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RESPONSE SHEET (MARCH - 2021)

Department: Information Technology

Name of Student: Satyam Abhishek

Semester : 4th

Subject Name: Software Engineering

Date: 02-03-2021

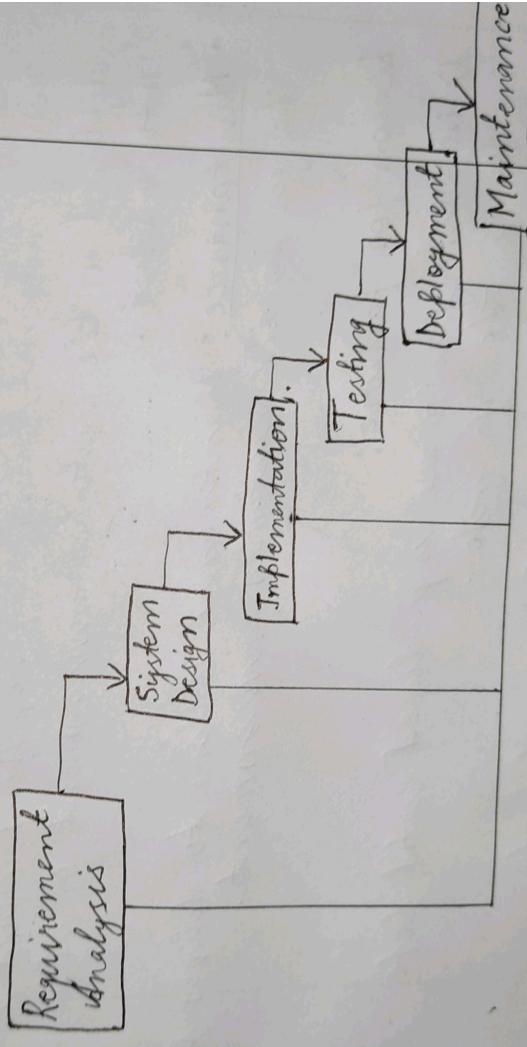
Scholar No.: 19V03068

Subject Code: IT - 223

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No. 1. Software engineering is an engineering discipline that is concerned with all aspects of software production.

Waterfall approach was first SDLC Model to be used widely in software Engineering to ensure success of the project. The "waterfall" approach, the whole process is divided into phases.



The sequential phases in waterfall Model are -

- Requirement Gathering and Analysis - All the possible requirement of the system to be developed are captured in this phase and documentation in a required specification document.
- System Design - The requirement specification from 1st phase are studied in this phase and system design is prepared.

Rough Work

No. Implementation: With inputs from the system design required, the system is first developed in small programs called units, which is integrated in next phase.

• Integration and Testing: All the units developed in the implementation phase are integrated into a system after testing of each unit.

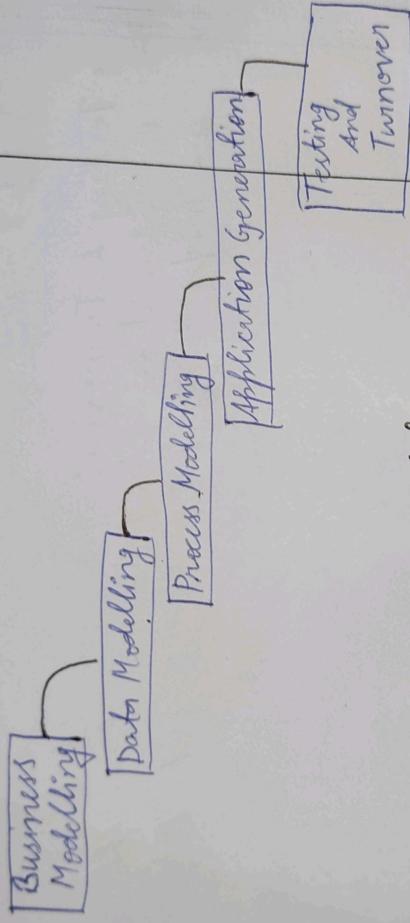
• Deployment of system: Once the functional and non-functional testing is done, the product is deployed in the customer environment or released into market.

• Maintenance: Maintenance is done to deliver the changes in the customer environment.

