

Question 1 – Audits

Ans: Generally, in organisations, audits are conducted to:

- Confirm that we're following internal processes, regulatory guidelines, and any client-specific standards
- Monitor project progress to ensure it aligns with planned goals and timelines
- Identify any risks, gaps, or issues early so they can be addressed proactively
- Make sure all project documentation is complete, accurate, and up to date
- Support continuous improvement by reviewing the quality of our work regularly

Such audits provide an opportunity to strengthen processes, reduce risks, and improve overall delivery.

In terms of this project, 4 Quarterly Audits are planned (Q1, Q2, Q3, Q4)

Audit Focus Areas:

- **Q1: Planning and Requirements:** Emphasis on initial project planning and defining clear requirements.
- **Q2: Design and Prototyping:** Examination of design specifications and prototype development.
- **Q3: Development and Testing:** Verification of development traceability and comprehensive test coverage.
- **Q4: Project Lifecycle Review:** Comprehensive review of the entire project lifecycle, including benefits realization and lessons learned.

The Business Analyst's Essential Role in Quarterly Audits

The Business Analyst (BA) plays a crucial, often leading, role in ensuring audit readiness and successful responses across all phases:

Before the Audit: The Preparation Phase

- **Documentation Review:** Ensure all BA deliverables, such as Business Requirements Documents (BRDs), Functional Requirements Documents (FRDs), user stories, and process flows, are current and readily available.
- **Traceability Matrices:** Maintain and update Requirements Traceability Matrices (RTMs) to clearly link requirements with test cases, design specifications, and development efforts.
- **Change Logs:** Keep detailed records of all change requests, including their approval status.
- **Sign-offs:** Verify that all required stakeholder sign-offs are properly documented.
- **Process Adherence:** Confirm that all activities align with the defined Software Development Life Cycle (SDLC) methodologies (Agile, Waterfall, or Hybrid) and organizational governance standards.
- **Proactive Involvement:**
 - Collaborate with Project Managers (PMs), Quality Assurance (QA), Development, and Compliance teams.
 - Address and clarify any potential domain-specific questions or decisions in advance.

During the Audit: The Participation Phase

- **Answering Auditor Questions:** Be prepared to respond to inquiries such as:
 - How were requirements gathered and validated?
 - What was the extent of stakeholder involvement?
 - How were changes managed throughout the project?
 - Is there clear traceability from initial requirements to final delivery?
- **Demonstrating Tools and Artifacts:** Be ready to showcase how tools like JIRA, Confluence, MS Visio are utilized for documentation, to draw process diagrams and tracking purposes.
- **Walkthroughs:** Conduct process or requirement walkthroughs as requested by the auditor.

After the Audit: The Action Phase

- **Address Findings:** Work collaboratively with relevant teams to resolve any audit findings related to BA activities.
- **Implement Recommendations:** Improve existing templates, practices, or tracking mechanisms in accordance with the auditor's feedback.

Common Artifacts Auditors May Request from Business Analysts

Auditors often request a variety of documents and records from Business Analysts (BAs) to ensure thorough reviews. These typically include:

- **Requirements Documentation:**
 - Business Requirements Document (BRD)
 - Functional Requirements Document (FRD)
 - User Stories and Acceptance Criteria (for Agile methodologies)
- **Process and Change Management:**
 - Process Flow Diagrams
 - Change Request logs
 - Requirements Traceability Matrix (RTM)
- **Stakeholder Engagement and Approval:**
 - Stakeholder sign-off records
 - Meeting notes, workshop summaries, and other stakeholder engagement records

Q2: Business Analyst (BA) Approach Strategy.

Ans: Prepared by: Mr Karthik

Project Architecture: 3-Tier Architecture

Project Team:

- **Project Manager:** Mr. Vandanam (Senior)
- **Delivery Head:** Mr. Karthik
- **Developers:** Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo
- **Testers:** Mr. Jason, Ms. Alekya

- **Network Admin:** Mr. Mike
- **DB Admin:** Mr. John
- **Business Analyst:** Mr. Sainath

Business Analysis Lifecycle: A Phased Approach

Phase 1: Initiation & Planning

- **Objective:** Define project scope, goals, and business objectives.
- **Activities:**
 - Meet with the Project Manager and key stakeholders.
 - Identify and classify all stakeholders (internal, client-side, technical, business).
 - Prepare a Business Analysis (BA) Work Plan, including timelines, deliverables, and key milestones.

