

COEPD – Traditional Development

Capstone Project1 – Part -2/3 – 100 Marks - Pass 60 %

12 Questions

Instructions to follow:

1. Copy paste (either image, diagram or text) is not entertained. If done, the document will not be evaluated.
2. After submission of the answers of this prep exam, You should be prepared to attend viva and justify your answers in the prep exams. If in Viva, participant is NOT justifying the answers, Viva will be repeated until Candidates justify 60% correctness.
3. Mentor calls are scheduled only if the participant have submitted their task at least for one time. (should apply their knowledge in this task first)
4. For attempting prep exams participant should be thorough on the topics using their references.
5. Please format the document properly (Always have a question no., question and answer).
6. Have a consistent format (Font name: Arial/ Calibri -Font size 12, Font Color: Black).
7. Few Questions are related to the case study, if check Questions thoroughly before you answer.
8. Answers should be elaborated in detail(*not as per the allotted marks).
9. Please focus on learning and applying the knowledge as this knowledge will be helpful in contributing at your BA job.
10. In the evaluation, students must answer all questions and should be able to justify at least 60% content and correctness of each answer.

Online Agriculture Products Store

Mr. Henry, after being successful as a businessman and has become one of the wealthiest persons in the city. Now, Mr. Henry wants to help others to fulfil their dreams. One day, Mr. Henry went to meet his childhood friends Peter, Kevin and Ben. They live in a remote village and do farming. Mr. Henry asked his friends if they are facing any difficulties in their day-to-day work.

Peter told Mr. Henry that he is facing difficulties in procuring fertilizers which are very important for farm. Kevin said that he is also facing the same problem in-case of buying seeds for farming certain crops. Ben raised his concern on lack of pesticides which could help in greatly reducing pests in crops.

After listening to all his friends' problems, Mr. Henry thought that this is a crucial problem faced not only by his friends but also by so many other farmers. So, Mr. Henry decided to make an online agriculture product store to facilitate remote area farmers to buy agriculture products. Through this Online Web / mobile Application, Farmers and Companies (Fertilizers, seeds and pesticides manufacturing Companies) can communicate directly with each other.

The main purpose to build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity. Since new users are involved, Application should be user friendly.

This new application should be able to accept the product (fertilizers, seeds, pesticides) details from the manufacturers and should be able to display them to the Farmers. Farmers will browse through these products and select the products what they need and request to buy them and deliver them to farmers location.

Mr. Henry has given this project through his Company SOONY. In SOONY Company, Mr Pandu is Financial Head and Mr Dooku is Project Coordinator. Mr. Henry , Mr Pandu , and Mr Dooku formed one Committee and gave this project to APT IT SOLUTIONS company for Budget 2 Crores INR and

18 months Duration under CSR initiative. Peter, Kevin and Ben are helping the Committee and can be considered as Stakeholders share requirements for the Project.

Mr Karthik is the Delivery Head in APT IT SOLUTIONS company and he reached out to Mr Henry through his connects and Bagged this project. APT IT SOLUTIONS company have Talent pool Available for this Project. Mr Vandanam is project Manager, Ms. Juhi is Senior Java Developer, Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo are Java Developers. Network Admin is Mr Mike and DB Admin is John. Mr Jason and Ms Alekya are the Tester. And you joined this team as a BA.

Question 1 – Audits - 5 Marks

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: As a Business Analyst (BA) in the project, audits play a critical role in ensuring the project is on track, meeting its objectives, and adhering to agreed-upon standards and timelines. Here's how these audits typically happen, specifically from a BA perspective:

Q1 - Project Initiation and Requirements Gathering

- **BA Role:**
 - Present the finalized **Business Requirements Document (BRD)** and confirm alignment with the stakeholders.
 - Ensure all requirements are logged and validated by the committee (Mr. Henry, Mr. Pandu, and Mr. Dooku).
 - Verify that a **requirements traceability matrix (RTM)** is set up to track requirements throughout the project lifecycle.
- **Audit Expectation:**
 - All initial requirements documented and approved.
 - Evidence of stakeholder communication and validation sessions.

Q2 - Design and Early Development

- **BA Role:**

- Validate that requirements are being translated into design accurately by the development team (led by Ms. Juhi).
- Conduct and document reviews of design documents and ensure traceability to the requirements.
- Monitor feedback loops and ensure changes are managed through a **change management process**.
- **Audit Expectation:**
 - Traceability of requirements from BRD to design documents.
 - Evidence of stakeholder review and approval of designs.

Q3 - Development and Testing

- **BA Role:**
 - Review test cases prepared by testers (Mr. Jason and Ms. Alekya) to ensure alignment with requirements.
 - Facilitate **User Acceptance Testing (UAT)** preparations, ensuring farmers (e.g., Peter, Kevin, Ben) and committee members are involved.
 - Ensure any defects identified during testing are logged and resolved.
- **Audit Expectation:**
 - Testing results align with the requirements.
 - UAT preparations are documented and aligned with project objectives.
 - No critical gaps between requirements and delivered functionalities.

Q4 - Deployment and Handover

- **BA Role:**
 - Confirm that the final product meets all documented requirements and aligns with the farmers' expectations.
 - Participate in the final presentation and review sessions with stakeholders.
- **Audit Expectation:**
 - Evidence of stakeholder validation for the final deliverables.
 - Proper documentation of user training and support processes.
 - Successful completion of UAT and sign-off from stakeholders.

Question 2 – BA Approach Strategy - 6 Marks

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:

Business Analyst (BA) Approach Strategy

1. Understanding the Project Scope and Objectives

- Review the project's goals: Facilitate an online agriculture store connecting farmers and product manufacturers.
- Study the constraints: 18 months duration and 2 Crores INR budget.

