Question 1 – Audits

4 Quarterly Audits are planned Q1 , Q2, Q3, Q4 for this Project What is your knowledge on how these Audits will happen for a BA ?

Answer:

A. A quarterly report is a summary or collection of unaudited financial statements, such as balance sheets, income statements, and cash flow statements, issued by companies every quarter.

B. It's a good idea for investors to read and analyze a company's quarterly reports. The specific information you should take note of include:

    - Earnings per share
    - Gross sales
    - Net sales
    - Operating expenses
    - Net profit

C. Using the information listed above, investors can accurately assess a company's performance, which may help them gauge future performance.

D. A quarterly report typically includes an executive summary, goals and objectives, highlights, and new and ongoing challenges. In terms of challenges, the quarterly report may include strategies planned or employed to overcome them.

E. If relevant, the quarterly report may discuss previous quarterly reports' data and provide a comparison between them and the current report.

F. Preparing a quarterly report takes time and may require extended research. Gathering financial and performance data from various sources will generally ensure that the quarterly report is as comprehensive as possible.

G. Graphs and spreadsheets created by BA provide a visual representation of the data provided; they help to add context.

H. Quarterly reports help investors and analysts gauge the health of a company by providing insight into a firm's performance.

Question 2 – BA Approach Strategy

Before the Project is going to Kick Start, The Committee asked Mr Karthik to submit BA Approach Strategy

Write BA Approach strategy (As a business analyst, what are the steps that you would need to follow to complete a project – What Elicitation Techniques to apply, how to do Stakeholder Analysis RACI/ILS, What Documents to Write, What process to follow to Sign off on the Documents, How to take Approvals from the Client, What Communication Channels to establish n implement, How to Handle Change Requests, How to update the progress of the project to the Stakeholders, How to take signoff on the UAT- Client Project Acceptance Form)

Your Team Project Manager - Mr Vandanam Senior Java Developer - Ms. Juhi Java Developers - Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo Network Admin - Mr Mike DB Admin - Mr John Testers - Mr Jason and Ms Alekya BA – You.

Technical Team have assembled to discuss on the Project approach and have finalised to follow 3-tier architecture for this project.

Answer:

BA Approach Strategy

What Elicitation Techniques to apply	Brainstorming, Document Analysis, Reverse Engineering, Focus groups, Observation, Workshops, Interviews, Questionnaires
How to do Stakeholder Analysis RACI/ILS,	To find out the key stakeholders who can take Decisions and Who are the influencers we do Stakeholder Analysis. In SA, we define who is Responsible, Accountable, Consulted and Informed. • **Responsible:** Person who is completing the task • **Accountable:** Person who is making decisions and taking actions on the task(s) • **Consulted:** Person who will be communicated with regarding the

	decision-making process and specific tasks • **Informed:** Person who will be updated on decisions and actions during the project
What Documents to Write	SOW (Statement of Work), FRS (Functional Requirements Specification), SSD (Supplementary Support Document), SRS (Software Requirements Specification), RTM (Requirements Traceability Matrix), BRD (Business Requirement Document)
What process to follow to Sign off on the Documents	By ensuring that stakeholders understand the Requirements Specifications.
How to take Approvals from the Client	• Set reasonable expectations and milestones. • Understand what's important to each stakeholder. • Involve and educate your client from the start. • Implement feedback. • Thoroughly explain why you did what you did. • Streamlining the review & approval process makes all parties satisfied.
What Communication Channels to establish n implement	• Face-to-face communication. The richest communication channel around, face-to-face meetings are often hailed as the most effective way for teams to interact. • Video conferencing

	• Phone calls • Emails • Online messaging platforms
How to Handle Change Requests	• Understand the reason for the change. Ensure that you understand why the change is needed. • Understand the impact of the change. • Understand the effort required to implement the change. • Ensure that the change request follows the predetermined approval process.
How to update the progress of the project to the Stakeholders	• Understand stakeholder needs. • Proactively listen to your stakeholders' concerns. • Develop and execute a communication plan. • Utilize online collaboration tools to share regular progress. • Send out weekly status reports.
How to take signoff on the UAT- Client Project Acceptance Form	• Organize the project documents. • Prepare the final report. • Distribute the sign-off sheet. • Transition remaining items to a to-do list. • Review your lessons learned.

Question 3 – 3-Tier Architecture

Explain and illustrate 3-tier architecture.

Answer:

Three-tier architecture is a well-established software application architecture that organizes applications into three logical and physical computing tiers: the presentation tier, or user interface; the application tier, where data is processed; and the data tier, where the data associated with the application is stored and managed.

A. **Presentation tier**

The presentation tier is the user interface and communication layer of the application, where the end user interacts with the application. Its main purpose is to display information to and collect information from the user. This top-level tier can run on a web browser, as desktop application, or a graphical user interface (GUI).

B. **Application Tier**-

The application tier, also known as the logic tier or middle tier, is the heart of the application. In this tier, information collected in the presentation tier is processed - sometimes against other information in the data tier - using business logic, a specific set of business rules. The application tier can also add, delete or modify data in the data tier.

The application tier is typically developed using Python, Java, Perl, PHP or Ruby, and communicates with the data tier using API calls.

C. Data tier-

The data tier, sometimes called database tier, data access tier or back-end, is where the information processed by the application is stored and managed.