Phase 2: Stakeholder Analysis & RACI

- **Stakeholder Analysis:**
 - Identify roles, interests, influence, and availability using a Stakeholder Map.
- **RACI Matrix:**

Task	Responsible	Accountable	Consulted	Informed
Requirement Gathering	BA ▾	PM ▾	Developers, Testers	Client ▾
Document Preparation	BA ▾	PM ▾	-	Client, ... ▾
Approvals	Client ▾	PM ▾	BA	Team ▾
UAT Sign-off	Client ▾	PM ▾	BA, Testers	Team ▾

Phase 3: Requirements Elicitation

- **Techniques:**
 - Workshops with stakeholders and technical teams.
 - One-on-One Interviews (business users, SMEs).
 - Brainstorming Sessions (Dev and QA teams).
 - Use Case and Scenario Building.
 - Prototyping / Wireframes

Phase 4: Documentation & Sign-offs

- **Documents Prepared:**
 - Business Requirements Document (BRD)
 - Functional Requirements Document (FRD)
 - Process Flow Diagrams / BPM Models
 - Use Cases / User Stories
 - Requirements Traceability Matrix (RTM)
 - Change Request Log
 - UAT Test Scenarios
- **Sign-off Process:**
 - Documents are version-controlled and stored in a centralized repository (e.g., SharePoint).
 - Each document is reviewed with stakeholders.
 - Sign-off collected via email approvals, e-signatures, or formal sign-off forms (PDF or digital).

Phase 5: Client Approvals Process

- **Activities:**
 - Present major deliverables in walkthrough sessions with client stakeholders.
 - Obtain formal feedback and incorporate revisions.
 - Utilize a standardized Client Approval Template or Client Document Acceptance Form.
 - Maintain an Approval Log for audit and traceability.

Phase 6: Communication Management

- **Communication Channels:**

Audience	Channel	Frequency	Owner
Project Team	MS Teams / Slack	Daily Stand-ups	PM ▾
Stakeholders	Email + Weekly Reports	Weekly	BA ▾
Client	Bi-weekly Review Meetings	Bi-weekly	PM / BA ▾

Documentation	Google Docs/ MS Word	Continuous	BA ▾
Issue Tracking	JIRA	Ongoing	PM / BA ▾

Phase 7: Change Request Management

- **Process:**
 - Log all new or changed requirements using a Change Request Form.
 - Analyze impact on scope, timeline, and cost.
 - Review with PM and technical team.
 - Present to client for approval.
 - Update BRD/FRD and RTM accordingly.
 - Maintain a Change Request Log for audit.

Phase 8: Progress Reporting

- **Activities:**
 - Maintain a BA Status Report (completed tasks, upcoming tasks, issues/risks, dependencies).
 - Share progress weekly with PM and stakeholders.
 - Participate in sprint reviews (Agile) or phase gates (Waterfall).
 - Maintain an updated RTM to show development/testing coverage.

Phase 9: UAT and Project Closure

- **Activities:**
 - Collaborate with the QA team to ensure UAT Test Scenarios cover all business requirements.
 - Coordinate with testers and clients for UAT execution.
 - Capture feedback and ensure defect resolution.
 - Collect UAT Sign-off using the Client Project Acceptance Form.
 - Update final RTM, sign-offs, and archive documents for project closure.

Tools & Platforms

- **Documentation:** MS Word, Excel, Visio, Lucidchart
- **Collaboration:** MS Teams, Outlook
- **Repository:** SharePoint / Confluence
- **Issue Tracking:** JIRA
- **Sign-offs:** Adobe Sign / Email / Signed PDFs

Summary of BA Deliverables

Deliverable	Owner	Approval
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BA Work Plan	BA ▾	PM ▾
Stakeholder Analysis & RACI	BA ▾	PM ▾
BRD & FRD	BA ▾	Client ▾
RTM	BA ▾	QA / Client ▾
Change Request Log	BA ▾	PM / Client ▾
UAT Scenarios Support	BA / QA ▾	Client ▾
UAT Sign-off	BA ▾	Client ▾

Q3: 3-Tier Architecture

Ans: A 3-Tier Architecture is a software design pattern that divides an application into three distinct layers for enhanced scalability, maintainability, and flexibility.