2. Stakeholder Analysis

- **Stakeholder Identification:**
 - **Primary Stakeholders:** Farmers (Peter, Kevin, Ben), Manufacturers (seed, fertilizer, pesticide companies).
 - **Secondary Stakeholders:** SOONY committee members (Mr. Henry, Mr. Pandu, Mr. Dooku).
 - **Project Team:** Delivery Head (Mr. Karthik), Project Manager (Mr. Vandanam), Developers, Admins, Testers, and the BA.
- **RACI Matrix:** Assign roles and responsibilities clearly:
 - **Responsible (R):** Project Manager, Developers, Testers.
 - **Accountable (A):** Mr. Karthik, Mr. Vandanam.
 - **Consulted (C):** Committee, Farmers, Manufacturers.

3. Elicitation Techniques

- **Workshops:** Conduct with stakeholders to gather high-level requirements and expectations.
- **Interviews:** One-on-one with farmers (Peter, Kevin, Ben) to understand specific needs.
- **Surveys/Questionnaires:** Collect data from a broader farmer base to generalize requirements.
- **Document Analysis:** Review existing e-commerce and agriculture platforms for

4. Documentation

- **Key Documents to Prepare:**
 - **Business Requirements Document (BRD):** Capture functional and non-functional requirements.

- **Requirements Traceability Matrix (RTM):** Track requirements through the project lifecycle.
- **Functional Specification Document (FSD):** Detail system design and workflows.
- **Use Cases/User Stories:** Describe system interactions for different users.

5. Process for Document Sign-Off

1. Share the draft document with stakeholders for review.
2. Conduct walkthrough sessions to explain and address queries.
3. Obtain feedback and update the document.
4. Circulate the final version and collect digital or physical sign-off.

6. Communication Plan

- **Channels:**
 - Email: For formal updates and approvals.
 - Project Management Tools (e.g., Jira, Trello): For task tracking and progress updates.
 - Weekly Meetings: With the project team for updates and blockers.
 - Bi-Weekly Meetings: With the committee for progress updates and feedback.
 - Online Portals: A dedicated communication channel for farmers and manufacturers.
- **Frequency:** Weekly updates to the stakeholders and monthly progress reports.

7. Handling Change Requests

- **Steps to Handle:**
 1. Log the request in the **Change Log**.
 2. Perform impact analysis (time, cost, scope).
 3. Discuss with the committee for approval.
 4. Document the change and update the RTM and BRD.
 5. Communicate the decision to the team and stakeholders.

8. Progress Updates

- Use a **Project Status Report** template:
 - Include milestone achievements, risks, and mitigation plans.
 - Highlight percentage completion against planned timelines.
- Share weekly status reports with the committee and team.

9. UAT and Client Project Acceptance

1. UAT Process:

- Prepare UAT test cases with input from testers (Mr. Jason, Ms. Alekya).
- Facilitate UAT sessions with farmers and the committee.
- Collect feedback, log defects, and ensure fixes.

2. Sign-Off Process:

- Create a **Client Project Acceptance Form** summarizing delivered features.
- Conduct a final walkthrough to ensure all requirements are met.
- Obtain sign-off from committee members (Mr. Henry, Mr. Pandu, Mr. Dooku).

10. Technical Architecture

• 3-Tier Architecture:

- **Presentation Layer:** Web/mobile application (farmers and manufacturers interface).
- **Business Logic Layer:** Java-based backend managed by the development team.
- **Data Layer:** Database maintained by Mr. John (DB Admin).

Question 3 – 3-Tier Architecture - 5 Marks

Explain and illustrate 3-tier architecture?

Answer:

A **3-tier architecture** is a software design pattern that separates an application into three interconnected layers. Each layer has distinct responsibilities and interacts with the adjacent layers. This architecture promotes modularity, scalability, and ease of maintenance.

Screens, pages, Validations on pages, Organization business logic

+-----+
| **Presentation Layer** |
| (Web/Mobile App) |

|

All reusable components, frequently changing components, Governing body rules, Compliances, Ex: Printer, Payment gateways, mail server, Bank rules etc.

| **Business Logic Layer** |
(Java Backend, APIs)

|

Data base components connecting to database layer

| **Data Layer** |
| (MySQL/NoSQL DB) |

Question 4 – BA Approach Strategy for Framing Questions – 10 Marks

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

(5W 1H – SMART – RACI – 3 Tier Architecture – Use Cases, Use case Specs, Activity Diagrams, Models, Page designs)

Answer:

As a Business Analyst, when framing questions for stakeholders, it is crucial to ensure that the questions are well-structured, relevant, and comprehensive to elicit clear and actionable responses. Below is the approach combining key frameworks and concepts such as **5W1H, SMART, RACI, 3-Tier Architecture, Use Cases, and Models**:

1. 5W1H Framework

This approach ensures that the questions cover all essential aspects of the project:

1. **What:**
 - What are the specific problems you want the system to solve?
 - What features do you expect in the online platform?
2. **Why:**
 - Why is this feature/process important to you or the business?
 - Why are current solutions insufficient to meet the farmers' needs?
3. **Who:**
 - Who will be the primary users of the system (e.g., farmers, manufacturers)?
 - Who will manage the platform's operations (e.g., inventory updates, support)?
4. **When:**
 - When do you expect different project milestones to be achieved?
 - When should farmers and manufacturers be able to access certain features?
5. **Where:**
 - Where will the system be accessed (web, mobile, offline options)?
 - Where will the data (e.g., product details, transactions) be stored?
6. **How:**
 - How should the system handle common scenarios like product returns, order tracking, or complaints?