This can be a relational database management system such as PostgreSQL, MySQL, MariaDB, Oracle, DB2, Informix or Microsoft SQL Server, or in a NoSQL Database server such as Cassandra, CouchDB or MongoDB.

In a three-tier application, all communication goes through the application tier. The presentation tier and the data tier cannot communicate directly with one another.

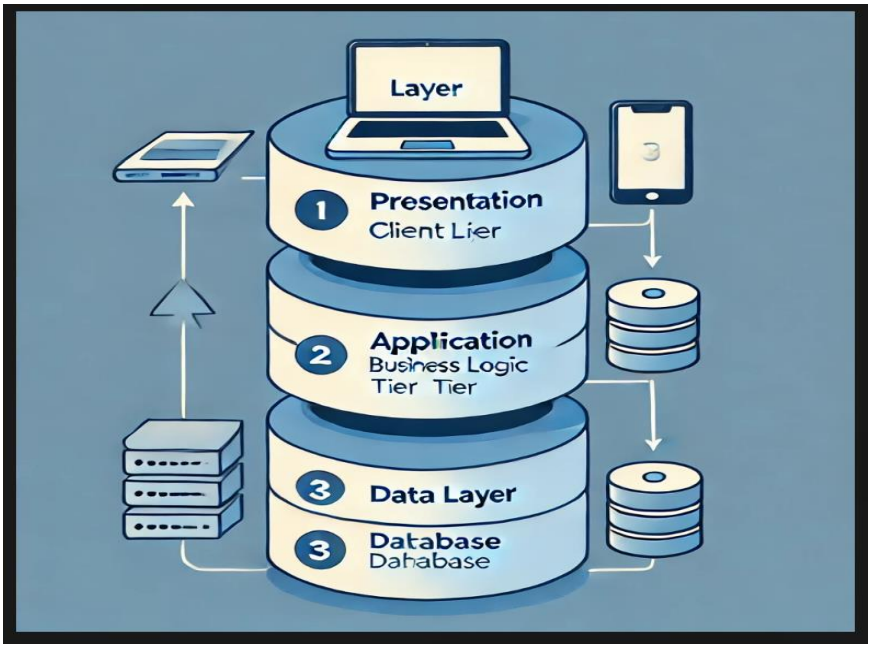
Advantages-

Faster development: Because each tier can be developed simultaneously by different teams, an organization can bring the application to market faster, and programmers can use the latest and best languages and tools for each tier.

Improved scalability: Any tier can be scaled independently of the others as needed.

Improved reliability: An outage in one tier is less likely to impact the availability or performance of the other tiers.

Improved security: Because the presentation tier and data tier can't communicate directly, a well-designed application tier can function as a sort of internal firewall, preventing SQL injections and other malicious exploits.



Question 4 – BA Approach Strategy for Framing Questions

Business Analyst should keep What points in his/her mind before he frames a Question to ask to the Stakeholder

Answer:

5W 1H Method-

The 5W1H method is very useful in marketing and in communication by helping you determine the type of action plan that should be put in place.

Essentially, this type of tool allows you to define:

- What: What is the current problem? What are the products and services you will use to communicate?
- Who: Who are your targets? Who will get benefits from this web app? To whom will you communicate? Which members of your team will oversee various jobs?
- Where: Where will you obtain the information, you need? Where are the places you would like to communicate?

- When: How often would you communicate with stakeholders? What is your schedule?
- Why: What are the benefits of the product (web application)?
- How: What are the means of communication that you are going to put in place (web site, social media, events, brochures, etc.)?

SMART Criteria (Ensuring Well-Defined Requirements)

- **Specific** – Are the requirements clear and well-defined?
- **Measurable** – Can the success be quantified?
- **Achievable** – Is it feasible within time and budget?
- **Relevant** – Does it align with business goals?
- **Time-bound** – What are the deadlines and milestones?

RACI Model (Understanding Roles & Responsibilities)

- **Responsible (R)** – Who is responsible for providing inputs?
- **Accountable (A)** – Who makes the final decisions?
- **Consulted (C)** – Who should be consulted for expert opinions?
- **Informed (I)** – Who needs to be updated on progress?

Tier Architecture Considerations

- **Presentation Layer** – How should the UI be structured? What are the design preferences?
- **Application Layer** – What business rules and logic should be implemented?
- **Data Layer** – What data needs to be stored, retrieved, and secured?

Use Cases & Specifications

- Understanding different **user roles** and their interactions with the system.
- Creating **Use Case Diagrams** to illustrate system workflows.
- Defining **Use Case Specifications** with detailed steps and alternative flows.

Activity Diagrams & Models

- **Activity Diagrams** to visualize process flows and dependencies.
- **Entity-Relationship (ER) Models** for database structures.
- **State Diagrams** to define system behaviors based on inputs.

Page Designs & Wireframes

- Clarifying **UI/UX Expectations** through sketches and wireframes.
- Understanding **user navigation flows** to ensure an intuitive experience.
- Validating designs with stakeholders before moving to development.

Question 5 – Elicitation Techniques

As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU)

Answer:

1.Brainstorming-

Brainstorming can be done either individually or in groups. The ideas collected can then be reviewed / analyzed and where relevant included within the system requirements. Ideas can come from what users / stakeholders have seen (eg. at software exhibitions) or experienced elsewhere.