1. Presentation Layer (Client Tier):

- User interface (web pages, desktop, mobile apps).
- Displays information and captures user input.

2. Application Layer (Business Logic Tier or Middle Tier):

- Holds business logic and rules.
- Processes user requests, makes decisions, performs calculations, and manages workflow.
- Acts as an intermediary between presentation and data tiers.

3. Data Layer (Database Tier):

- Responsible for data storage (databases, persistent storage).
- Handles data retrieval, insertion, updates, and deletion.

Benefits of 3-Tier Architecture

- **Separation of Concerns:** Each tier is dedicated to a specific function.
- **Scalability:** Each tier can be scaled independently based on load.
- **Maintainability:** Updating or replacing a tier is simplified without impacting others.
- **Security:** The data tier can be secured with firewalls, accessible only via the application tier.
- **Flexibility:** Diverse technologies can be employed across different tiers.

Q4. BA Approach Strategy for Framing Questions

Ans: Key Points for a Business Analyst Before Framing Questions to Stakeholders

1. Purpose and Clarity: 5W1H Framework

Make sure your question covers the basics of **Who, What, When, Where, Why, and How** to get complete information.

- **Who** is involved or affected?
- **What** exactly is needed or the problem?
- **When** does it happen or need to happen?
- **Where** is this process or system used?
- **Why** is this important or required?
- **How** is the current process done or how should it work?

2. Specificity and Measurability: SMART Criteria

Questions should help gather requirements that are:

- **Specific** — clear and focused
- **Measurable** — able to quantify or test
- **Achievable** — realistic
- **Relevant** — tied to project goals
- **Time-bound** — include time constraints if applicable

3. Stakeholder Roles: RACI Awareness

Understand stakeholder roles to frame relevant questions:

- **Responsible** — who does the work?
- **Accountable** — who owns the decision?
- **Consulted** — who provides input?
- **Informed** — who needs to be kept updated?

4. Technical Context: 3-Tier Architecture

Frame questions with awareness of the system architecture:

- Does the question relate to the **Presentation Layer** (UI/UX)?
- Is it about **Business Logic** (middle tier)?
- Or about **Data Layer** (databases/storage)?

5. Use of Modeling and Documentation

Use artifacts to clarify or support questions:

- **Use Cases & Use Case Specifications** help understand user interactions.
- **Activity Diagrams** illustrate workflows.
- **Models** (like ER diagrams, data flow diagrams) provide structure.
- **Page Designs / Wireframes** visualize the interface.

6. Open-Ended vs. Closed Questions

- Use **open-ended questions** to explore ideas and uncover details.
- Use **closed questions** to confirm facts or decisions.

Summary Checklist for BA Before Framing Questions:

- Am I clear on **what** info I need and **why**? (5W1H, SMART)
- Does the question suit the stakeholder's role? (RACI)
- Does the question consider the technical context? (3-tier architecture)
- Can I refer to/use visual models or documentation to clarify?
- Is the question open enough to encourage discussion but focused enough to avoid ambiguity?
- Is the language simple, clear, and jargon-free (unless the stakeholder is technical)?

Q5. Elicitation Techniques (BDRFOWJIPQU)

Initial	Technique	Description
B	Brainstorming	Group sessions designed for collaborative idea and solution generation.
R	Requirements Workshops	Facilitated sessions with stakeholders to gather and validate requirements effectively.
W	Workshops	Interactive meetings for in-depth exploration of requirements and processes.
J	Joint Application Development (JAD)	Structured workshops that bring together users and developers to build consensus.
F	Focus Groups	Group discussions with targeted users to gather detailed feedback.