2. SMART Framework

Ensure your questions are Specific, Measurable, Achievable, Relevant, and Time-bound:

- **Specific:** Ask precise questions to get actionable insights.
 - Example: "What specific crops require seeds that are hard to procure in your area?"
- **Measurable:** Focus on quantifiable information.
 - Example: "How many users do you expect to access the system daily?"
- **Achievable:** Avoid asking for unrealistic features or solutions.
 - Example: "What features can be implemented immediately versus in future releases?"
- **Relevant:** Relate questions to the project objectives.
 - Example: "How does providing pesticides online address farmers' pain points?"
- **Time-bound:** Consider deadlines and timelines.
 - Example: "What functionality must be delivered in the first six months?"

3. RACI Framework

Understand roles and responsibilities to direct your questions appropriately:

- **Responsible:** Focus technical and functional questions on developers, network admins, and testers.
 - Example for Developers: "What APIs will you need to integrate with manufacturers' systems?"
- **Accountable:** Direct strategic questions to project managers or stakeholders.
 - Example for Committee: "What is the expected return on investment for the CSR initiative?"
- **Consulted:** Include farmers and manufacturers in discussions about their needs.
 - Example: "What challenges do you face while ordering products manually?"
- **Informed:** Provide periodic updates to all stakeholders.
 - Example: "How should progress be communicated to the committee?"

4. 3-Tier Architecture

When framing questions, ensure they address each layer of the architecture:

- **Presentation Layer:**
 - "What features should the user interface include for ease of use?"
 - "How will users interact with the platform on mobile versus web?"
- **Business Logic Layer:**

- "What validations or business rules need to be implemented (e.g., quantity limits for purchases)?"
- "How should the system prioritize orders during high demand?"
- **Data Layer:**
 - "What data fields are essential for manufacturers to upload their product details?"
 - "How should the system handle data backups or recover lost transactions?"

5. Use Cases, Activity Diagrams, and Models

Frame questions to gather requirements for creating these artifacts:

- **Use Cases:**
 - "What actions can a farmer or manufacturer perform on the system?"
 - "What exceptions should the system handle (e.g., out-of-stock products)?"
- **Use Case Specifications:**
 - "What preconditions must be met before a farmer places an order?"
 - "What should happen after a farmer submits an order?"
- **Activity Diagrams:**
 - "What is the typical sequence of actions a farmer takes to order a product?"
 - "What alternative paths exist if a user encounters issues?"
- **Page Designs:**
 - "What should the homepage display for farmers and manufacturers?"
 - "What filters or categories will help users navigate products easily?"

Question 5 – Elicitation Techniques - 6 Marks

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

Answer:

As a Business Analyst, there are several elicitation techniques I am aware of, each designed to gather the right information from stakeholders. These techniques help in understanding the needs, goals, and expectations of the project stakeholders. The acronym **BDRFOWJIPQU** stands for different techniques, and below is an explanation of each one:

1. B - Brainstorming

- **Description:** A group creativity technique used to generate a large number of ideas and solutions to a problem. It helps stakeholders think outside the box and explore different possibilities.
- **Application:** During project initiation, brainstorming can be used to collect ideas on key features, functionalities, or potential challenges for the online agriculture product store.

2. D - Document Analysis

- **Description:** Reviewing existing documentation to extract relevant information. It involves analyzing project-related documents, such as reports, previous project documentation, business plans, or system requirements.
- **Application:** Reviewing documents related to the current agricultural product distribution system or any past reports on agriculture product sales can help identify current issues and requirements.

3. R - Requirements Workshops

- **Description:** Collaborative sessions where stakeholders, business analysts, and technical teams come together to discuss and document requirements.
- **Application:** Hosting workshops with farmers, manufacturers, and stakeholders to directly gather their needs for the online platform.

4. F - Focus Groups

- **Description:** A discussion with a small group of stakeholders (typically 5-10 people) who provide feedback or input on specific topics.
- **Application:** Organizing focus groups of farmers from various regions to understand their challenges and how they would prefer to interact with the online platform.

5. O - Observation

- **Description:** Directly observing users or stakeholders in their natural environment to gain insights into their behavior and needs.
- **Application:** Observing how farmers currently procure fertilizers, seeds, and pesticides and understanding the pain points they face during the process.

6. W - Workshops

- **Description:** Workshops are structured sessions that involve stakeholders to collaborate and come to a consensus on certain aspects of the project.
- **Application:** Conducting workshops to refine the user experience, workflow, and system functionalities with stakeholders from the agriculture sector and the development team.

7. J - Joint Application Development (JAD)

- **Description:** A facilitated workshop with business and IT stakeholders to gather and review system requirements.
- **Application:** Organizing JAD sessions with stakeholders like Mr. Henry, Mr. Pandu, Peter, Kevin, and Ben to define and refine system features for the application.

8. I - Interviews

- **Description:** One-on-one discussions with stakeholders to gather in-depth information about their needs, challenges, and goals.
- **Application:** Conducting interviews with farmers, manufacturers, and other stakeholders to understand the specific features they need in the online platform.

9. P - Prototyping

- **Description:** Creating a mock-up or prototype of the system or specific features and getting feedback from stakeholders to refine the requirements.
- **Application:** Developing a low-fidelity prototype of the online store interface for farmers and manufacturers to test, ensuring user-friendliness and effectiveness.

10. Q - Questionnaires

- **Description:** Using structured surveys or questionnaires to collect feedback from a larger group of stakeholders in a short period.
- **Application:** Distributing questionnaires to farmers and manufacturers to gather feedback on their needs for the product catalog, delivery system, or payment options.