Brainstorming can be an effective way to generate lots of ideas on a specific issue and then determine which idea - or ideas - is the best solution. Brainstorming is most effective with groups of 8-12 people and should be performed in a relaxed environment.

It is utilized in requirements elicitation to gather good number of ideas from a group of people. Usually brainstorming is used in identifying all possible solutions to problems and simplifies the detail of opportunities. It casts a broad net, determining various discreet possibilities. Prioritization of such possibilities is vital to locate needles in haystack.

Prepare for Brainstorming

Conduct Brainstorming session

Wrap-up the brainstorming

Advantage: Can come up with very innovative ideas and requirements. It can be an efficient way for users / stakeholders to define their requirements.

Disadvantage: People can't easily brainstorm ideas when required to do so. Some people find brainstorming much harder than other methods.

2. Document Analysis-

You may have documentation about your current system which could provide some of the input for the new system requirements. Such documentation (if it exists) could include interface details, user manuals, and soft ware

Document Analysis is an important gathering technique. Evaluating the documentation of a present system can assist when making AS-IS process documents and also when driving the gap analysis for scoping of the migration projects.

1. **Prepare for Document Analysis:**

- Evaluate which existing system and business documentation are relevant and appropriate to be studied.

2. **Analyze the documents:**

- Study the material and identify relevant business det ails.
- Document business det ails as well as questions for follow-up with subject matter experts.

3. **Post Document Analysis wrap-up:**

- Revie w and confirm the selected details with subject matter expert s.
- Obtain answers to follow-up questions.

Advantages: Could be a lot of information and easy to transfer to a new system requirements document.

Disadvantages: Existing documentation may often be old and out of date. Systems, vendor manuals. interfaces, processes and reports may have changed out of all recognition. Care needs to taken, as it may not reflect what you need from a new system.

3. Reverse Engineering-

In situations where the software for an existing system has little or outdated documentation and it is necessary to understand what the system actually does reverse engineering is an elicitation technique that can extract implemented requirements from the software code.

There are two general categories of reverse engineering:

- Black Box Reverse Engineering: The system/product is studied without examining its internal structure.
- White Box Reverse Engineering: The inner workings of the system/product are studied.

4. Focus group-

A focus group is a means to elicit ideas and attitudes about a specific product, service or opportunity in an interactive group environment. The participants share their impressions, preferences and needs, guided by a moderator.

A focus group typically has 6-12 attendees. It may be necessary to invite twice as many individuals in order to allow for no-shows. If many people need to participate, it may be necessary to run more than one focus group. The topic of the focus group will influence who should be recruited. If the topic is a new product, it is likely that existing users (experts and novices) should be included. There are pros and cons that should be considered when using homogeneous vs. heterogeneous composition.

Homogeneous - individuals with similar characteristics. Caution: Differing perspectives will not be shared. Possible solution: conduct separate sessions for different homogeneous groups.

Heterogeneous - individuals with diverse backgrounds, perspectives. Caution: Individuals may self-censor if not comfortable with others' background resulting in lower quality of data collected.

5.Observation-

Observing, shadowing users or even doing part of their job, can provide information of existing processes, inputs and outputs.

There are two basic approaches for the observation technique:

- Passive / invisible . In this approach, the business analyst observes the subject matter expert working through the business routine but does not ask quest ions. The business analyst writes notes about what he/she sees, but otherwise stays out of the way, as ifhe/she was invisible. The business analyst waits until the

entire process has been completed before asking any questions. The business analyst should observe the business process multiple times to ensure he/she understands how the process works today and why it works the way it does.

- Active / visible. In this approach, while the business analyst observes the current process and takes notes he/she may dialog with the worker. When the business analyst has questions as to why something is being done as it is, he/she asks the questions right away, even if it breaks the routine of the person being observed. In this approach, the business analyst might even participate in the work to gain an immediate appreciation for how the current process works.

Advantages: Useful if the user is not able to clearly explain what they do or their requirements for the new system. Can see ideas for improving processes or removing unnecessary activities from the new system.

Disadvantages: Relatively slow, focused on existing processes rather than the new system processes.

6.Workshops

- Interactive sessions involving stakeholders, developers, and testers.
- Facilitates requirement discussions, prioritization, and consensus.
- Can be used for prototyping and user story mapping.

7.Joint Application Development (JAD)

- A collaborative approach where key stakeholders and IT teams work together.
- Helps in rapid requirement gathering and decision-making.
- Reduces development time by ensuring stakeholder alignment.

8. Interviews

- One-on-one or group discussions with stakeholders to gather requirements.
- Structured, unstructured, or semi-structured formats can be used.
- Helps in capturing explicit and implicit business needs.
- Interviews of users and stakeholders are important in creating wonderful software. Without knowing the expectations and goal of the stakeholders and users, you are highly unlikely to satiate them. You also have to understand the perspective of every interview, in order to properly address and weigh their

inputs. Like a good reporter, listening is a quality that assists an excellent analyst to gain better value through an interview as compared to an average analyst.

- An interview is a systematic approach to elicit information from a person or group of people in an informal or formal setting by talking to the person - the interview, asking relevant questions and documenting the responses.

9. Prototyping-

Prototyping is an elicitation technique where a preliminary version of the system (a prototype) is developed to gather requirements, validate assumptions, and refine user expectations. It provides a visual representation of the final system before actual development begins.