Reason for failure:

- 1) No working software is produced until late during the life cycle.
- 2) High amount of risk & uncertainty.
- 3) It is difficult to measure progress within stages.
- 4) Cannot accommodate changing environment.

b) The phases of RAD model are firstly shown in its RAD prototype mode diagram and then discussed :-



RAD Prototype Model :

In the Rapid Application development Model (RAD) firstly the customer requirement is gathered.

→ Then documentation is done to maintain the details from the starting till the end, information about investment size of project.

- Business Modelling : The information flow is identified between different business function.

- Data Modelling : Here the information that is gained from the business model is used to define data objects that are required for the business.

- Process Modelling : Here the data objects that were defined in the data modelling model are converted to establish business information flow to achieve some specific objective like adding, deleting, modifying data objects.

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Rough Work (If
Required)

- Application Generation : The actual system is created and coding is done by using automation tools . This converts the overall concept , process and related information into actual desired output .
- Testing & Turnover : The overall testing cycle time is reduced in the P&D model as the prototypes are independently tested during every cycle .

a) Incremental Model : It is also known as successive version model.

- In this model, first a simple working system is designed which has basic features is delivered to the customer.
- After this many successive iterations are implemented and delivered to the customer until the desired system is released.

Advantages :

- It generates working software quickly and early during software life cycle.
- This model is more flexible - less costly to change scope and requirements.
- Here customer can respond to each built.
- Lowers initial delivery delivery cost.

b)

Software Process Customization

Software Process Improvement

- | | |
|--|---|
| → It is a process of designing, developing and even maintaining for a specific set of users. | → It is simply defined as definitions of sequence of various tasks, tools and techniques. |
| → It includes people, product and process. | → It includes three factors : People, Technology and product. |
| → It increases the level of productivity. | → It increases product quality. |
| → It is very expensive and is time consuming. | → It reduces the cost and increases development speed and thus reduces the time. |

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Level 5

Rough Work (If Required)

optimizing

- Process Change Management
- Technology Change " "
- Defect Prevention

Managed

- Software Quality Manag.
- Quantitative Manag.

Defined

- Peer Review
- Inter - Group coordination
- Organization process definition
- Training programs.

Repeatable

- Project Planning
- Configuration Manage.
- Requirements Manage.
- Software Quality Assurance

No KPA's

Initial

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Q.No.		Rough Work (If Required)	
3. a)	<u>Functional Requirement</u>	<u>Non-functional Requirement</u>	
	<ul style="list-style-type: none"> → It is captured in use case. → It end result is product feature. → It focuses on user requirement → It describes what product does. → It helps to verify the functionality of the software. 	<ul style="list-style-type: none"> → It is captured as a quality attribute. → It results in product properties. → It concentrates on user's expectation and experience. → It describes how product works. → It helps us to verify the performance of the software. 	
b)		<p>Principles that underpin the Agile Manifesto are : -</p> <ul style="list-style-type: none"> → Its highest priority is to satisfy the customer through early and continuous delivery of the valuable software. → In this model, the business people and developers must work together daily throughout the project. → It welcome changing requirements, even late in development. → It delivers the working software frequently from a couple of weeks to a couple of months. 	

Rough Work (If Required)

