Capstone Project 1 prep 2

Question 1 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 ?

Ans:

Q1 Audit Report (Requirement Gathering Phase)

Stage	Quarter 1 Audit Report (Requirement Gathering Phase)
Completed	12 weeks (week1- week12)
Check list	• Stakeholder identification & classification
	• BRD preparation & sign-off
	• Elicitation techniques documentation
	• RTM mapping

Q2 Audit Report (Analysis & Design phase)

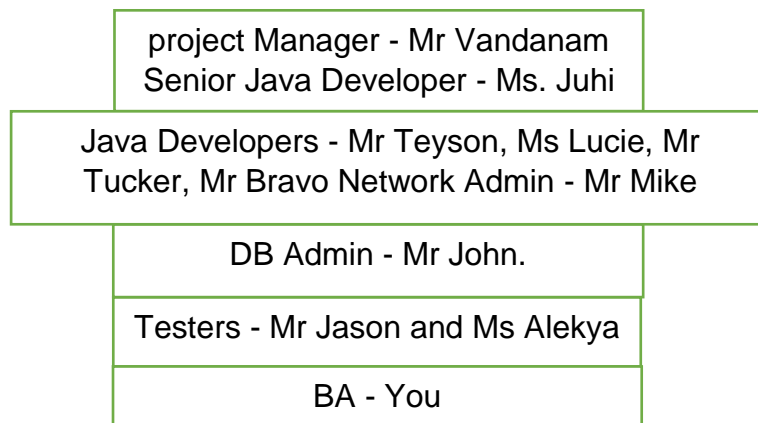| Stage	Quarter 2 – Audit Report (Analysis & Design phase)
Completed	12 Weeks(week 13 to week 24)
Check list	• Review Use caseDiagrams
	• Activity Diagrams
	• Functional & Non –Functional Requirements
	• Coordinate with testers and developers to make clarity on business logic

Q3 Audit Report (Development & Testing Phases)

Stage	Quarter 3 Audit Report (Development & Testing Phases)
Completed	12 weeks(week 25 to week 36)
Check list	• Review of RTM
	• Ensure test cases covers all functional requirements
	• Change request documentation
	• Validate that developer output is in line with approved requirements

Q4 Audit Report (UAT & Project Closure)

Stage	Quarter 4 Audit Report (UAT & Project Closure)
Completed	12 weeks(Week 37 to week 48)
Check list	• UAT Test Cases Review
	• Track UAT execution with testers
	• Review feedback
	• Obtain sign-off using the client project acceptance Form
	• Ensuring all documentation is completed and archived

Question 2 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)

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.

Ans:

1) What Elicitation Techniques to Apply: For this project, I will apply the following elicitation techniques to understand requirements from stakeholders(Interviews, Brainstorming, Prototyping, Document Analysis) These techniques will ensure complete, accurate, and validated requirements.

2) How to Do Stakeholder Analysis RACI Matrix : Stakeholder analysis can be done by using the RACI matrix involves identifying stakeholders and defining their roles and responsiblilites within aproject .
   Stakeholder Analysis
   Primary stakeholders: Mr.Henry(sponser),peter,kevin.Ben(Farmers)
   Secondary Stakeholders: Mr. Pandu,Mr.Dooku(Committee)
   Internal Team: Developers,Testers,PM,Admins
3) What Documents to Write: The following documents will be created throughout the BA lifecycle (BRD,SRS,Use case diagrams,Activity diagrams, RTM,UAT Plan, Client Project Acceptance Form)
4) What Process to Follow to Sign Off the Documents: Sign off to be taken on SRS as this is the paimary and important document. Sign off can be taken by using E-mail confirmation from client.
5) How to take Approvals from the client: Establish a formal meeting with the clients to keep them informed andget continuous feedback.
6) What communication channels to establish n implement: Regular meetings – weekly status meetings, bi-weekly sprint reviews and monthly stakeholders updates.
7) How to handle change requests:Change request form, Do Impact Analysis, Approval Perocess,Documentation.
8) How to update the progress of the project to the stakeholders: Through **weekly status reports**, highlighting completed tasks, pending activities, risks, and any change requests. Additionally, I will conduct **review meetings** with the client and committee to ensure transparency and alignment.
9) How to take signoff on the UAT-Client project Acceptance Form: UAT Preparation,Conduct UAT.Fix Issues,Acceptance form,Final Review Meeting,Obtain Sign-off.