When to Use Prototyping?

- When stakeholders are unsure about their exact requirements.
- When requirements are complex or unclear.
- When the system requires a rich user interface (UI/UX).
- When there is a need for early feedback from users.

Advantages of Prototyping

Early User Feedback – Reduces misunderstandings and rework.
Better Visualization – Helps stakeholders see what they are getting.
Identifies Missing Requirements – Uncovers gaps in functionality.
Saves Cost & Time – Helps in refining scope early, reducing later changes.

Disadvantages of Prototyping

Scope Creep – Stakeholders may keep adding new features.
Misinterpretation – Users may think the prototype is the final system.
Resource Intensive – Requires additional effort to create and refine.

10. Questionnaire -

Questionnaires can be useful for obtaining limited system requirements details from users / stakeholders, who have a minor input or are geographically remote.

The design of the questionnaire(whether off line or web based) and types of questions are important and can influence the answers, so care is needed.

Advantages: Can send to many hundreds of users at a low cost. Good for getting input from users who are a long distance away. Receive written replies which can be easier to work with and analyze, and save time typing.

Disadvantages: Questionnaires can be slow to create. You may not get a good response, as filling in questionnaires is often a low priority for many people. Recipients may feel 'left out' when they really wanted more input.

11. Use Cases & Scenarios

Use Cases and Scenarios are structured elicitation techniques used to understand the functional requirements of a system by describing how users interact with it. These techniques help Business Analysts (BAs) capture system behavior in different situations.

- Defining user interactions with the system in different situations.
- Helps in identifying functional and non-functional requirements.
- Useful for designing system workflows and test cases.

A **Use Case** describes a specific way in which a user (actor) interacts with a system to achieve a goal. It focuses on the **functional requirements** and defines how the system should respond to different inputs.

A **Scenario** is a detailed, step-by-step description of how a user **achieves a goal** in a specific situation. It helps in **understanding user behavior, workflows, and system responses.**

When to Use Use Cases & Scenarios for Elicitation?

- When defining system functionality in a **structured manner** (Use Cases).
- When **understanding real-world user behavior** and workflows (Scenarios)
- When designing **test cases** based on different user journeys.
- When identifying **alternative and exception flows** in system processes.

Question 6 – This project Elicitation Techniques

Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques? Prototyping Use case Specs Document Analysis Brainstorming

Answer:

We can use Brainstorming, Interviews and Focus groups Elicitation Techniques for this project.

A. Brainstorming -

- Using Brainstorming technique, we can come up with very innovative ideas and requirements to create online web app for agriculture products. It can be an efficient way for users / stakeholders to define their requirements.
- Brainstorming can be an effective way to generate lots of ideas on a how to solve current issue and then we can determine how to design online web application to buy agriculture products.

B. Interviews-

- Interviews of users and stakeholders are important in creating best online web application.
- We have Peter, Kevin, Ben as a key stakeholders, so we can easily schedule an interview with them to gather their requirements according to issues they are facing.
- Using Interview technique we can collect correct requirements for the how web application should made and look.
- To conduct Interviews we require less efforts.

C. Focus groups-

- Using focus group technique we can elicit ideas and attitudes about online agriculture product store in an interactive group environment. The participants can share their preferences, needs in better manner.
- Key stakeholders can focus on highlighting issues and suggesting solution in form of their needs how the web application should work.

Question 7 – 10 Business Requirements

Make suitable Assumptions and identify at least 10 Business Requirements.

Answer:

BR001 – Farmers should be able to search for available products in fertilizers, seeds, pesticides.

BR002 – Manufacturers should be able to upload and display their products in the application.

BR003- Farmers should be able to search for any product they need using search option in the application.

BR004-Users (Farmers) should be able to login first using their email id and password to buy any product or add product to buy-later list.

BR005- New users should be able to create a new account by submitting their email ID and creating a secure password.

BR006- Users should able to get an email confirmation regarding their order status.

BR007- Users should able to track their order by delivery tracker to track the whereabouts of order.

BR008- Users (Farmers) needs to have an easy-to-use payment gateway (cash-on-delivery (COD), Credit/Debit card and UPI options) so that the user's experience should be better.

BR009- Application should have login for all its users (fertilizers, seeds, pesticides manufacturers and Farmers).

BR010-New Manufactures first needs to create an account in the application by submitting their email ID and creating a secure password and then should able to upload and display their products in the application.

BR011- Manufactures should able to write detailed and valid description of every product, so using this description farmers will able to find product.

BR012- Users(farmers) delivery location should be correctly identified/accepted by application.

BR013- By identifying user's location properly, application should able to estimate and show delivery date to the users.

BR014- Users(farmers) should able to select how many products they can see at a time on screen (4/8/16).

Question 8 –Assumptions

List your assumptions

Answer:

A. Remote farmers are well versed with usage of internet and mobile applications
B. They prefer online shopping.
C. Farmers have online payment gateways for easy payment processing.
D. Cash-on-delivery option should be available for easy to use of application.