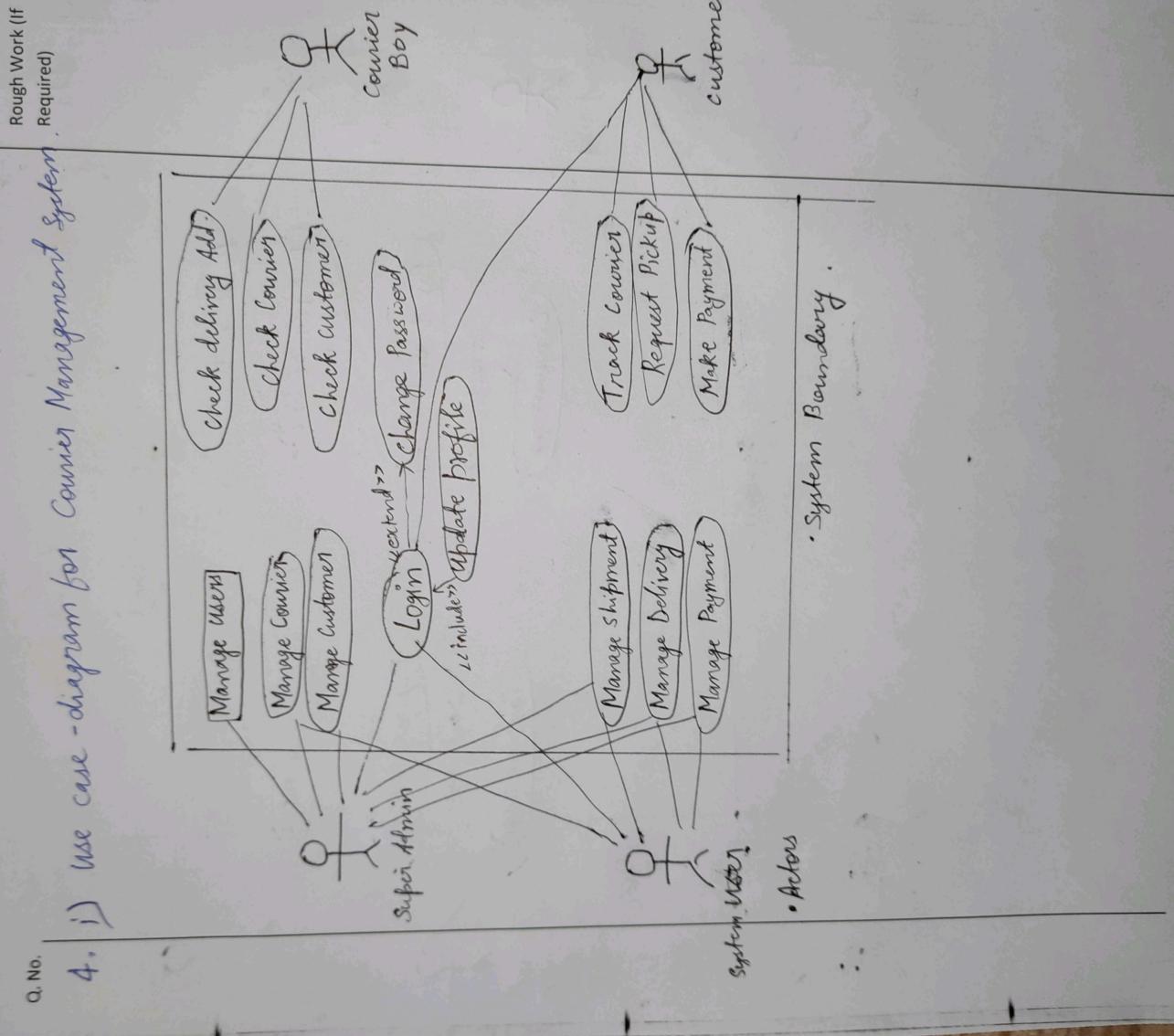
- Here, the working software is the primary measure of progress.
- In this model, the project is build among motivated individuals. Give them environment and support they need and trust them to get the job done.
- It involves face to face conversation.
- Working software is primary measure of progress.
- Agile Model processes promote sustainable development. The sponsors, developers and users should be able to maintain a constant pace indefinitely.
- Continuous attention to technical excellence and good design enhances agility.
- This manifesto believes that the best architecture, requirements and design emerge from self - organizing teams.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

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Q. No.

4. i) Use case - diagram for Courier Management System.