Question 3 Explain and illustrate 3-tier architecture?

Ans:

3-Tire Architecture is a software design pattern that divides the application into three separate layers**.** Each layer has its own responsibility, which makes the application scalable, secure, and easy to maintain**.**

1) **Presentation Layer (User Interface Layer) :** It is the front-end interface where users interact with the system. In the Online Agriculture Product Store, this includes web or mobile screens for login, product search, catalog browsing, cart management, and order tracking. It focuses on user experience and is built using technologies like HTML, CSS, JavaScript, React, or Angular**.**
2) **Application Layer (Business Logic Layer):** It acts as the middle layer, processing requests from the presentation layer and applying the business rules. In this project, it handles operations like authenticating users, managing product searches, processing orders, handling payments, and

coordinating deliveries. It uses technologies like Java (Spring Boot) and APIs to connect the UI with the database.

    3) **Data or Database Layer:** It is the back-end storage system that saves and retrieves data such as user profiles, product details, orders, payments, and delivery information. It ensures secure, consistent, and organized data management using databases like MySQL or Oracle.

Question 4 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)

Ans:

Before framing a question to a stakeholder, a Business Analyst must ensure the question is clear, relevant, and aligned with the project's goals. For the Online Agriculture Product Store, the following key points should be considered

1) **5W 1H framework** is a Useful tool for gathering information and understanding a situation by answering questions above **Who, What, When, Where, Why, and How** to ensure the question captures complete information.
2) **SMART Technique** can help in creating questions
   Specific - Focus on one topic per question.
   Measurable - Clarify expected outcomes or quantities
   Achievable - Ensure the feature is realistic.
   Relevant - Align with project objectives
   Time-bound - Capture any timeline expectations.
3) **RACI** charts help define and clarify roles and responsibilities within a team by outlining who is responsible,accountable,consulted and informed for each task.
4) **3-Tier Architecture** Awareness Ensure the question aligns with the correct layer of the system (Application layer,Business layer,Database layer)
5) **Use Cases** - Understand step-by-step interactions between users and system. **Use Case Specifications** - Get details like preconditions, postconditions, and flows. **Activity Diagrams** - Clarify workflows. **Models** - Confirm needed diagrams or mockups. **Page Designs** - Identify stakeholder preferences for UI/UX.

Question 5 As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU)

Ans:

As a Business Analyst, I am aware of the following elicitation techniques, remembered by the acronym **BDRFOWJIPQU**:

1) **B - Brainstorming** - Generating ideas collaboratively with stakeholders to explore possible solutions.

2) **D - Document Analysis** - Reviewing existing documents, reports, and process flows to gather background information.
3) **R - Reverse Engineering** - Analyzing an existing system to understand its functionality and requirements.
4) **F - Focus Groups** - Conducting discussions with selected stakeholders to gain diverse perspectives.
5) **O - Observation** - Watching end users perform their tasks to identify needs and challenges.
6) **W - Workshops** - Organizing collaborative sessions with multiple stakeholders to gather and validate requirements.
7) **J - JAD (Joint Application Development)** - Structured meetings involving clients, developers, and analysts to finalize requirements.
8) **I - Interviews** - One-on-one or group question sessions with stakeholders to capture detailed requirements.
9) **P - Prototyping** - Creating sample screens or mock-ups to help stakeholders visualize the end product.
10) **Q - Questionnaires** - Sending structured sets of questions to multiple stakeholders for feedback.
11) **U - Use Cases** - Documenting interactions between the system and users to capture functional requirements.

Question 6 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

Ans:

For the Online Agriculture Product Store project, I will use Prototyping to help stakeholders visualize screens like login, product catalog, and delivery tracking, Use Case Specifications to define step-by-step interactions for features such as placing orders and making payments, Document Analysis to review CSR goals, product details, and current ordering processes, Brainstorming to gather creative inputs on features like search filters and payment methods.

Question 7 Make suitable Assumptions and identify at least 10 Business Requirements.

Ans:

BR001 - Farmer should be able to search for available products in fertilizers, seed,and pesticides.

BR002 - Manufacturers should be able to upload and manage their products in the application.

BR003 - Users should be able to register and login securely.

BR004 - Farmer should able to view a product catelog with details like price, quantity,manufacturer.

BR005 - The system should support multiple payment options – COD,Credit/Debit card,UPI

BR006 - Farmers should be able to track delivery status in real time.