11. U - Use Cases

- **Description:** Documenting specific actions and interactions that users have with the system to understand functional requirements.
- **Application:** Writing use cases for common tasks like farmers searching for products, selecting items, and placing orders, or manufacturers uploading products.

Summary of How Each Technique is Applied to the Project:

- **Brainstorming** can be used in the early stages to generate ideas on key features.
- **Document Analysis** can be used to review any existing systems or reports that provide context.
- **Requirements Workshops** help to consolidate stakeholders' input.
- **Focus Groups** are great for user feedback from a small group of farmers or manufacturers.
- **Observation** allows you to understand the current challenges faced by farmers when procuring products.
- **Workshops** are ideal for collaborative requirement sessions.
- **JAD** sessions bring together business users and technical teams for focused discussions.
- **Interviews** give deep insights into individual stakeholders' needs.
- **Prototyping** enables testing and validation of requirements with actual stakeholders.
- **Questionnaires** help in collecting data from a broader audience.
- **Use Cases** define specific interactions for the platform's features.

Each of these techniques plays an important role in gathering detailed requirements, ensuring that all stakeholders' needs are captured effectively and leading to a successful system development process.

Question 6 – This project Elicitation Techniques - 5 Marks
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Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?

Prototyping

Use case Specs

Document

Analysis

Brainstorming

Fertilizers, seeds, pesticides details from the manufacturers and should be able to display them to the Farmers.

To gather the business requirements from the client, you went to SOONY and met Mr. Henry. When Mr. Henry was asked about the project and what are they expecting from the project, Mr. Henry stated that he is expecting to have a login for all its users (fertilizers, seeds, pesticides manufacturers and Farmers) , a product catalog of fertilizers, seeds, pesticides, a search option to search for products, payment process, and delivery tracking.

After doing the stakeholder analysis, you have found out that Peter, Kevin, Ben are the key stakeholders and you have scheduled an appointment to meet them. After meeting with them and trying to gather the stakeholder requirements, Kevin said that, a Farmer should be able to browse through the products catalog once they visit the website and need to have a search option so that they can search for any product they need. Peter said that, if a farmer wants to buy any product or add them to buy-later list, they need to login

first using their email id and password. If it is a new user, then they can create a new account by submitting their email ID and creating a secure password. Ben added saying that, Farmers needs to have an easy-to-use payment gateway which should include cash-on-delivery (COD), Credit/Debit card and UPI options so that the user's experience should be better. Kevin mentioned that, a user gets an email confirmation regarding their order status. A delivery tracker to track the whereabouts of their order.

Identify Business Requirements (which includes Stakeholder Requirements)

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

Answer:

To successfully gather the business and stakeholder requirements for this project, the following elicitation techniques will be used:

1. Prototyping

- **Justification:**
 - Prototyping is essential for creating a visual representation of the application's interface and workflows. It helps stakeholders like farmers and manufacturers, who might not have a technical background, to provide feedback on the application's usability and design.
 - It allows the stakeholders to visualize key functionalities like login screens, product catalogs, search functionality, payment gateways, and delivery tracking.
- **Application in the Project:**
 - Develop a prototype for the website and mobile application showcasing features like product browsing, search, user registration, payment options, and delivery tracking.
 - Share the prototype with stakeholders like Peter, Kevin, and Ben for feedback on its usability and design.

2. Use Case Specifications

- **Justification:**
 - Use case specifications help define detailed functional requirements by describing how users (farmers and manufacturers) will interact with the system.
 - It ensures all user scenarios are captured, including browsing the catalog, searching products, making purchases, uploading product details, and tracking deliveries.
- **Application in the Project:**
 - Write use cases for key user interactions:
 - **Use Case 1:** Farmer searches for a product.
 - **Use Case 2:** Manufacturer uploads product details.
 - **Use Case 3:** Farmer places an order and makes payment.
 - **Use Case 4:** Farmer tracks their delivery

3. Document Analysis

- **Justification:**
 - Document analysis is critical for reviewing any existing information that might inform the project, such as business processes, previous product catalogs, and user behavior patterns.
 - It provides a baseline to identify gaps and ensure that all necessary features are included.
- **Application in the Project:**
 - Review existing catalogs or databases from fertilizer, seed, and pesticide manufacturers to understand their structure and data requirements.

4. Brainstorming

- **Justification:**
 - Brainstorming sessions allow for collaborative idea generation among stakeholders, encouraging creative solutions and identifying features that may not have been initially considered.
 - It ensures alignment among stakeholders like Mr. Henry, the SOONY committee, and the APT IT SOLUTIONS team.
- **Application in the Project:**
 - Conduct brainstorming sessions with the project team and stakeholders to discuss:
 - Features to improve user experience.
 - Payment gateway options (COD, UPI, credit/debit cards).
 - Delivery tracking mechanisms.
 - Use these sessions to finalize requirements and prioritize features.

Identified Business Requirements

Functional Requirements

1. **BR001** – Farmers should be able to search for available products in fertilizers, seeds, and pesticides.
2. **BR002** – Manufacturers should be able to upload and display their products in the application.
3. **BR003** – Farmers should be able to register/login using their email ID and a secure password.
4. **BR004** – The application should provide a product catalog that is easy to browse.
5. **BR005** – The application should include a search option for finding specific products.
6. **BR006** – Farmers should be able to place orders and choose from multiple payment options (COD, Credit/Debit cards, UPI).
7. **BR007** – Farmers should receive email confirmation regarding order status.
8. **BR008** – The application should have a delivery tracking feature for farmers to monitor their orders.