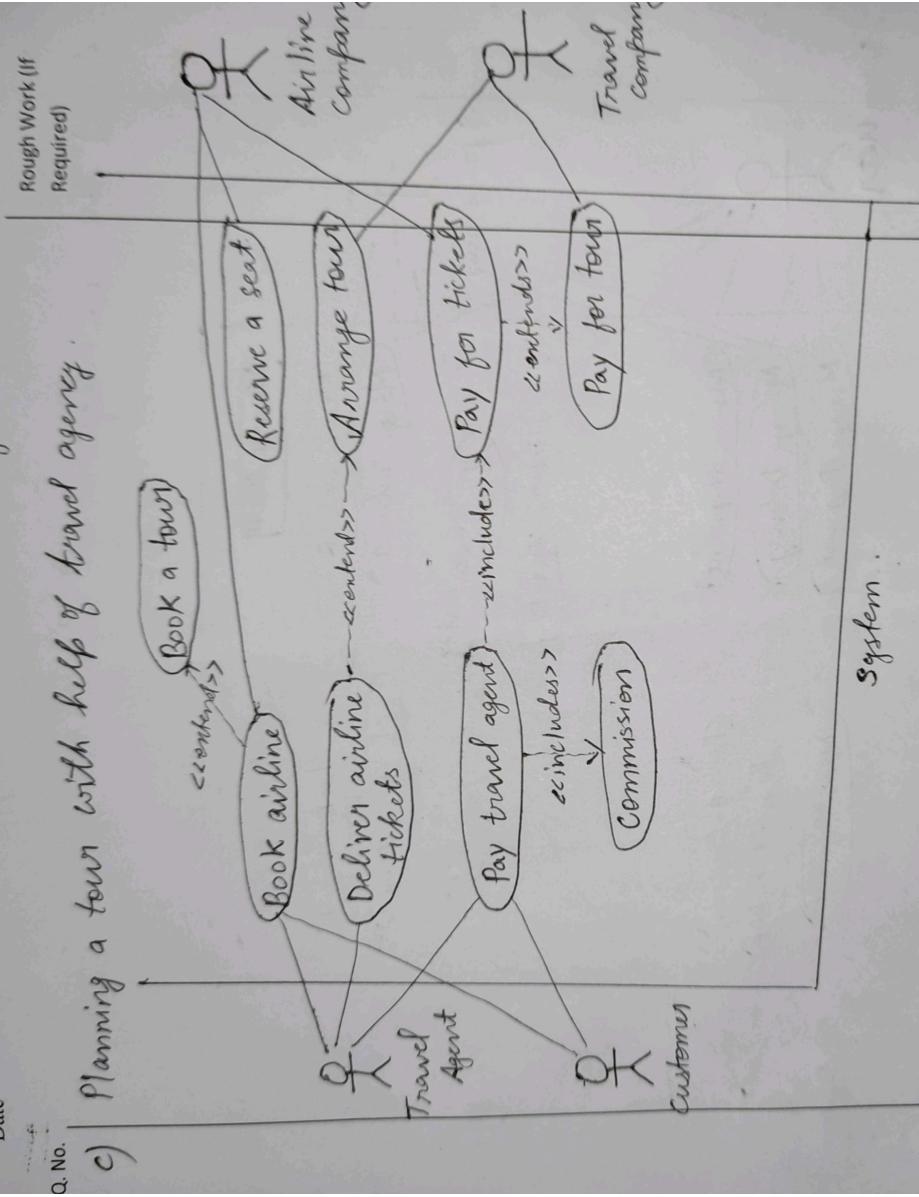
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Q.No. c) Planning a tour with help of travel agency.



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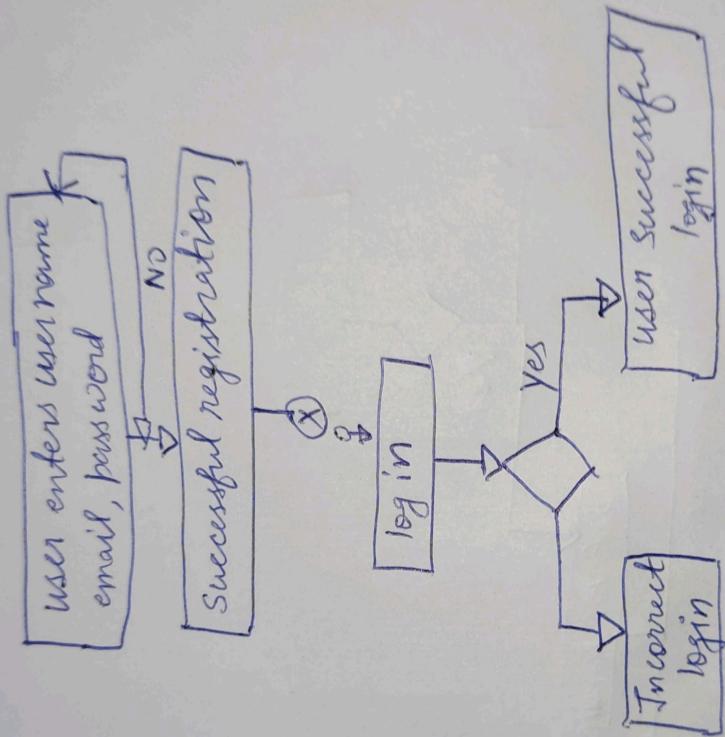
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Q. a)



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b>

