture document.
    - Implementation plan
    - Critical priority analysis
    - Performance analysis
    - Test plan
    - The architecture team also converts the typical Scenarios into a test plan.

4. Implementation -> In the implementation phase, the team builds the components either from scratch or by composition.

5. Testing -> Simply stated, quality is very important. Many Companies have not learned that quality is important and deliver more claimed functionality but a lower quality level.
    - It is much easier to explain to a customer why there is a missing feature than to explain to a customer why the product lacks quality.
    - A customer satisfied with the quality of a product will remain loyal and wait for new functionality in the next version.

6. Maintenance -> Maintenance is the process of changing a system a after it has been deployed.
    - Corrective maintenance – Identifying and repairing defects.

- Adaptive maintenance – Adapting the existing solution to the new platforms.
- Perfective maintenance – Implementing the new requirements.

16. Write phases of spiral model.
16. Phases of spiral model:

- Planning: Determination of objectives, alternatives, and constraints.

- Risk Analysis: Analysis of alternatives and identifications or Resolution of risks.

- Engineering: Development of the “next level” product.

- Customer Evaluation: Assessment of the results of engineering.

17. Write Agile manifesto principles.
17. The 12 Agile Manifesto principles are:

1. The highest priority is to satisfy the customer through early and continuous delivery of valuable software.

2. The project team accommodate changing requirements, even late in development. The ability to avoid delays when a requirement or feature request changes.

3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

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. A face to face conversation is the most efficient and effective method of conveying information to and within a development team.

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. Pay continuous attention to technical excellence, and good design enhances agility.

10. Simplicity is essential. This is the art of maximizing the amount of work not done.

11. Self-organizing teams produce the best architectures, requirements, and designs.

12. At regular intervals, the team reflects on how to become more effective and adjusts its behavior accordingly.

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

18. Agile methodology:

- Agile SDLC model is a combination of iterative and increment models with focus on process adaptability and customer satisfaction by rapid delivery of working software product.

- It divides the software into small incremental builds.

- These builds are provided in iterations, that means big projects are divided into small chunks (iterations).

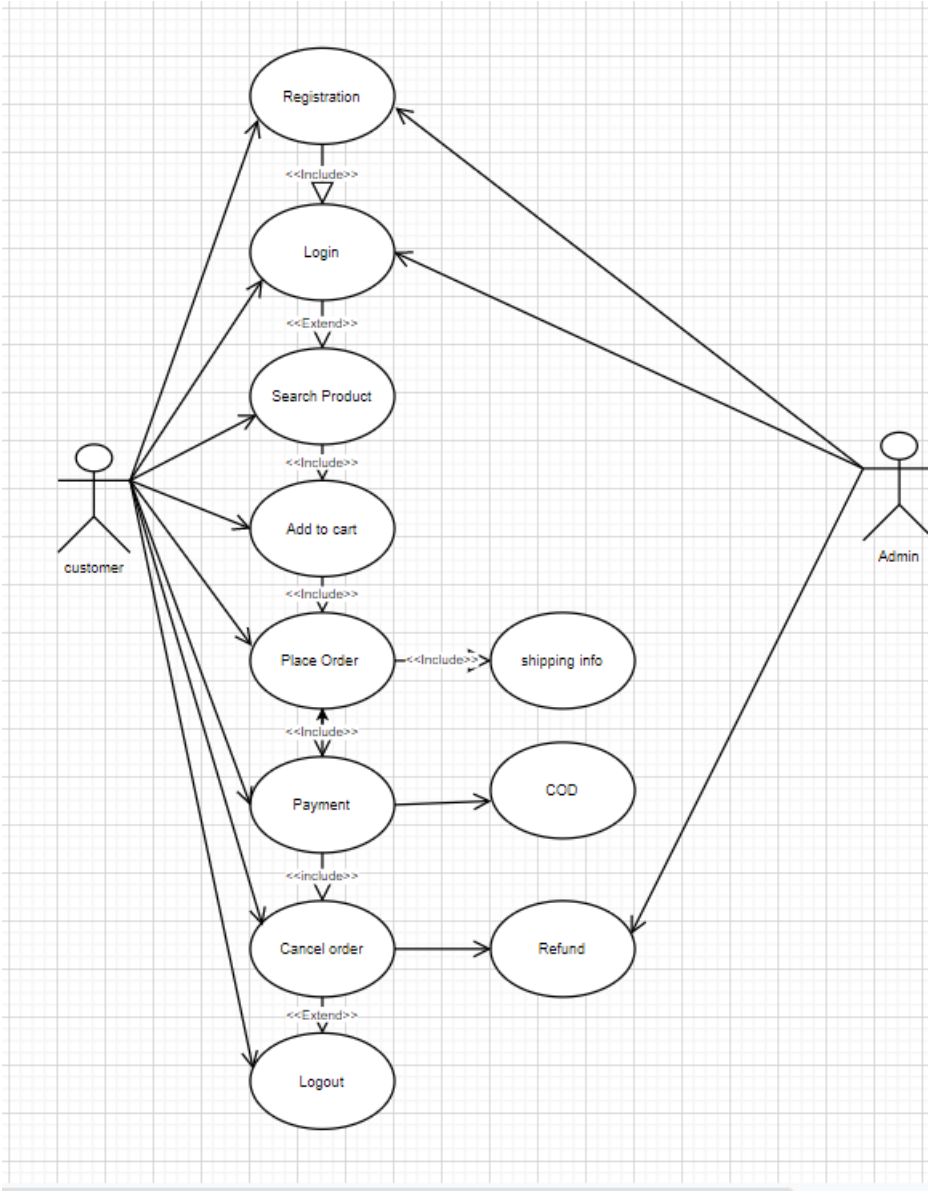
Pros:

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

Cons:

- Less documentation
- Maintenance problem

19. Draw use case on online shopping product using COD.



20. Draw use case on online shopping product using payment gateway.