E. Users should able to login by entering Mobile number and get OTP to verify it.

F. Product should get delivered within 4-5 days to the user's location.

G. In product description section, there should be multiple HD images of product.

H. In product details, there should be small video clip introducing products usage/features.

Question 9 – This project Requirements Priority

Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders)

Answer:

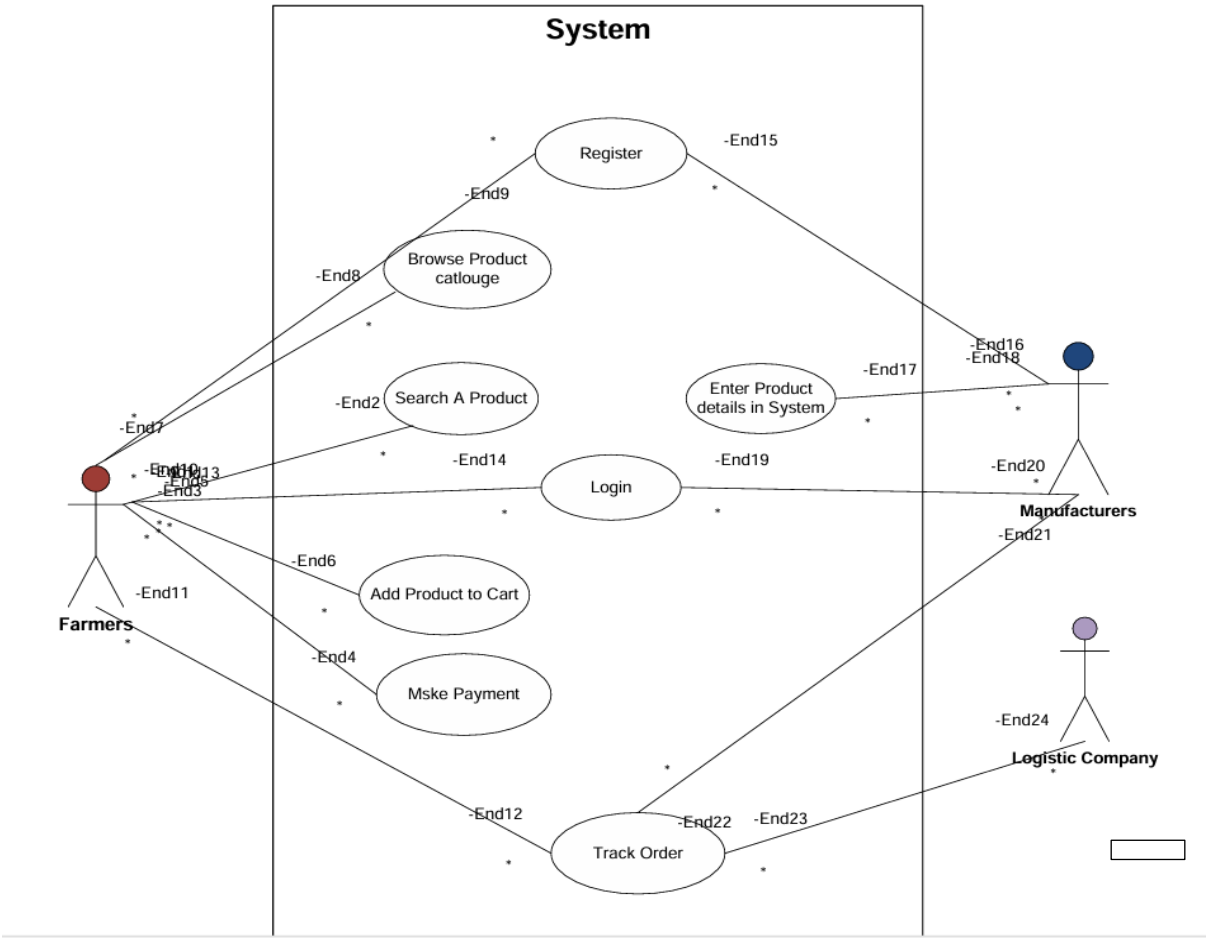
Req.ID	Req. Name	Req. Description	Priority
BR001	**Farmer Search for Products**	Farmers should be able to search for available products in fertilizers, seeds, pesticides	8
BR002	**Manufacturers upload their Products**	Manufacturers should be able to upload and display their products in the application	8
BR003	**Farmers search for product using search option**	Farmers should be able to search for any product they need using search option in the application.	8
BR004	**User login using email id and password.**	Users (Farmers) should be able to login first using their email id and password to buy any product or add product to buy-later list.	9

BR005	**New user account creation**	New users should be able to create a new account by submitting their email ID and creating a secure password.	9
BR006	**Confirmation mail of order status to users**	Users should able to get an email confirmation regarding their order status.	7
BR007	**Delivery Tracker for users**	Users should able to track their order by delivery tracker to track the whereabouts of order.	5
BR008	**Payment gateway for users**	Users (Farmers) needs to have an easy-to-use payment gateway (cash-on-delivery (COD), Credit/Debit card and UPI options) so that the user's experience should be better.	8
BR009	**Login for all users**	Application should have login for all its users (fertilizers, seeds, pesticides manufacturers and Farmers).	4
BR010	**New manufacturers account creation**	New Manufactures first needs to create an account in the application by	8

		submitting their email ID and creating a secure password and then should able to upload and display their products in the application.	
BR011	**Detailed and valid description of product by Manufactures**	Manufactures should able to write detailed and valid description of every product, so using this description farmers will able to find product.	6
BR012	**Identified delivery location of users**	Users(farmers) delivery location should be correctly identified/accepted by application.	7
BR013	**Estimation of delivery date to users**	By identifying user's location properly, application should able to estimate and show delivery date to the users.	4
BR014	**Selection of number of products to see on screen**	Users(farmers) should able to select how many products they can see at a time on screen (4/8/16).	2

Question 10 – Use Case Diagram

Answer:



Question 11 – (minimum 5) Use Case Specs

Prepare use case specs for all use cases

Ans-

1. **User Registration –**

Brief Description- The use case begins when the user indicates the intent to register to the system.