Stakeholder Requirements

1. **Peter's Requirement:**
 - Ensure a secure login process for farmers with options for new user registration.
2. **Kevin's Requirement:**
 - Include a product catalog that is searchable for ease of access.
3. **Ben's Requirement:**
 - Provide a user-friendly payment gateway with multiple options (COD, UPI, Credit/Debit cards).
 - Enhance the user experience with an intuitive interface.
4. **Manufacturers' Requirement:**
 - Enable manufacturers to upload product details like type, quantity, price, and availability.

Question 7 – 10 Business Requirements- 10 Marks

Make suitable Assumptions and identify at least 10 Business Requirements.

Answer:

Based on the scenario, the following are the 10 business requirements identified:

Functional Requirements

1. **BR001** – The application must allow **farmers to register and log in** using their email ID and a secure password. New users should have the ability to create accounts.
2. **BR002** – The application must include a **product catalog** for fertilizers, seeds, and pesticides, which farmers can browse easily.
3. **BR003** – The application must provide a **search functionality** to enable farmers to search for specific products based on keywords like product name, type, or price.
4. **BR004** – Manufacturers must have a dedicated portal to **upload product details**, including the product name, category (fertilizers, seeds, pesticides), price, stock quantity, and a brief description.
5. **BR005** – Farmers should be able to **add products to their cart** or a “buy-later” list for future purchases.
6. **BR006** – The application must support a **payment gateway** with multiple payment options, including:
 - Cash on Delivery (COD)
 - UPI payments
 - Credit/Debit card payments
7. **BR007** – The application must generate and send an **email confirmation** to farmers regarding their order status, including a receipt of the purchase and estimated delivery time.

8. **BR008** – The application must include a **delivery tracking system** to help farmers monitor the location and status of their orders.

Non-Functional Requirements

9. **BR009** – The application must be **user-friendly**, with a simple interface tailored for farmers, ensuring that it can be easily accessed on low-bandwidth internet connections commonly available in remote areas.
10. **BR010** – The system should ensure **data security** and protect sensitive information, such as user login credentials and payment details, by implementing secure encryption protocols.

These requirements ensure that the application fulfills its primary purpose of bridging the gap between farmers and manufacturers while providing an intuitive, secure, and accessible experience for all users.

Question 8 –Assumptions- 5 Marks

List your assumptions

Answer:

Based on the given scenario, the following assumptions are made:

1. **User Access and Registration:**
 - Farmers and manufacturers can register themselves on the application independently without external assistance.
 - The application will support multiple languages, including local languages, to cater to users from remote areas.
2. **Product Details:**
 - Manufacturers will provide complete and accurate details of their products, including images, descriptions, prices, and stock levels.
 - The application will allow farmers to view product specifications, reviews, and ratings before making a purchase.
3. **Payment and Delivery:**
 - A reliable third-party payment gateway will be integrated into the system to handle all financial transactions securely.
4. **Technology and Infrastructure:**

- Basic internet connectivity is assumed to be available in the targeted remote areas.
- 5. **Stakeholder Collaboration:**
 - Peter, Kevin, and Ben will actively collaborate during the requirement-gathering phase and will validate the features to ensure they meet the needs of farmers.
- 6. **Application Features:**
 - Farmers will receive notifications for order confirmations, updates, and promotional offers.
- 7. **Team and Roles:**
 - The SOONY committee will provide timely feedback and approval to avoid project delays.
- 8. **User Experience:**
 - Tutorials or help sections will be included to guide new users in using the application effectively.

Question 9 – This project Requirements Priority - 8 Marks

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

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

Once the requirements are finalized, as a business analyst, one of the major roles is to act as a liaison between the client and the project team. To gather the requirements correctly from the client side and then to deliver those requirements to the project team in a way they understand

To make the project team understand the requirements, you need to convert those requirements into UML diagrams and screen mock-ups.

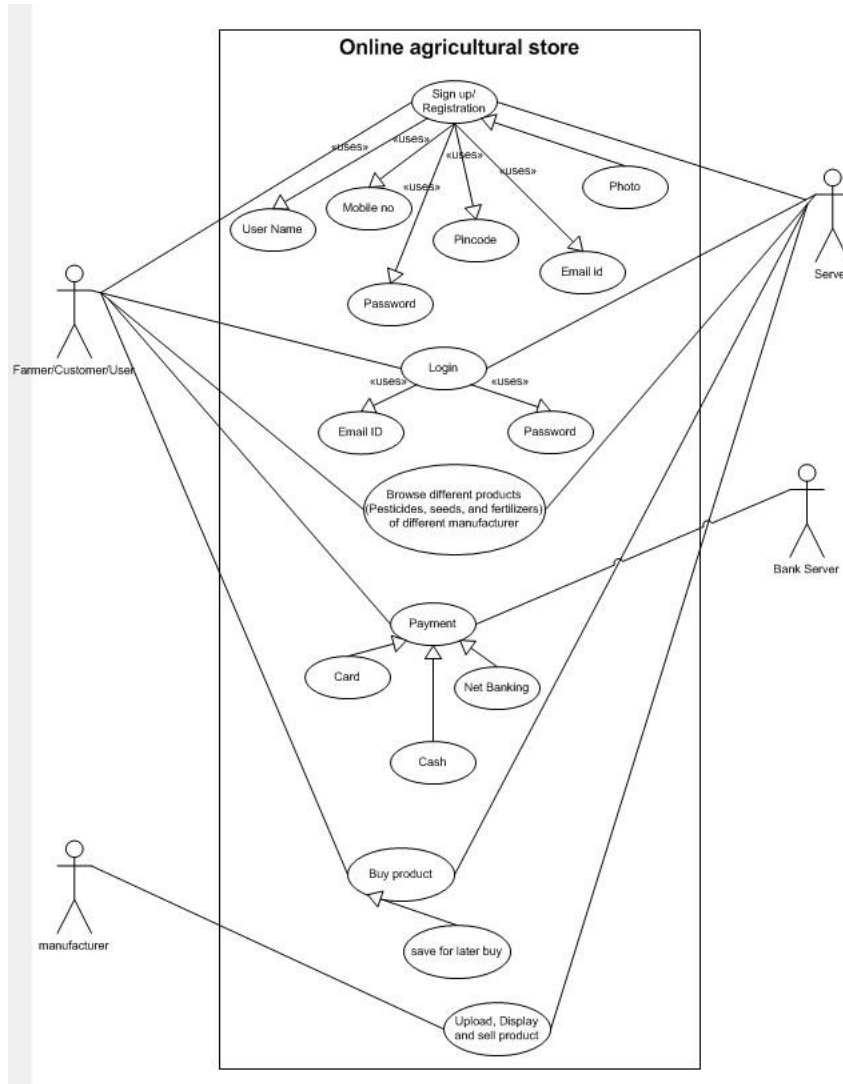
Answer:

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 Products	Manufacturers should be able to upload and display their products in the application.	8
BR003	Product Delivery	The system should allow farmers to enter delivery addresses and track product deliveries.	10
BR004	Payment Integration	Provide multiple payment options, including UPI, credit/debit cards, and net banking.	9
BR005	Registration/Login	Enable user registration/login for both farmers and manufacturers with appropriate roles.	9
BR006	Multilingual Support	Include support for regional languages for easy adoption by farmers in remote areas.	7
BR007	Product Review & Rating	Farmers should be able to review and rate products to assist others in decision-making.	6
BR008	Admin Approval	Allow admin to review and approve product uploads from manufacturers before displaying.	7
BR009	Notifications	Send order confirmations and promotional updates to users via SMS/email.	7
BR010	Reporting	Provide analytics and sales reports to manufacturers and admin users.	6

Question 10 – Use Case Diagram - 10 Marks

Draw use case diagram

Answer:



Question 11 – (minimum 5) Use Case Specs - 15 Marks

Prepare use case specs for all use cases

Answer:

Here are use case specifications for five key use cases identified for the online agriculture product store project:

Use Case 1: Farmer Searches for Products

Use Case ID	UC001
Actor(s)	Farmer

Description	Farmers can search for products like fertilizers, seeds, and pesticides based on their requirements.
Preconditions	1)Farmer must have an active account on the platform. 2)The application must have products uploaded by manufacturers.
Postconditions	1)The farmer is able to view a list of relevant products. 2)The farmer can select and request to purchase the desired products.
Basic Flow	1)Farmer logs into the application. 2)Farmer navigates to the search section. 3)Farmer inputs search criteria (e.g., product type, brand, location). 4)Application displays matching products.
Alternate Flow	If no products are available: The application displays a "No products found" message.

Use Case 2: Manufacturer Uploads Products

Use Case ID	UC002
Actor(s)	Manufacturer
Description	Manufacturers can upload details about their products to the platform for farmers to view and purchase.
Preconditions	1)Manufacturer must have an active account on the platform. 2)Manufacturer should be authenticated as a verified seller.
Postconditions	1)Product is successfully listed in the application. 2)Product details are visible to farmers during their searches.
Basic Flow	1)Manufacturer logs into the application. 2)Manufacturer navigates to the product upload section. 3)Manufacturer enters product details (e.g., name, category, description, price, availability). 4)Manufacturer submits the product for listing.
Alternate Flow	If product details are incomplete: Application prompts the manufacturer to fill in missing details.

Use Case 3: Farmer Requests to Buy Products

Use Case ID	UC003
Actor(s)	Farmer

Description	Farmers can request to purchase selected products and initiate delivery to their location.
Preconditions	1)Farmer must have a valid account. 2)Products must be available in the system.
Postconditions	1)Farmer's request is submitted successfully. 2)Delivery process is initiated by the manufacturer.
Basic Flow	1)Farmer selects desired products. 2)Farmer adds products to the cart. 3)Farmer proceeds to checkout and confirms the order. 4)Application sends the order request to the respective manufacturer.
Alternate Flow	If the product is out of stock: Application notifies the farmer and suggests alternatives.

Use Case 4: Farmer Views Order Status

Use Case ID	UC004
Actor(s)	Farmer
Description	Farmers can track the status of their orders, from processing to delivery.
Preconditions	1)Farmer must have placed an order. 2)System must maintain updated order status.
Postconditions	1)Farmer views the current status of their order. 2)Farmer is notified of any changes in order status.
Basic Flow	1)Farmer logs into the application. 2)Farmer navigates to the "My Orders" section. 3)Farmer selects an order to view its status. 4)Application displays the current status (e.g., processing, shipped, delivered).
Alternate Flow	Order tracking system is temporarily unavailable.

