Roll No - 24108 Subject :- SE

Q) 1)

a) Process -

A process is a collection of activities, in software process and tasks that are performed when some work product is to be created.

A generic software process framework encompasses of 5 activities

1) Communication -

It is important to communicate and collaborate with the customer & others stakeholders in order to understand their objectives as well as to gather requirements

2) Planning :

Planning activity means to create a map. Map is called a software project plan which defines software engineering work by describing the technical tasks to be conducted.

3) Modelling :

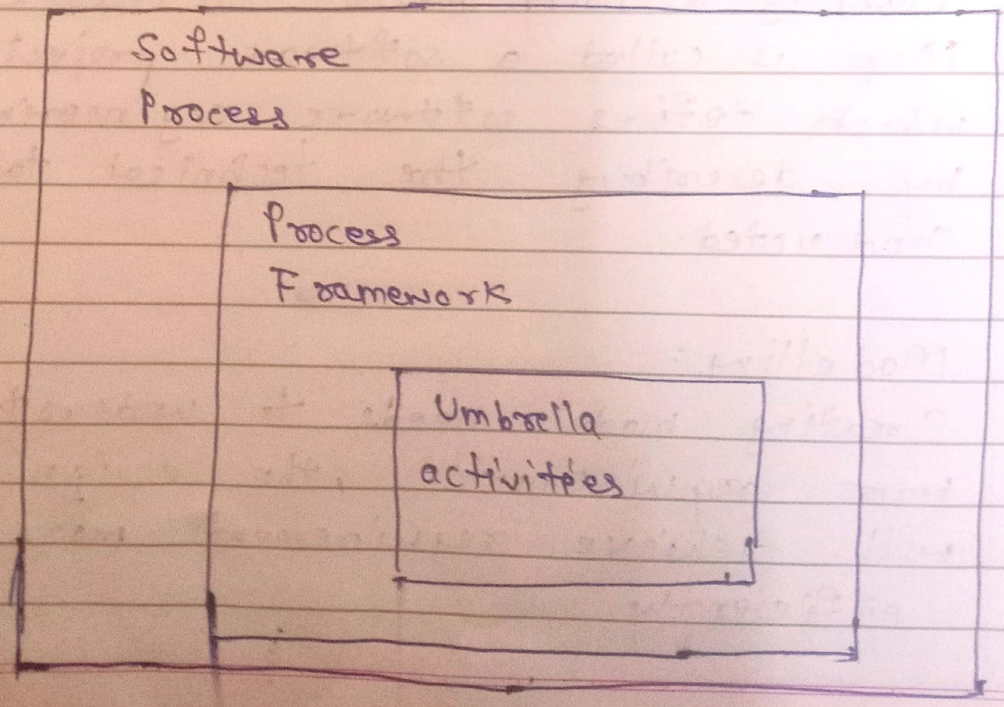
Creating models needs to understand software requirements, the design that will achieve requirements more efficiently

4) Construction -
This activity combines the code generation and the testing which is required to find / detect the corrosion of the code.

5) Deployment -
The software as a complete entity or as a partially completed product is delivered to the customer who evaluates the delivered product and provides feedback base on evaluation.

Complemented by
- Software project tracking & control
- Risk management
- Technical reviews
- Software quality assurance
- Measurement

Diagram -



Q) 2)

Plan driven	Agile Approach.
1) It is rigid & predefined	It is highly flexible
2) Changes are costly & difficult	Changes are easily accomodated
3) Complete system is delivered at once.	Software is delivered in small fraction of increments.
4) Heavy documentation is required	Minimal documentation, focus on working software.
5) Limited customer involving after initial planning	Continuos customer contribution & feedback
) Higher risk as testing is required	Lower risk as testing is performed frequently
) Waterfall, V- model.	Scrum, Kanban.

Q) 3)

a) Requirement Engineering -

1) Requirement Engineering is the process of gathering, analysing, documentation and managing software requirements

2) A well structured requirement engineering process ensures software meets user expectations and minimizes project risk