BR007 - The system should send email confirmations for order placement,shipment, delivery

BR008 - Framers should be able to add products to a 'but later' or wishlist list

BR009 - The application should be accessible in multiple regional languages.

BR010 - Admin should be able to view and download reports related to sales, user activity,inventory

Question 8 List your assumptions

Ans:

- Farmers and manufacturers have access to the internet via smartphone or computer
- The application will be available on both web and mobile platforms.
- All users will have a valid email ID for registration and login.
- Payment gateway will support UPI, Credit/Debit cards, COD.
- Real-time delivery tracking will be available for all orders.
- The system will have separate roles for Farmers, Manufacturers, and Admin.
- Manufacturers will upload accurate and complete product details.
- The platform will support multiple regional languages for usability

Question 9 Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders

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.

Ans:

Req ID	Req Name	Req Description	Priority(1-10)
BROO1	Farmer Search for Products	Farmers should be able to search for available products in fertilizers, seeds, and pesticides.	8
BR002	Manufacturers Upload Products	Manufacturers should be able to upload and display their products in the application.	8
BR003	User Login & Registration	Users should be able to create accounts, log in securely, and access the system.	9
BR004	Product catalog view	Farmers should be able to view products with details like name, price, and description.	8
BR005	Multiple payment options	The system should support UPI, COD, and Credit/Debit card payments.	7
BR006	Delivery Tracking	Farmers should be able to track the status and location of their orders.	7

BR007	Email Notifications	Email confirmations should be sent for order placement, shipment, and delivery.	6
BR008	Buy Later / Wishlist	Farmers should be able to add products to a "buy later" list.	5
BR009	Multi-Language Support	The platform should be accessible in multiple regional languages.	6
BR010	Admin Reporting & Analytics	Admin should be able to view and download reports on orders, users, and sales.	5

Question 10 Draw use case diagram

Ans:
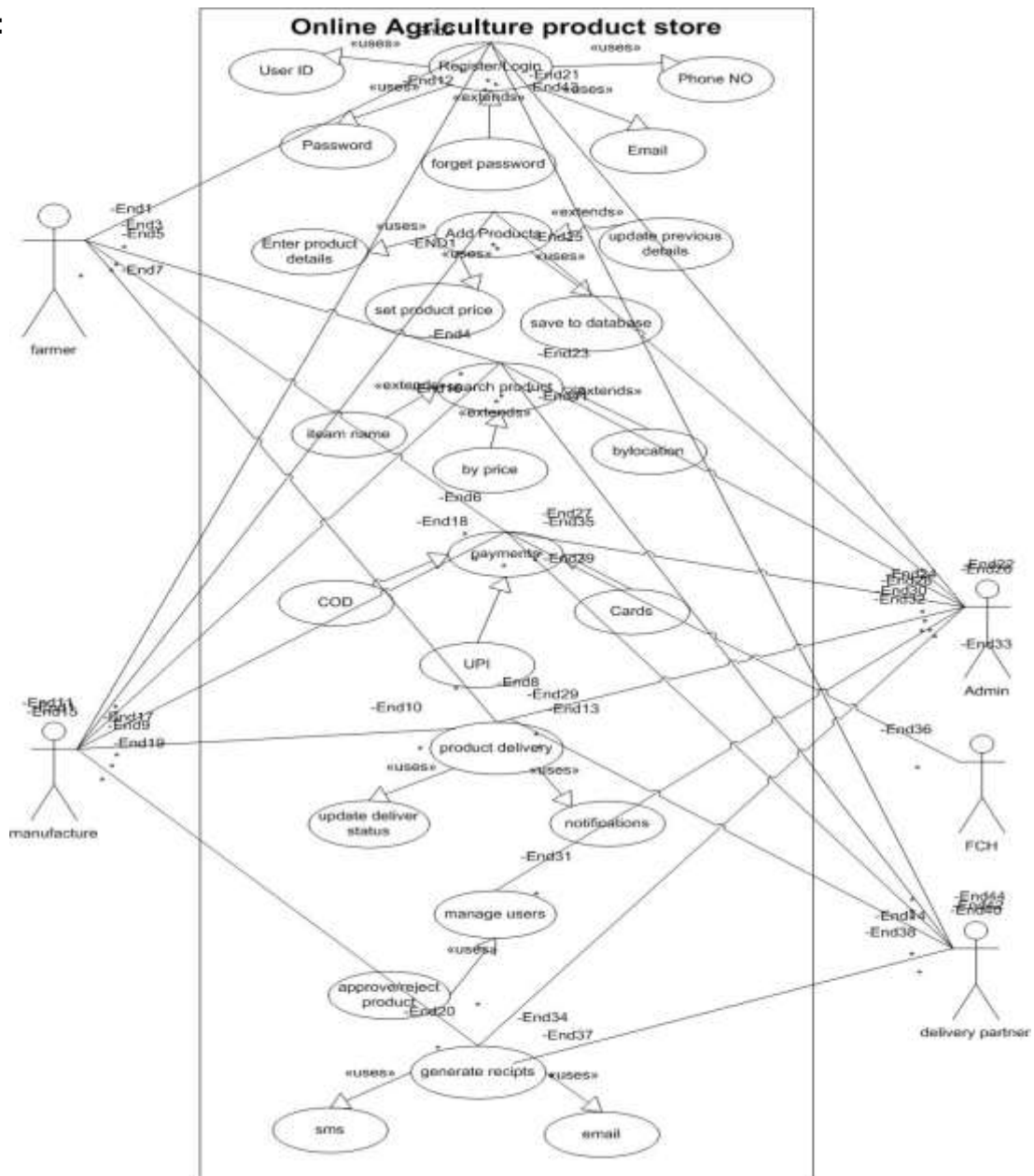
Question 11 Prepare use case specs for all use cases