Use Case 5: Administrator Manages Users

Use Case ID	UC005
Actor(s)	Administrator

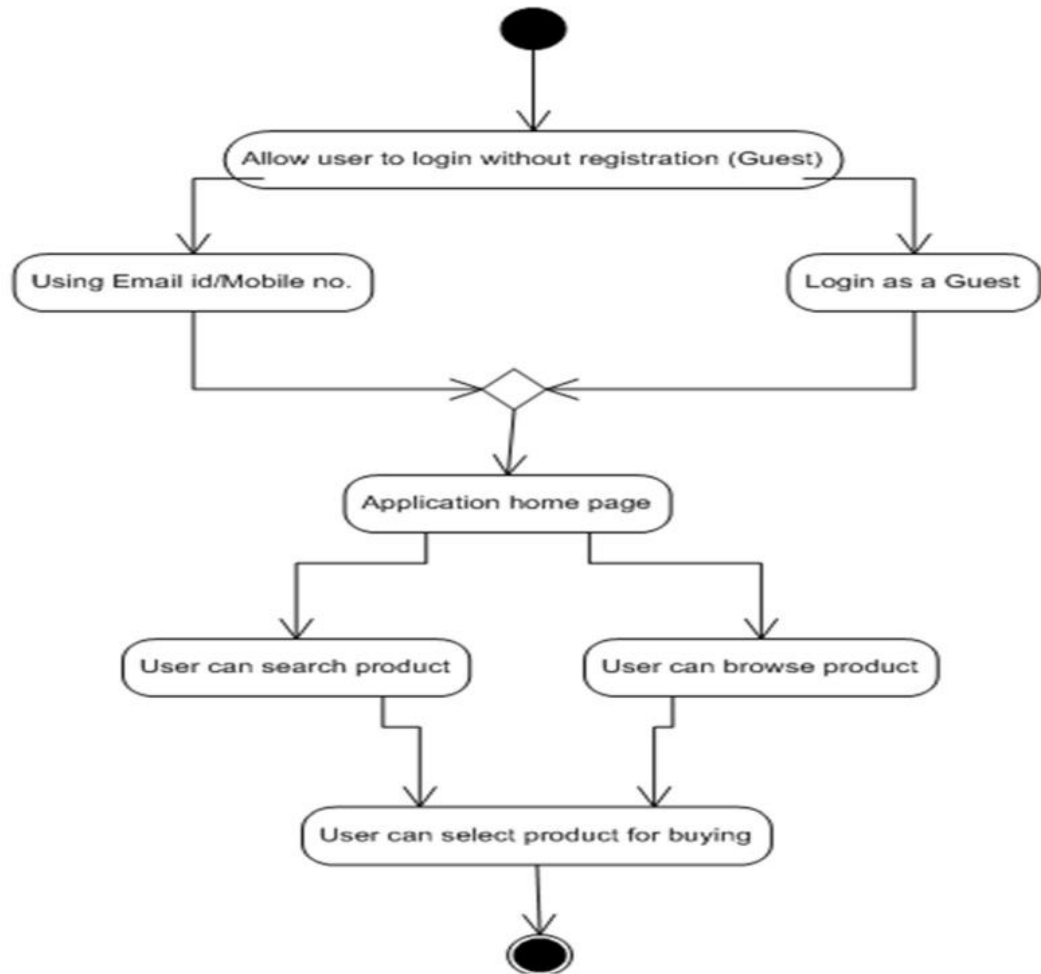
Description	The administrator manages user accounts, including farmers and manufacturers, to ensure system integrity.
Preconditions	1)Administrator must have access to the admin panel. 2)System must maintain a list of registered users.
Postconditions	1)User accounts are updated as per administrator actions. 2)Suspicious or inactive accounts are flagged or removed.
Basic Flow	1)Administrator logs into the admin panel. 2)Administrator views the list of registered users. 3)Administrator performs actions such as approving, deactivating, or flagging accounts.
Alternate Flow	If a user disputes deactivation: Administrator reviews and reactivates the account if valid.

Question 12 – (minimum 5) Activity Diagrams - 15 Marks
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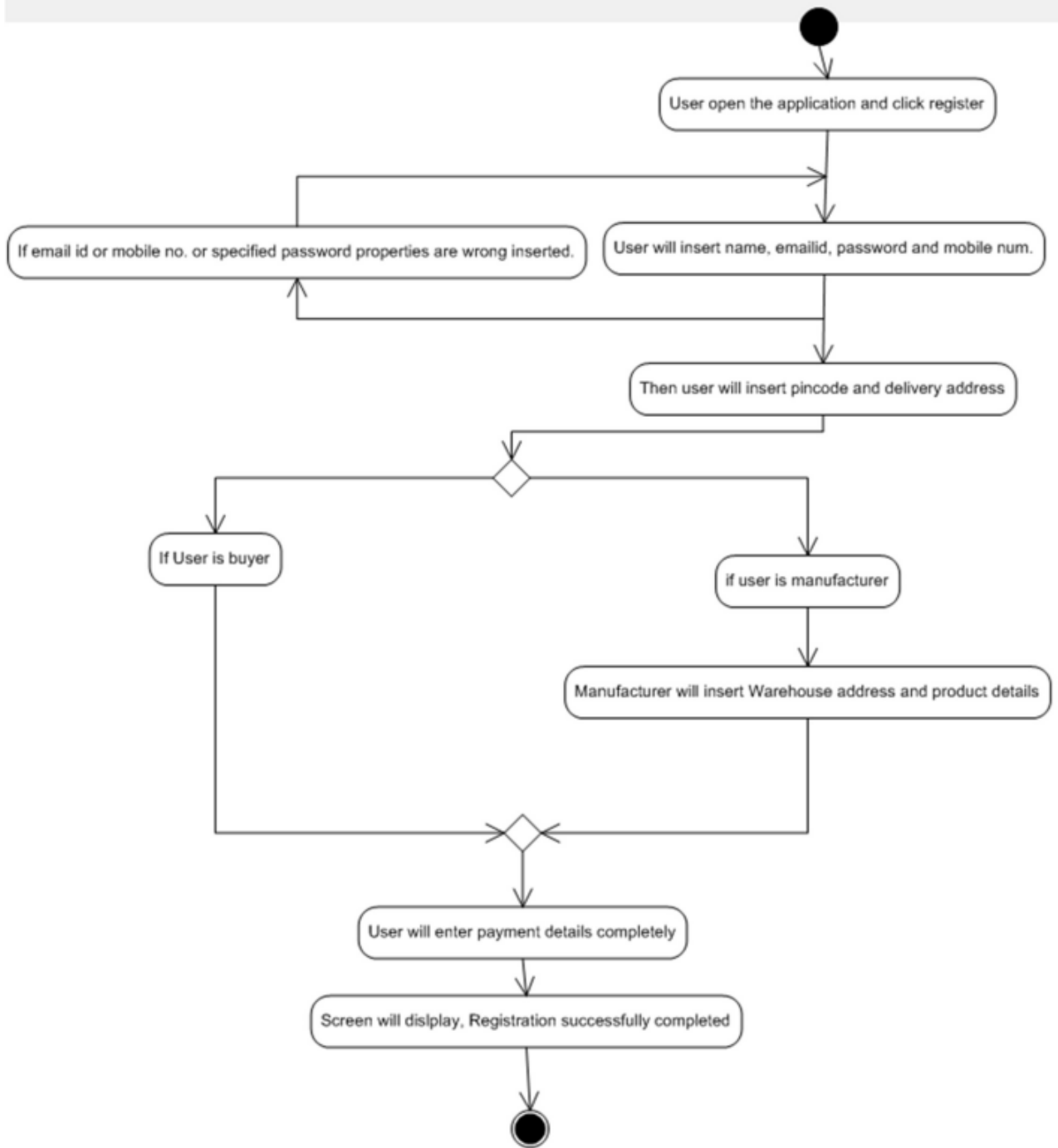
Activity diagrams