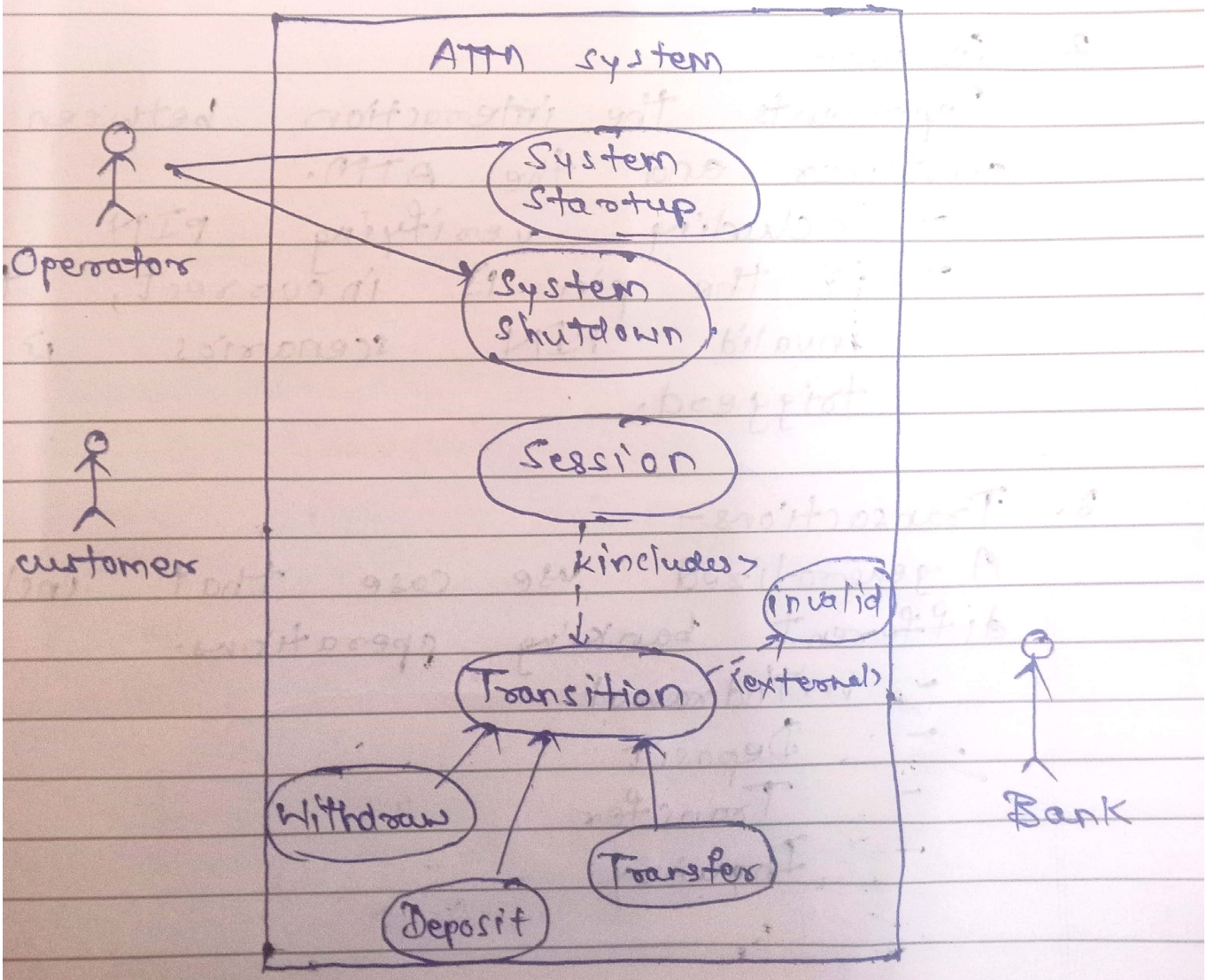
Requirement engineering tasks -

1) Inception -
It means specifying the beginning of the software project.
It estimates the basic understanding of the project, find out all the possible solutions and identify the nature of solution also to establish an effective communication between developer and customer.

2) Elicitation -
It is the process of gathering, identifying and understanding user needs, expectations and constraints for a software system.

Specification -
It is the final work product of a requirement engineering process.
It can be a written documents, mathematical or graphical model, collection of use case scenarios, or may be the prototypes.

Validation -
It is an activity in which requirement specification is analyzed.



Actors -

1. Operator -
   Handles system startup & shutdown
2. Customer -
   Interacts with the ATM for banking transactions.
3. Bank -
   reports as a bank, represents the backend system that validates and processes transactions.

Use cases -

1. System startup & System shutdown:
   Managed by the operator.

2. Session -
   Represents the interaction between customer and the ATM.
   - including verifying PIN
   - if the pin is incorrect, the invalid PIN scenarios is triggered.

3. Transactions -
   A generalized use case that includes different banking operations.
   - withdrawal
   - Deposit
   - Transfer
   - Inquiry