Ans:

UC1 – Farmer Login / Registration

- **Use Case ID**: UC1
- **Use Case Name**: Farmer Login / Registration
- **Created By**: Business Analyst
- **Actor**: Farmer.
- **Description**: Farmer creates a new account or logs in with valid credentials.
- **Pre-Condition**: Farmer is not logged in.
- **Post-Condition**: Farmer is authenticated and redirected to dashboard.
- **Normal Flow**: Farmer enters email and password

    1. System validates credentials
    2. If new – register with email & password
    3. System confirms login and grants access

- **Alternate Flow**: Invalid credentials - error message displayed
- **Exceptions:** <<extend>> Password Reset if farmer forgets password
- **Frequency of Use**: High
- **Assumptions**: Farmers have internet access and valid email IDs.

UC2 – Search Products

- **Use Case ID:** UC2
- **Use Case Name**: Search Products
- **Created By**: Business Analyst
- **Actor**: Farmer
- **Description**: Farmer searches products by keywords or categories.
- **Pre-Condition**: Farmer logged in.
- **Post-Condition**: Products matching search criteria are displayed.
- **Normal Flow**:
    1. Farmer enters search keyword
    2. System fetches and displays results
    3. Farmer applies filters if needed
- **Alternate Flow**: No products found - Show "No results found"
- **Exceptions**: Network error while searching
- **Frequency of Use**: High
- **Assumptions**: Product catalog is updated by manufacturers regularly.

UC3 – Place Order

- **Use Case ID**: UC3
- **Use Case Name**: Place Order
- **Created By**: Business Analyst
- **Actor**: Farmer

- **Description**: Farmer places an order for selected products.
- **Pre-Condition**: Farmer logged in & product available in catalog.
- **Post-Condition**: Order request is submitted and order ID generated.
- **Normal Flow:**
    1. Farmer selects product(s)
    2. Adds to cart
    3. Proceeds to checkout
    4. <<include>> Make Payment
    5. System confirms order and sends notification
- **Alternate Flow**: <<extend>> Cancel Order before payment confirmation
- **Exceptions**: Payment fails - retry or cancel
- **Frequency of Use**: High
- **Assumptions**: Payment gateway is functional & secure.

UC4 – Upload Products

- **Use Case ID**: UC4
- **Use Case Name**: Upload Products
- **Created By**: Business Analyst
- **Actor**: Manufacturer
- **Description**: Manufacturer uploads product details for farmers to view.
- **Pre-Condition**: Manufacturer logged in.
- **Post-Condition**: Products are saved and displayed in catalog.
- **Normal Flow**:
    1. Manufacturer navigates to upload page
    2. Enters product details (name, type, price, stock, description)
    3. Uploads images
    4. System confirms and adds product to catalog
- **Alternate Flow**: Missing mandatory fields - Error message
- **Exceptions**: Upload failure due to server issue
- **Frequency of Use**: Medium(whenever new products are launched)
- **Assumptions**: Manufacturers provide accurate details.