Actors-

Primary Actor-User(Farmer)

Secondary Actor-Manufacturer

Preconditions-

User is browsing products catalogues.

There should be an active internet connection.

Post conditions-

Successful Condition- User successfully able to register.

Failure Condition- User is unable to register.

Basic Flow of Events-

Use case begins when user opens the web application.

User browses the product catalogues.

User select specific product category.

User search specific product.

User view product details.

User wants to buy product or move product to buy later list.

If existing user then login.

If new user then needs to register first.

New user provides valid email id.

User creates secure password.

User's registration is successful.

Alternative Flows-

Invalid Email Id-If in step 9 of basic flow, validate email id does not complete successfully, then use case ends with failure condition.

Invalid Password Format- If in step 10 of basic flow, password format is not valid then use case ends with failure condition.

Repetition of Email Id- If in step 9 of basic flow email id provided by user is already used before for creating account or registration, then use case ends with failure condition.

Key Scenarios- No response from web application.

Special Requirements-

[SpReq: WC-1] The system should able to finish registration process within 1-2 minutes.

2) Manage Product Categories-

Brief Description- The use case begins when the user indicates the intent to view, update, add or delete Categories record.

Actors-

Primary Actor-User(Manufacturer)

Secondary Actor-System

Preconditions-

The Categories record exists for editing/view.

The user is logged in.

Post conditions-

Successful Condition- The Categories record is added, deleted or updated successfully.

Failure Condition- The categories record is not updated successfully.

Basic Flow of Events-

1. Use case begins when user opens the web application.
2. User provides valid email id and password.
3. User logged in successfully.
4. User can view category record.
5. User can add new category record.
6. User can update category record.
7. User can delete category record.
8. User successfully able to manage product categories.

Alternative Flows-

1. Invalid login credentials- If user provides invalid email id or password in step 2 of basic flow then use case ends with failure condition.
2. Categories record- If there is category record to view in step 4 of basic flow then use case ends with failure condition.

Key Scenarios- No response from web application.

Special Requirements-

[SpReq: WC-1] The system should able to logged in within 2-3 seconds.

3) Add Product Details-

A. **Brief Description**- The use case begins when the user indicates the intent to add product details.
B. **Actors-**

Primary Actor-User(Manufacturer)

Secondary Actor-System

C. **Preconditions-**

There should be an active internet connection.

D. **Post conditions-**

Successful Condition- User successfully able to upload product details.

Failure Condition- User unable to upload product details.

E. **Basic Flow of Events-**

1. Use case begins when user opens the web application.
2. If user is new then it needs to register first.
3. User provides valid email id.
4. User creates secure password.
5. User's registration is successful.
6. If existing user then user provides valid email id and password and logged in successfully.
7. User provides product details
8. User provides detailed product description.
9. User successfully able to upload product details.

F. **Alternative Flows-**

1. Invalid Email Id-If in step 3 of basic flow, validate email id does not complete successfully, then use case ends with failure condition.
2. Invalid Password Format- If in step 4 of basic flow, password format is not valid then use case ends with failure condition.
3. Repetition of Email Id- If in step 3 of basic flow email id provided by user is already used before for creating account or registration, then use case ends with failure condition.
4. Invalid login credentials- If user provides invalid email id or password in step 6 of basic flow then use case ends with failure condition.

G. **Key Scenarios**- No response from web application.
H. **Special Requirements**-

1. [SpReq: WC-1] The system should able to finish registration process within 1-2 minutes.
2. [SpReq: WC-2] The system should able to accept information in text as well as video format regarding to product details in product description.

4)Place order-

Brief Description-The use case begins when the user indicates the intent to confirm the purchase of his selected items.

Actors-

Primary Actor-User(Farmer)

Secondary Actor-System, Bank

Preconditions-

User must be logged in.

The product should exists.

Post conditions-

Successful Condition- User successfully able to register.

Failure Condition- User is unable to register.

Basic Flow of Events-

1. User browses the product catalogues.
2. User select specific product category.
3. User search specific product.
4. User view product details.
5. User wants to buy product or move product to buy later list.
6. If user is new it needs to register first, user provides valid email id.
7. User creates secure password.
8. User's registration is successful.
9. If existing user then user provides valid email id, password and logged in successfully.
10. User add product to shopping cart.
11. User fill shipping information.
12. User views order details generated by system.
13. User initiates payment.
14. If user selects card mode or UPI mode then card details is verified by Bank.
15. Once payment details are verified, order is placed successfully.

Alternative Flows-

1. Invalid Email Id-If in step 6 of basic flow, validate email id does not complete successfully, then use case ends with failure condition.
2. Invalid Password Format- If in step 7 of basic flow, password format is not valid then use case ends with failure condition.
3. Repetition of Email Id- If in step 6 of basic flow email id provided by user is already used before for creating account or registration, then use case ends with failure condition.
4. Invalid card details- if in step 14 of basic flow, card details provided by user are invalid then use case ends with failure condition.