D	Document Analysis	Reviewing existing documentation to extract relevant information.
I	Interviews	One-on-one or group discussions to collect detailed insights from individuals.
Q	Questionnaires/Surveys	Collecting information from a broad audience using structured questions.
O	Observation	Watching users perform tasks to understand workflows and identify pain points.
P	Prototyping	Creating mock-ups or models to visualize and refine requirements.
U	User Stories	Gathering requirements in the form of user-centered narratives, particularly in Agile projects.

Q6. This project Elicitation Techniques

Ans: Explanation of **which elicitation techniques** would work best, **why**, and how they fit this project:

Recommended Elicitation Techniques for This Project

1. Prototyping

- The project involves a **web-based application** where user interaction (login, product catalog browsing, search, payment, and delivery tracking) is critical.
- Prototyping helps stakeholders **visualize the user interface and workflows** early.
- It encourages feedback on UI design, usability, and functionality before actual development.

How it fits here:

- You can create **wireframes or mock-ups** of the login page, product catalog, search bar, payment gateway, and order tracking pages.
- Stakeholders (farmers, manufacturers, and internal users) can interact with prototypes, improving requirement clarity and preventing misunderstandings.

2. Use Case Specifications

- The requirements involve **distinct user roles and their interactions** (farmers

browsing/searching, manufacturers uploading products, order processing).

- Use cases provide **structured descriptions** of how different users interact with the system.
- They help capture detailed functional requirements and business rules clearly.

How it fits here:

- You can define use cases like:
 - **Farmer browses and searches products**
 - **Manufacturer uploads product details**
 - **User registration and login**
 - **Payment processing with multiple options**
 - **Order confirmation and delivery tracking**
- These use cases will guide the development and testing teams.

3. Document Analysis

- If any **existing documentation** is available from SOONY or manufacturers (e.g., catalogs, product lists, previous system specs), this will speed up understanding.
- Analyzing existing documents helps **validate and complement information gathered from interviews**.

How it fits here:

- Review any current product catalogs, pricing lists, and previous project documents to identify existing workflows or constraints.
- Analyze manuals or process documents related to payments or delivery tracking.

4. Brainstorming

- Stakeholders have diverse ideas about features (login, search, payment, order tracking).
- Brainstorming sessions promote **collaborative idea generation and prioritization**.
- It uncovers hidden needs or innovative features beyond initial requirements.

How it fits here:

- You can hold brainstorming sessions with the key stakeholders (Peter, Kevin, Ben) and technical team to:
 - Explore additional features or improvements.
 - Discuss integration options for payment gateways.
 - Identify possible risks or usability issues.

Justification Summary

Technique	Why It's Suitable	How It Helps Project
Prototyping	Visualizes UI/UX early, reduces rework	Confirms user interface and workflow design
Use Case Specs	Captures detailed user interactions & business logic	Provides clear functional requirements

Document Analysis	Leverages existing info to fill knowledge gaps	Ensures comprehensive understanding of product & process details
Brainstorming	Encourages stakeholder collaboration & innovation	Uncovers additional needs and aligns priorities

Business Requirements from Scenario

- **BR001:** Farmers should be able to search for available products in fertilizers, seeds, and pesticides.
- **BR002:** Manufacturers should be able to upload and display their products in the application.
- **BR003:** Users (farmers, manufacturers) must be able to register, log in, and manage accounts securely.
- **BR004:** The system should support multiple payment options (COD, Credit/Debit, UPI).
- **BR005:** Users must receive email confirmations and be able to track deliveries via a delivery tracker.

Q7: 10 Business Requirements

Ans: Below are the suitable assumptions and detailed business requirements for the project:

Assumptions

1. The application is a web-based platform accessible by manufacturers and farmers.
2. Users include fertilizer, seed, and pesticide manufacturers and farmers as end-users.
3. The system will support multiple user roles with role-based access.
4. Manufacturers will upload product details, including descriptions, prices, and images.
5. Farmers can browse, search, and purchase products.
6. Payments will be processed through integrated payment gateways supporting COD, Credit/Debit cards, and UPI.
7. The system will send automated email notifications for order confirmation and updates.
8. Delivery tracking will be integrated with third-party courier systems.
9. The project will follow a 3-tier architecture separating presentation, business logic, and data storage layers.
10. User authentication will be secure, using email and password with options for account creation and password reset.