UC5 – Track Delivery

- **Use Case ID**: UC5
- **Use Case Name**: Track Delivery
- **Created By**: Business Analyst
- **Actor**: Farmer
- **Description**: Farmer tracks delivery status of purchased products.
- **Pre-Condition**: Farmer placed an order successfully.
- **Post-Condition**: Current order status is displayed.
- **Normal Flow**:
    1. Farmer enters order ID or selects order from history
    2. System displays live status (Processing, Shipped, Delivered)
    3. <<extend>> Notifications sent on status updates
- **Alternate Flow**: If shipment delayed - Show expected delivery date
- **Exceptions**: Wrong order ID entered - Error message

- **Frequency of Use**: Medium (after every order)
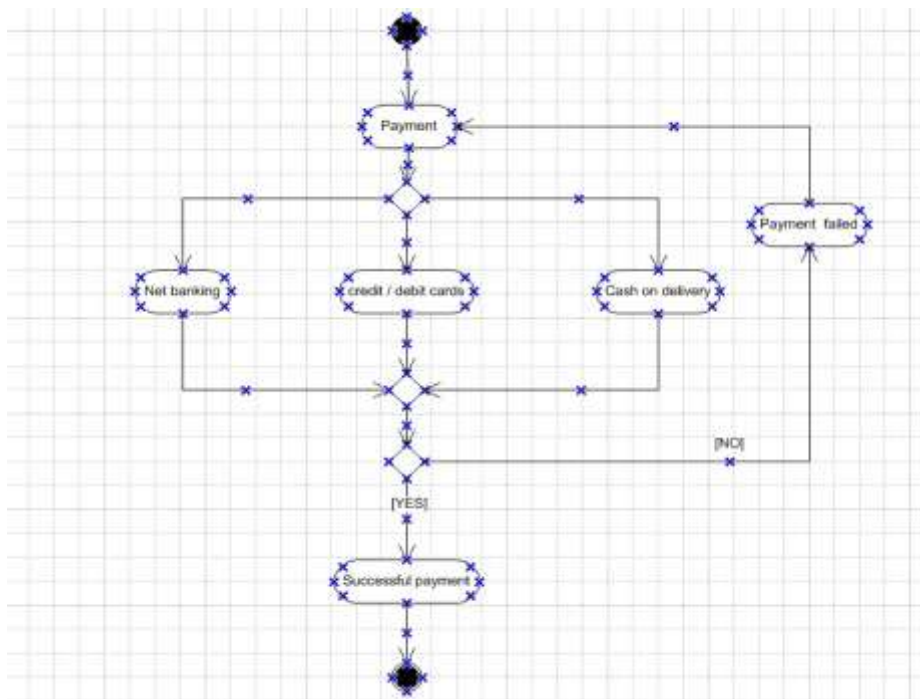- **Assumptions**: Logistics system integrated properly.
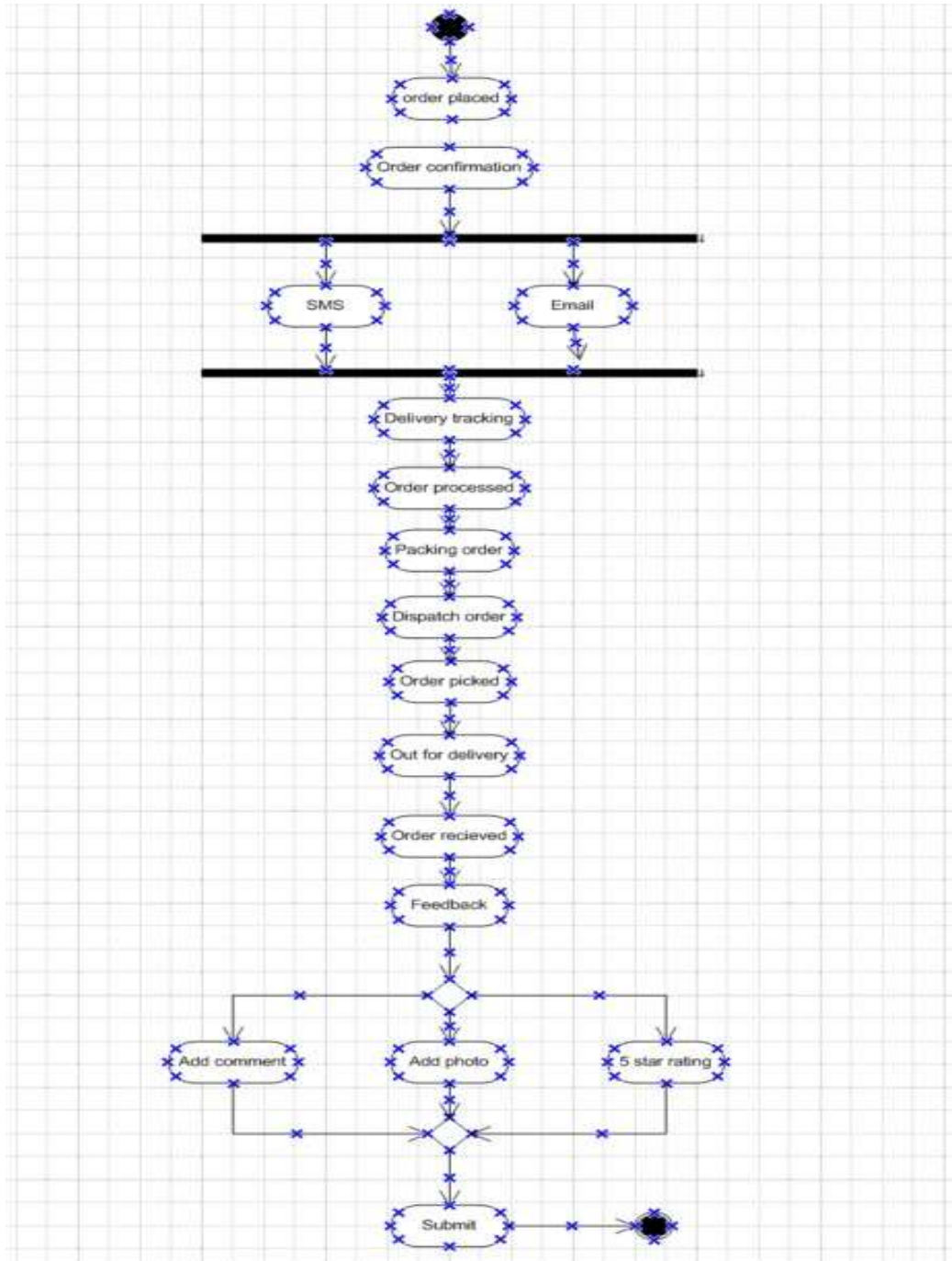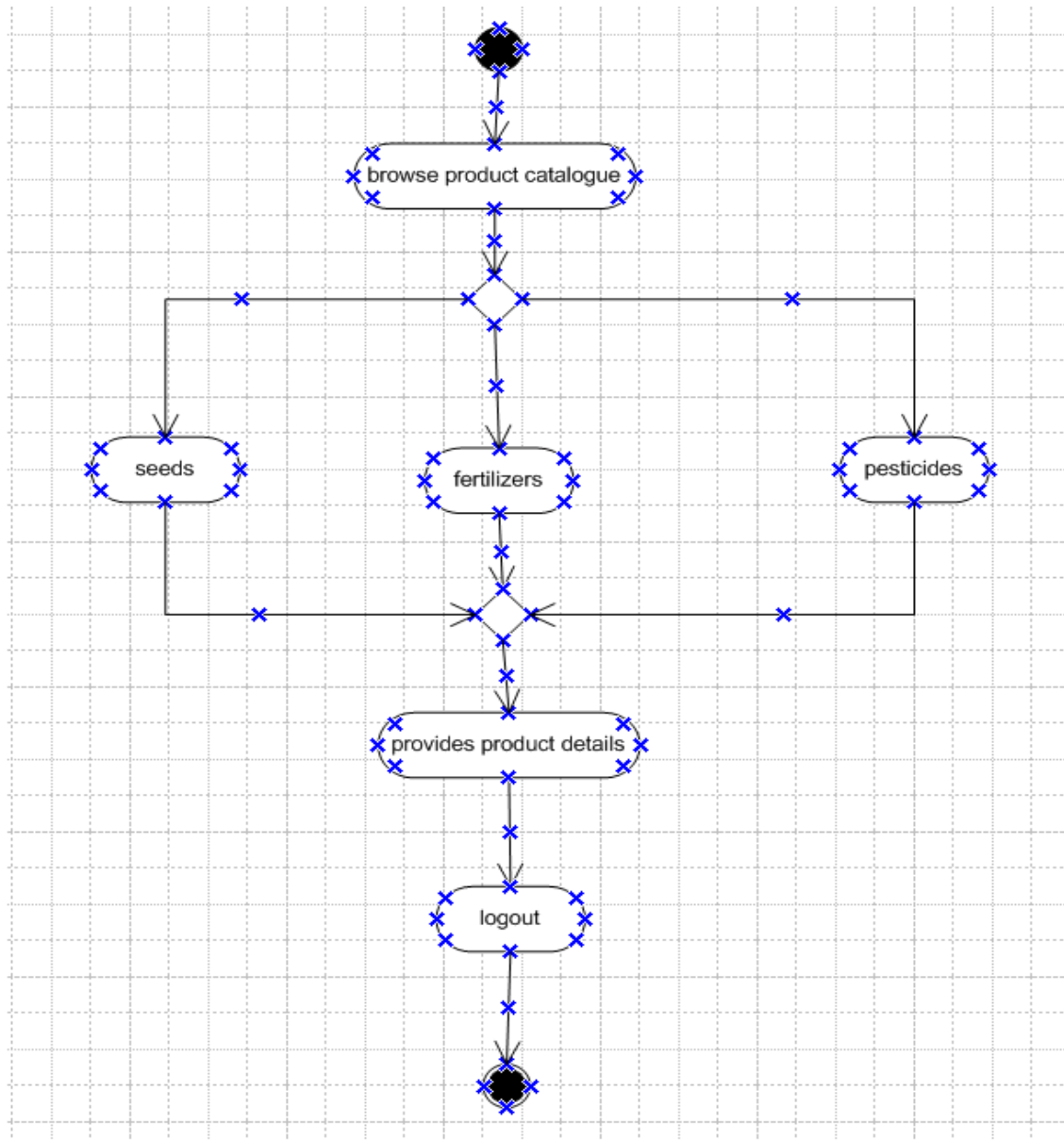
Question 12 Activity diagrams

Ans:

1) Login
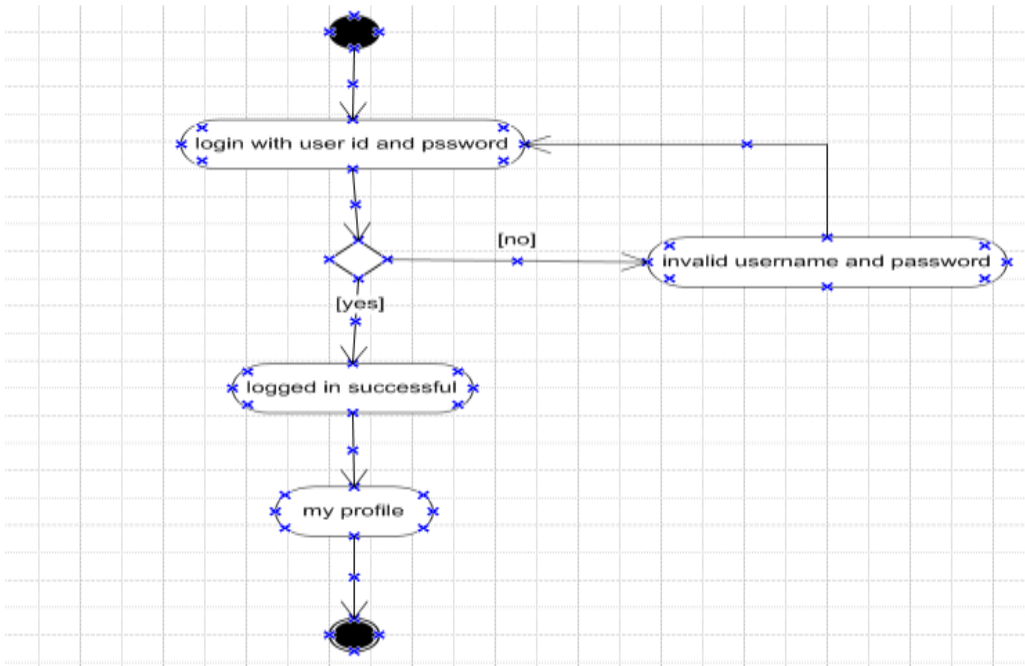
2) Payment Gateway

3) Order lifecycle and feedback

4) Product Browsing

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5) Product purchase process