Answer:

- 1)User login without registration (Guest)



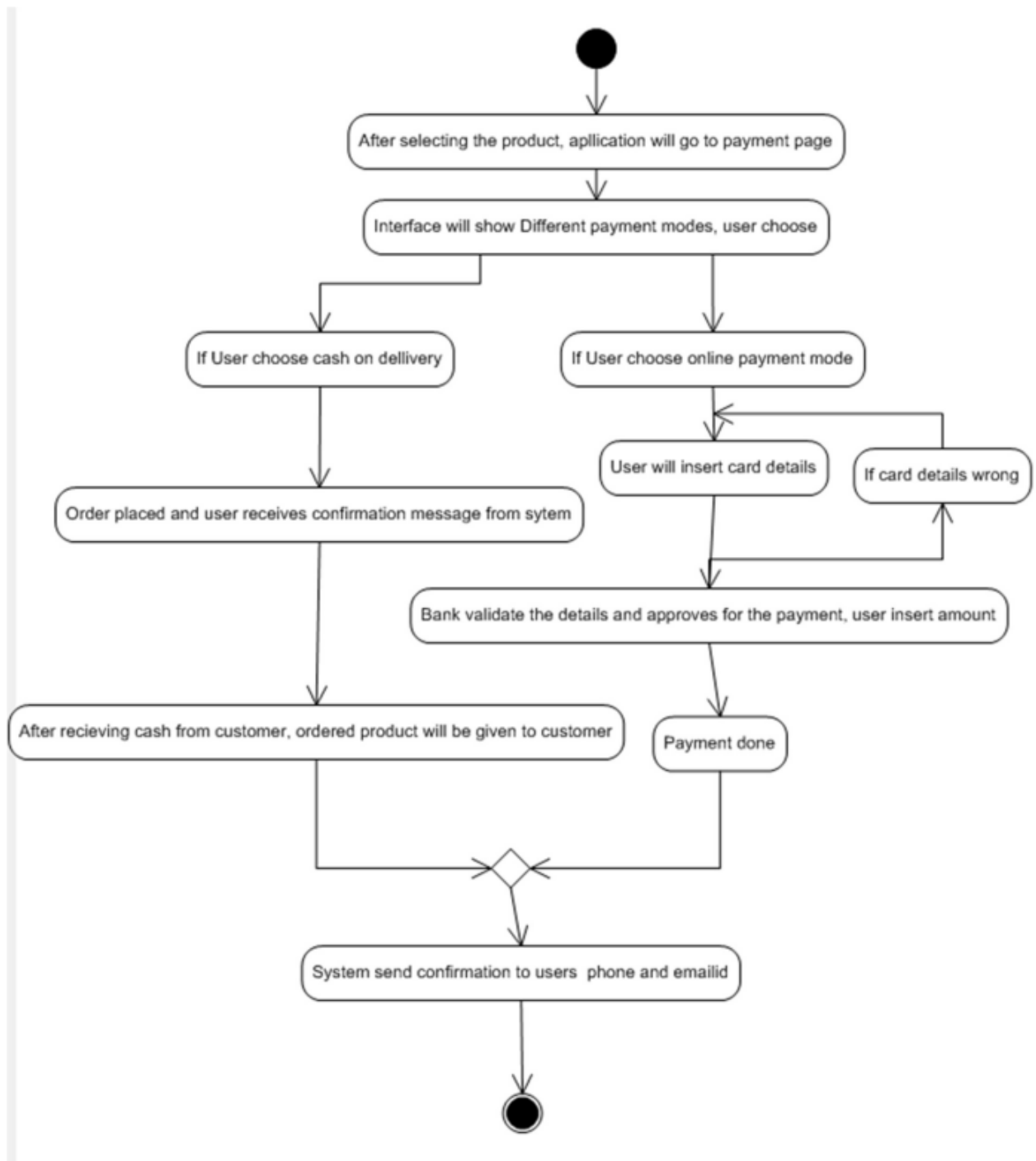
2)New User Registration



3)Buy product



4) Make Payment



5) Track order delivery date and time