Business Requirements

ID	Requirement Description
BR001	The system shall allow manufacturers to register and create their profiles securely.

BR002	Manufacturers shall be able to upload and manage product details including name, category, price, and images.
BR003	Farmers shall be able to browse a catalog of fertilizers, seeds, and pesticides without requiring login.
BR004	Farmers shall be able to search for products using keywords, filters, and categories.
BR005	Users (farmers and manufacturers) shall be able to register, log in, and securely manage their accounts.
BR006	Farmers shall be able to add products to a cart or a “buy-later” list after logging in.
BR007	The system shall provide multiple payment options, including Cash on Delivery (COD), Credit/Debit card, and UPI.
BR008	Upon successful order placement, users shall receive an email confirmation with order details.
BR009	The system shall provide a delivery tracking feature to update farmers on the current status of their orders.
BR010	The platform shall ensure data security, including secure password storage and protection against unauthorized access.
BR011	The system shall allow farmers to reset their password through a secure process if forgotten.
BR012	The system shall log all transactions and user activities for audit and troubleshooting purposes.

Q8. Assumptions

1. The project is a **web-based application** accessible via browsers on desktops and mobile devices.
2. The main users of the system are **fertilizer, seed, and pesticide manufacturers**, and **farmers**.
3. There are **different user roles** (manufacturers and farmers) with role-based access and permissions.
4. Manufacturers are responsible for **uploading and maintaining product information** like descriptions, prices, and images.

5. Farmers can **browse and search the product catalog** without logging in but must log in to purchase or save products.
6. The system will support **user registration, login, and password management** (including password reset).
7. Payments will be processed via **multiple options**: Cash on Delivery (COD), Credit/Debit cards, and UPI.
8. Email notifications will be sent automatically for **order confirmation and status updates**.
9. Delivery tracking will be implemented, possibly by integrating with **third-party logistics or courier APIs**.
10. The application will follow **3-tier architecture** for better scalability and maintainability.
11. Data security measures such as **secure password storage and encrypted communications** will be in place.
12. The product catalog will be **categorized by product type** (fertilizers, seeds, pesticides).
13. The platform will have an **easy-to-use, intuitive UI** suitable for users with varying levels of technical expertise.
14. The project scope includes only **basic e-commerce features** related to product listing, search, purchase, and delivery tracking.
15. The system will maintain logs of user actions and transactions for auditing and troubleshooting purposes.

Q9. This project's Requirements Priority

Req ID	Req Name	Req Description	Priority
BR001	Product Search for Farmers	Farmers require the ability to effectively search for available products across categories such as fertilizers, seeds, and pesticides.	9 ▾
BR002	Product Display & Upload for Manufacturers	Manufacturers need to be able to upload and showcase their products within the application.	9 ▾
BR003	User Management	All users (farmers and manufacturers) must be able to securely register, log in, and manage their individual accounts.	10 ▾
BR004	Product Catalog Browsing	Farmers should be able to browse the product catalog even without logging in to the application.	8 ▾
BR005	Shopping Cart & Save for Later	After logging in, farmers must have the option to add products to a shopping cart or save them for later purchase.	8 ▾