Key Scenarios-

No response from web application.

Bank server is down while making payment.

I. **Special Requirements-**

1. [SpReq: WC-1] The system should able to finish registration process within 1-2 minutes.
2. [SpReq: WC-2] The system should able to logged in within 2-3 seconds.
3. [SpReq: WC-3] The system should able to provide cash on delivery payment mode to all locations.

4)User Login-

Brief Description- The use case begins when the userr indicates the intent to login to the system.

Actors-

Primary Actor-User(Farmer)

Secondary Actor-Manufacturer

Preconditions-

User must have done registration.

There should be an active internet connection.

Post conditions-

Successful Condition- User successfully able to logged in.

Failure Condition- User is unable to logged in.

Basic Flow of Events-

1. User browses the product catalogues.
2. User select specific product category.
3. User search specific product.
4. User view product details.
5. User wants to buy product or move product to buy later list.
6. If existing user then login
7. If new user then register.
8. Existing user provides valid email id and password.
9. User logged in successfully.

Alternative Flows-

Invalid login credentials- If user provides invalid email id or password in step 8 of basic flow, then use case ends with failure condition.

Key Scenarios-

No response from web application.

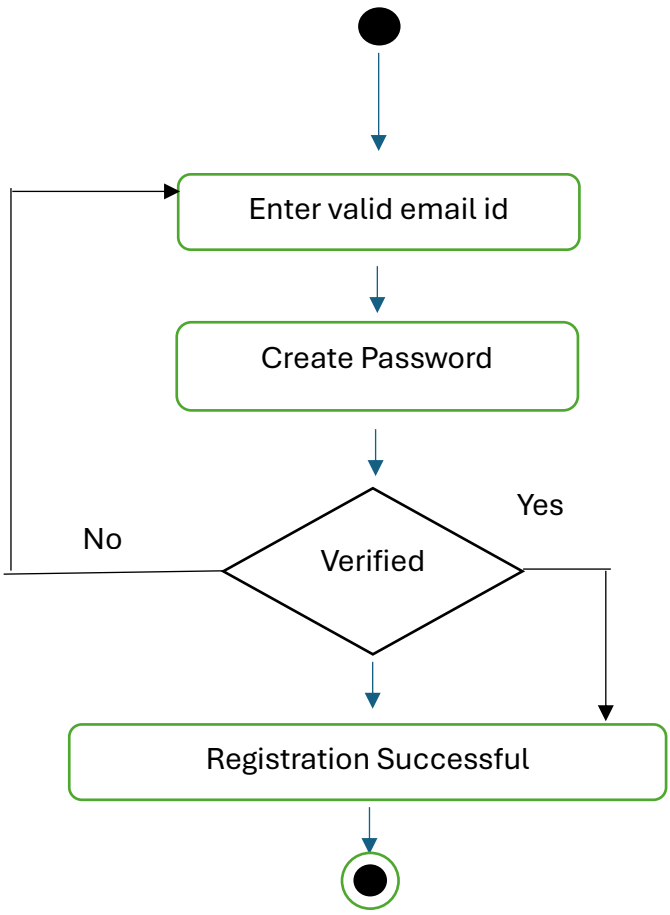
Special Requirements-

[SpReq: WC-2] The system should able to logged in within 2-3 seconds.

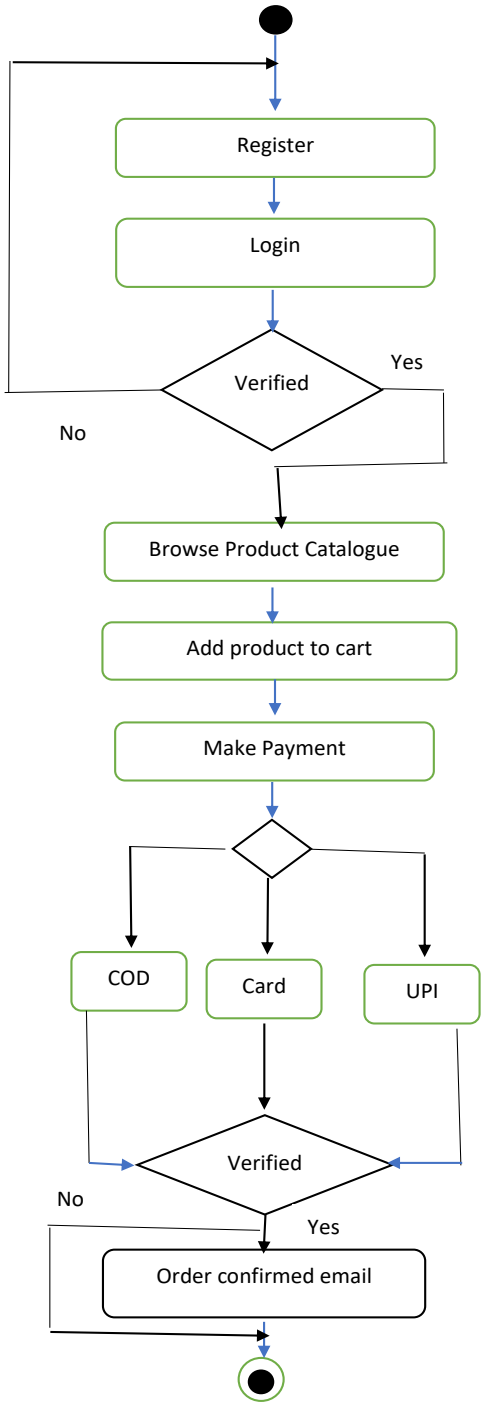
Question 12 – Activity Diagrams

Answer:

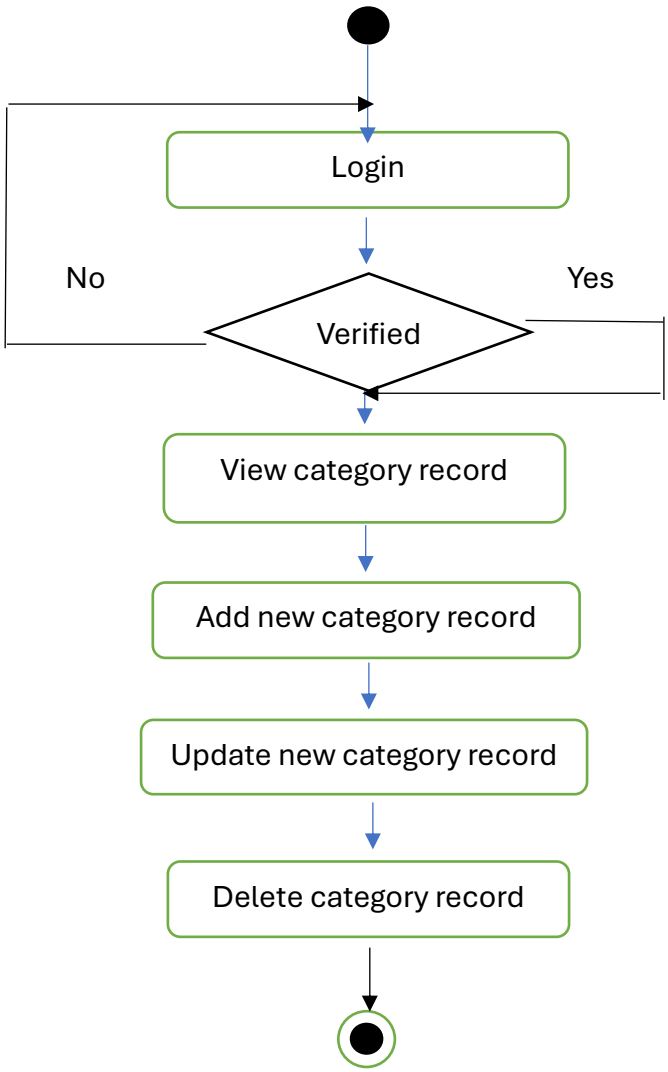
1. **User Registration**



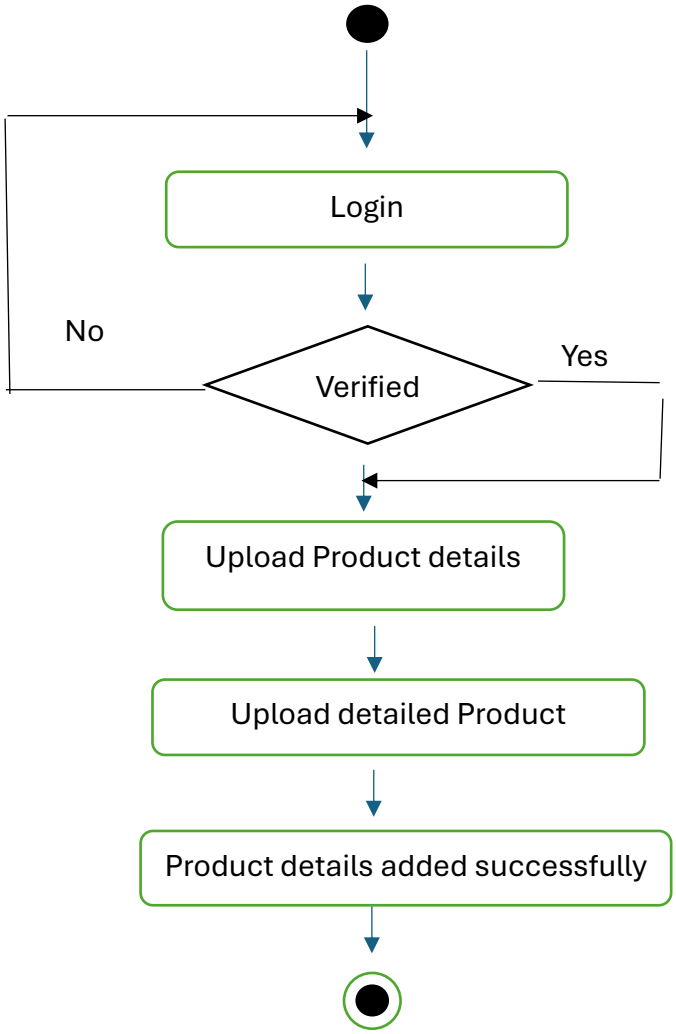
2)**Place Order**



3)Manage Product Category



4)Add Product details



5)Add Product to buy later list