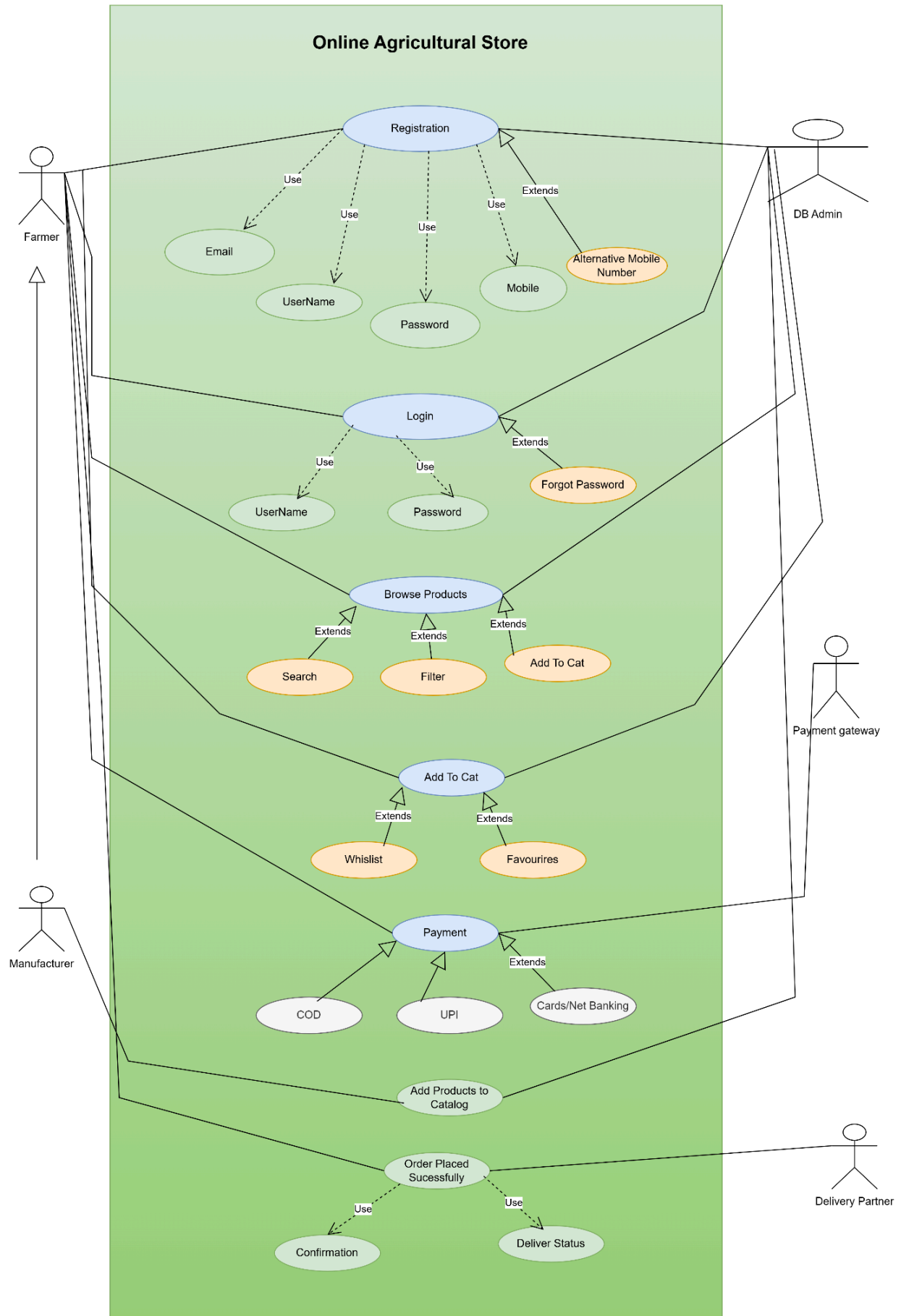
BR006	Diverse Payment Options	The system must support various payment methods, including Cash on Delivery (COD), credit/debit card transactions, and UPI payments.	10 ▾
BR007	Order Confirmation Notifications	Automated email confirmations should be sent to users upon successful order placement.	7 ▾
BR008	Delivery Tracking	Users need access to delivery status updates and a tracking mechanism for their orders.	8 ▾
BR009	Secure Password Management	The application must include secure password storage and a reliable password reset functionality.	8 ▾
BR010	Data Security & Auditing	Robust measures must be in place to protect user data, and all significant user actions should be logged for audit purposes.	9 ▾

Explanation of Priority Choices:

- **Highest priority (10)** is given to **user registration/login** and **payment processing** because they are critical to the system functioning securely and supporting transactions.
- **Search and upload products** (BR001 & BR002) are high (9) as they directly affect user experience and business operations.
- **Browsing catalog** and **adding to cart** (8) are essential but slightly less urgent than login and payment functionality.
- **Order confirmation emails** got a bit lower priority (7) since they are important but can be added after core functionality is stable.
- **Delivery tracking** and **password management** are important (8) for user satisfaction and security.
- **Data security & logging** is high priority (9) because of compliance and risk mitigation.

Q10 - Use Case Diagram

Ans: Below is the simple UseCase diagram for the online agriculture store:



Q11. Use Case Specs. (Minimum 5)

Use Case 1: Register / Login

- **Use Case ID:** UC01
- **Use Case Name:** Register / Login
- **Actors:** Farmer, Manufacturer
- **Description:** Users create an account or log in to access personalized features like ordering or product management.
- **Pre-conditions:** User has access to the application; user has a valid email address.
- **Basic Flow:**
 - User navigates to the registration/login page.
 - User enters email and password.
 - For registration, user provides required details and submits.
 - System validates inputs and creates user account (for registration).
 - System authenticates credentials (for login).
 - User gains access to the system.
- **Alternate Flows:**
 - 3a. User forgets password → Password reset process initiated.
 - 4a. Validation fails → User is prompted to correct errors.
- **Post-conditions:** User is authenticated and logged in or registered successfully.

Use Case 2: Search Products

- **Use Case ID:** UC02
- **Use Case Name:** Search Products
- **Actors:** Farmer
- **Description:** Farmer searches for products using keywords or filters, fertilizers, seeds, and pesticides without needing to log in.
- **Pre-conditions:** Products are available in the catalogue.
- **Basic Flow:**
 - Farmer enters search criteria.
 - System processes the query.
 - System displays matching products.
 - Farmer selects a product for more details.
- **Alternate Flows:**
 - 2a. No matching products found → System displays "No results found."
- **Post-conditions:** Farmer views search results.

Use Case 3: Add to Cart / Buy-Later List

- **Use Case ID:** UC03
- **Use Case Name:** Add to Cart / Buy-Later List
- **Actors:** Farmer (Logged In)
- **Description:** Logged-in farmers add products to the cart or save them for later purchase.
- **Pre-conditions:** Farmer is logged in; products are available.

- **Basic Flow:**
 - Farmer selects a product.
 - Farmer chooses to add product to cart or buy-later list.
 - System confirms the action and updates the user's cart or list.
- **Alternate Flows:**
 - 1a. Farmer not logged in → Prompt user to log in or register.
- **Post-conditions:** Products added to cart or buy-later list.

Use Case 4: Make Payment

- **Use Case ID:** UC04
- **Use Case Name:** Make Payment
- **Actors:** Farmer (Logged In)
- **Description:** Farmer completes payment using COD, credit/debit card, or UPI options.
- **Pre-conditions:** Farmer has products in the cart and is logged in.
- **Basic Flow:**
 - Farmer reviews cart and proceeds to checkout.
 - Farmer selects preferred payment method.
 - System processes payment or confirms COD option.
 - System sends order confirmation email.
- **Alternate Flows:**
 - 3a. Payment fails → System notifies farmer and prompts retry or alternative payment.
- **Post-conditions:** Payment processed and order confirmed.

Use Case 5: Receive Order Confirmation Email

- **Use Case ID:** UC05
- **Use Case Name:** Receive Order Confirmation Email
- **Actors:** Farmer
- **Description:** System sends email to farmer confirming order details.
- **Pre-conditions:** Order is placed successfully.
- **Basic Flow:**
 - System generates order confirmation email.
 - Email is sent to farmer's registered email address.
 - Farmer receives and reads email.
- **Alternate Flows:**
 - 2a. Email delivery fails → System logs failure and attempts resend.
- **Post-conditions:** Farmer is notified of order confirmation.

Use Case 6: Upload / Manage Products

- **Use Case ID:** UC06
- **Use Case Name:** Upload / Manage Products
- **Actors:** Manufacturer (Logged In)
- **Description:** Manufacturer adds new products or updates existing product details.
- **Pre-conditions:** Manufacturer is logged in.
- **Basic Flow:**
 - Manufacturer accesses product management page.
 - Manufacturer enters new product details or updates existing ones.

- System validates and saves product data.
- **Alternate Flows:**
 - 2a. Data validation fails → System prompts for corrections.
- **Post-conditions:** Product details updated in the catalog.

Q12 - Activity Diagrams(5 minimum)

Ans:

