**Q.1 Audits**

**What is an Audit -** An audit involves the review of records from various departments by an auditor, along with the physical verification of inventory, financial statements, and other documents, to ensure that all departments adhere to the established system for recording transactions.

**Quality audits during project progress:**  There will be internal as well as external audits conducted during the project progress as a part of the quality assurance procedure that may belong to any standards that the IT company may follow.

**What is business audit -** Analyzes how tasks are performed, how information flows, and how resources are used. This audit can help a business identify opportunities for optimization, improve productivity, and reduce costs.

**Q 1. Quarter1: -**

|  |  |
| --- | --- |
| Stage | Requirement gathering |
| Completed | 1-8 weeks |
| Checklist  | Requirement gathering & analysis |
|  | Elicitation results report. |
|  | BRD template |
|  | Grouping of functionalities- client sign off |
|  | Email communication- To, CC, BCC |
|  |  |

1) Requirements gathering and analysis have been done correctly.

2) Work is being planned and tracked.

3)What elicitation techniques have been used to gather requirements.

4) The BA understands the company's goals.

5) The BA understands the business requirements.

6)The BA conducted a stakeholder analysis.

 **Quarter 2: -**

|  |  |
| --- | --- |
| Stage | Requirement analysis phase |
| Completed | 6 weeks |
| Checklist | Functional requirements & business requirements |
|  | Use case & activity diagram (UML) |
|  | RTM document version control |
|  | Client sign off document |
|  | Email communication : To, CC, BCC |
|  |  |

1) How BA prepares functional requirements & business requirements.

2) How many tests cases BA has prepared.

3) Tracking record of use case and activity diagrams.

4) Is RTM is prepared before designing phase.

5)How many documents BA has prepared.

 **Quarter 3: -**

|  |  |
| --- | --- |
| Stage | Design phase |
| Completed | 12 weeks |
| Checklist | JAD sessions, MOM with stakeholders |
|  | Utilization of tools |
|  | Documented evidence on client communication |
|  | Timesheets |
|  | Email communication: - To, CC, BCC |
|  |  |

1) The requirements have been explained correctly to the development team.

2) The BA is tracking the project's status.

3)The BA organized a JAD session.

4)Timesheets are being sent to the reporting manager.

5)The BA is keeping stakeholders updated on the project's status.

**Quarter 4: -**

|  |  |
| --- | --- |
| Stage | Development phase |
| Completed | 12 weeks |
| Checklist | JAD sessions, MOM of meeting with stakeholders |
|  | Technical feasibility |
|  | End user manual preparation document |
|  | Email communication: To, CC, BCC |
|  |  |
|  |  |

 Coding Standards: Are coding standards being followed consistently?

 Code Reviews: Are regular code reviews conducted?

 Unit Testing: Is unit testing being performed to verify individual components?

 Integration Testing: Is integration testing being performed to verify the interaction of components?

**Quarter 5: - Testing**

|  |  |
| --- | --- |
| Stage | Testing phase |
| Completed | 20 weeks |
| Checklist | Test case summary |
|  | Training report to end users |
|  | Lesson learnt document |
|  | Email communication: To, CC, BCC |
|  |  |
|  |  |

1)The BA is assisting the Delivery Manager in implementing the product.

2)The BA is helping the client conduct the UAT.

3)The BA is organizing training sessions for the users.

4)The BA is obtaining a sign-off document from the client.

5)The BA is sending the completed timesheet to the reporting manager.

**Q. 2** **BA approach strategy**

The Business Analysis Approach is a structured plan designed by the senior or lead business analyst for a project. It details the execution of Business Analysis activities, including:

* Identifying resources for Business Analysis and defining their roles and responsibilities.
* Establishing a requirements-gathering strategy, including selected techniques and overarching plans.
* Developing effective stakeholder engagement methods.
* Defining processes for reviewing requirements and managing approval cycles.
* Setting an approach for handling changes to requirements and deliverables.
* Addressing additional factors such as team structure, assumptions, and constraints.

Following are the steps which needs to be followed as a Business Analyst to complete the project

**What elicitation techniques to apply:** There are several elicitation techniques to be used to elicit the requirements like Brainstorming, Document analysis, Reverse engineering, Focus groups, Observations, Workshops, JAD (Joint Application Development), Interviews, Prototyping, Questionary & Surveys.

For this project we’re going to use following elicitation techniques:

1. **Interviews** -We will be conducting interviews with every stakeholder to gather the requirements to complete the project.
2. **Workshops** - We will conduct focused workshops with key stakeholders and subject matter experts (SMEs). These workshops will be used for planning, analysis, design, scoping, requirements gathering, modeling, and other related activities. They will also help us generate new feature ideas, reach agreements, and review requirements and designs.
3. **Surveys & questionnaires-**There will be Surveys or Questionnaires sent to all the Stakeholders and SMEs, which will include multiple range of open and closed ended questions, which will extract the information about the desired product, work practices and behavioral attitudes etc.

**How to do stakeholder analysis**

Stakeholder analysis helps to identify the stakeholders involved in a project and their roles and responsibility. RACI matrix is useful tool for stakeholder analysis, which defines the roles & responsibilities of stakeholders in a project.

Stakeholder Analysis involves Identifying the Stakeholders who will be directly or indirectly impacted by the change and analyzing the information once collected.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task** | **Mr.Henry (Sponsor)** | **Mr. vandanam-project manager** | **Peter, kevin, Ben- key stakeholders** | **Mr karthik -delivery head** | **Ms Juhi- Sr. java developer** | **Mr. Tyson, tucker, Ms, Lucie- java developers** | **Mr. Jason, Ms Alkeya- Tester** | **BA** |
| **Requirement gathering** |  | **I** | **C** |  |  | **A** |  | **R** |
| **Analysis** |  | **I** |  |  |  |  |  | **R** |
| **Development** |  | **I** |  |  | **A/C** | **R** |  |  |
| **Testing** |  | **I** |  |  | **I** |  | **R** |  |
| **Implementation** |  | **I** |  | **R** | **I** |  |  | **C** |
| **UAT** | **I** | **R/A** |  |  |  |  |  |  |

R-Responsible

A-Accountable

C-Consultant

I-Informed

S-Supporting

**What documents to write:**

1.Business requirement document (BRD)
2. Functional requirement document (FRD)
3. Functional requirement specifications (FRS)
4. Software/system requirement specifications (SRS)*.*
5. Use case documentation Use case diagram-
6. Test Case documents- Guidebook to the test cases

**What process to follow to sign off on the documents:**
Once above documents are prepared, we’ll take the sign off on above documents via E-mails and physical sign off as well from the client
Sign off to be taken on SRS it is the primary and important document. Sign off can be taken by using E-mail confirmation from client.

**How to take approvals from the client:** We can establish a formal meeting with the clients to keep them informed and get continuous feedback. Or by calling them(client) and send an email with the details.

**What communication channels to establish n implement:**Regular meetings- weekly status meetings, bi-weekly sprint reviews and monthly stakeholder updates.

Face to face communication- For requirement gathering

Video conferencing

Phone calls & Emails- To take an approval from stakeholders

**How to handle change requests:**
As a BA I would handle the Change request by understanding the below steps.
(a) Understanding the Scope of Change.
(b) Determining the Scope of Incorporating the Change request.
(c) Understanding the Feasibility of the Change request.
(d) Taking the approval for the Change.
(e) Communicating and Implementing the Change.

**How to update the progress of the project to the stakeholders:**
Establish regular meeting with the stakeholder to update the status of the project.
Utilize online collaboration tools to share regular progress.
Send out weekly or bi-weekly status reports.
Develop a follow up meeting with actively involved Stakeholders.

**How to take signoff on the UAT- Client Project Acceptance Form:**
Conclude the project sign-off by drafting a concise report for stakeholders and executives. Summarize the project's alignment with the original plan, highlight any encountered risks or issues, and provide an overall assessment of the project's success.

**Q. 3 Explain and illustrate 3-tier architecture**



This divides the application into 3 logical layers-
**1. Application layer (Client tier):** Topmost layer of the architecture also known as Presentation layer. It handles user interface (UI) components such as screens, pages.
This layer is also called Client layer and is responsible for accepting inputs or requests from the user and displaying data for the user in a user-friendly format. It accepts inputs and sends the inputs or request to the business logic layer. Ex- E- commerce website.
All user interface will be visible on the screen in the Client layer, Ex: Application Name, Login username and password, Product list, new user registration, new arrivals.
In this layer GUI like screens & pages, validations on pages, organization specific business logic will be on the application layer.

**2. Business Logic Layer:** It is middle layer of the architecture acts as an intermediary between the presentation layer and the data storage layer. It contains the core logic of the application.
This layer is also called Business Logic Layer and helps define solutions to complex business problems. It acts as a middle layer between the client and the database server which are used to exchange partially processed data.
Reusable components or changing rules and regulations are included in the Business Logic layer, Ex: GST, Multiple payment options etc.
Ex- Printer, payment gateways.
All reusable components (logic pertaining to industry), frequently changing components, governing body rules and regulations, compliance should go to middle layer.
Ex- printer, payment gateways, mail servers, RBI rules of banks, IRDA rules for insurance etc.

**3. Database layer:** Bottom most layer of the architecture responsible for storing and retrieving data.
In this layer the data or information is stored. This layer performs operations like insert, update and delete to connect with the database.
Ex- MySQL, Oracle database.

**Q. 4 BA Approach Strategy for Framing Questions.
(5W 1H – SMART – RACI – Use Cases, Use case Specs, Activity Diagrams)**

The **5W1H** framework is a useful tool for gathering information and understanding a situation by answering questions about who, what, when, where, why and how.

If we need exact consistent requirements then probe in these directions like where, why, what, who, when and How

* What is the objective or purpose?
* What are the project requirements?
* Who are the stakeholders involved?
* When should the project start and end?
* Where will the product or service be used?
* Why is the project important?
* How will the objectives be achieved?
* How much will it cost?

**SMART** is a set of criteria for setting goals in business analysis. The **SMART** technique can help in creating questions (Specific, measurable, Attainable, relevant & Time Bond) SMART - Confirm the requirement is SMART before accepting it for development.

* Specific - Well & Clearly define the requirement or objective with precise details.
* Measurable- With specific criteria that measure your progress toward the accomplishment of the goal. The questions are better to be quantified and countable.
Ex. Multiple Choice questions.
* Attainable – Does the question contribute to the development of new or enhanced feature packages?
* Relevant - Within reach, realistic, and relevant to goal (Relevant – Does the question identify which features are most required from the customer.)
* Time Bond - With a clearly defined timeline, including a starting date and a target date. It can let you or your customer decide priority in a specific time frame.

**RACI** charts help define and clarify roles and responsibilities within a team by outlining who is responsible, accountable, consulted and informed for each task.

**Responsible** – The person who does the work to achieve the task. They have responsibility for getting the work done or decision made. The persons responsible are typically working-level project team members, such as the project manager, business analyst and developers. o **Accountable** – The person who is responsible for the correct and through completion of the task. They are responsible for ensuring the work is complete and suitable.
**Consulted** – People from whom feedback and input should be solicited. They are going to provide information for the project and with whom there can be two-way communication. **Informed** – People kept informed of progress by keeping them in loop. These individuals do not have to be consulted or be a part of the decision making.

**Use Cases:**

 This interaction will be initiating distinct business function called a use case and is shown with ellipse symbol.

* Product Definition: What specific product are we creating?
* Deployment Scope**:** Where will the application be deployed and used?
* Timeline: When is the project expected to be completed?
* Team Roles**:** Who are the individuals or teams responsible for each aspect of the project?
* Product Purpose: What is the intended use or value proposition of this product?
* Delivery Method: How will the project be delivered (e.g., Agile, Waterfall, etc.)?

This gives
Clarity**:** Rephrasing for better understanding and conciseness.
Professionalism**:** Using more formal and precise terminology.
Structure**:** Organizing the questions into a more logical flow.

**Use Case Specifications**

* Key Users**:** Identify the primary and secondary users (actors) who interact with the system.
* User Objectives**:** Define the goals and objectives that each actor aims to achieve through the system.
* Core Functions**:** Outline the primary tasks and functions that are performed by the system to support the actors' goals.

**UML** or Unified Modeling Language is a standardized way of diagramming and modeling software system to aid in design, development and communication between team members.

 **Activity diagrams**

Activity diagrams are like flowcharts that show the order of actions in a system. They use pictures to make it easy to understand how things happen. I
It's a visual way to understand how a system or process works.

**Question 5 – Elicitation Techniques (BDRFOWJIPQU)**

1. **Brainstorming:** This technique is used to generate new ideas and find a solution for a specific issue. The members included for brainstorming can be domain experts, subject matter experts. Multiple ideas and information give us a repository of knowledge and we can choose from different ideas.Brainstorming can be done either individually or in groups. The ideas collected can then be reviewed and relevant included within system requirements.
Brainstorming can be an effective way to generate lots of ideas on a specific issue and then determine which idea is the best solution. Brainstorming is most effective with groups of 8-12 people and should be performed in a relaxed environment.

1. Prepare for brainstorming
* Develop a clear and concise definition of the area of interest.
* Determine a time limit for the group to generate ideas, the larger the group, the more time required.
* Decide who will be included in the session and their role-participant or facilitator. Aim for participants who represent a range of background and experience with the topic.
* Establish criteria for evaluating and rating the ideas.

2. Conduct brainstorming session

* Share new ideas without any discussion, criticism or evaluation
* Visibly record all ideas.
* Don’t limit the number of ideas as the goal is to elicit as many ideas as possible within time limit.

3. Wrap-up brainstorming

* Once the time limit is reached, using the predetermined evaluation criteria, discuss and evaluate the ideas.
* Create a condensed list of ideas, combine ideas where appropriate and eliminate duplicates.
* Rate the ideas. There are many techniques that can be used to prioritize the ideas like multi-voting.
* Distribute the final list of ideas to appropriate parties.

**2) Document Analysis:** During this step of the requirements elicitation process, business analysts review existing documentation at hand, with the intent of identifying requirements for changes or improvements. Examples of document analysis sources include pre-existing project plans, system specifications, process documentation, market, customer feedback, meeting minutes, and user manuals. Document analysis is performed before scheduling more in-depth requirements elicitation sessions or interviews with stakeholders.Document analysis is an important gathering technique. Evaluating the documentation of a present system can assist when making AS-IS process document and also when driving the gap analysis for scoping of the migration projects.
Document analysis is one of the compulsory elicitation techniques for any project.

**3)Reverse engineering:**  In this Technique, any outdated documentation in an existing system, can be reversed to understand what the system does. This is an elicitation technique that can extract implemented requirements from the system.
In situation 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 types of reverse engineering techniques.
**i. Black box** reverse engineering: The system is studied without examining its internal structure (function and composition of software).
**ii. White box** reverse engineering: The inner workings of the system are studied (analyzing and understanding of software code).
Reverse engineering usually done for Migration Projects. (A **migration project** involves transferring data, applications, or systems from one environment to another)

**4) Focus Groups:** By using a focus group, you can get information about a product, service from a group. The Focus group includes subject matter experts. The objective of this group is to discuss the topic and provide information. A moderator manages this session.

**5) Observation:** Observation is a great way to figure out what people need. By watching how people work and how their work environment is set up, we can understand their needs better. For example, a business analyst can observe how people do their jobs to understand their work processes.

**6) Workshops:** Workshops comprise a group of users or stakeholders working together to identify requirements. A requirement workshop is a structured way to capture requirements. Workshops are used to scope, discover, define, and prioritize requirements for the proposed system.
Advantages- Faster than a group interviews for obtaining requirements, particularly for common or system wide requirements.
Disadvantages- More preparation is needed. Running or facilitating workshops requires more skill, with possibly extra IT person recording requirements/details. It can be difficult to get requirements particularly at the start of the workshop.

**7) JAD (Joint Application Development):** The JAD technique is extended, facilitated workshop. It involves collaboration between stakeholders and system analyst to identify needs or requirements in a concentrated and focused effort.
JAD process steps:

Define Session: Define the purpose, scope, and objectives of the JAD session, selecting the JAD team, invite and obtain commitment to attend sessions from the appropriate stakeholders, and schedule the session. It is important to obtain management commitment to support the process and identify the appropriate stakeholders.

Research Product: Become more familiar with the product or service, gather preliminary information, obtaining any models.

Prepare: Prepare any visual aids, developing a realistic agenda, training the recorder, and preparing the meeting room.
Conduct session: Follow agenda to gather and document the project needs and requirements. It is important to ensure all participants are given equal treatment during the process.
Draft the documents: Prepare the formal documents. The information captured in the JAD session is further refined through analysis, efforts, open questions or issues discovered through the sessions are resolved and the final document is returned to stakeholders for review and validation.
Roles: The JAD team is the very heart of the JAD process and the selection and inclusion of stakeholders are critical to the overall success of JAD session. The team should consist of a mixture of skills from variety of individuals. The participants may include Business process owners, operations managers, client representatives, BA, End users, Business managers, Data Administrators, System analyst, IT specialists, HR representatives and trainers.

**8) Interview:** An interview is a systematic approach to elicit information from a person or group of people. This is the most common technique used for requirement elicitation. Interview techniques should be used for building strong relationships between business analysts and stakeholders. In this technique, the interviewer directs the question to stakeholders to obtain information. One to one interview is the most commonly used technique.

**9) Prototype:**  Prototyping is used to identify missing or unspecified requirements. In this technique, frequent demos are given to the client by creating the prototypes so that client can get an idea of how the product will look like. Prototypes can be used to create a mock-up of sites, and describe the process using diagrams

**10) Questionnaire:** For Survey/Questionnaire, a set of questions is given to stakeholders to quantify their thoughts. After collecting the responses from stakeholders, data is analyzed to identify the area of interest of stakeholders. Questions should be based on high priority risks. Questions Cont. to Next page should be direct and unambiguous. Once the survey is ready, notify the participants and remind them to participate

**11) Use case specs:** Use cases are an effective and widely used technique for eliciting software requirements. The use-case approach focuses on the goals that users have with a system, rather than emphasizing system functionality. This technique combines text and pictures to provide a better understanding of the requirements. The use cases describe the ‘what’, of a system and not ‘how’. Hence, they only give a functional view of the system. The components of the use case design include three major things – Actor, use cases, use case diagram.

**Question 6 – This project Elicitation Techniques**

As a BA I would prefer to use below elicitation techniques:

**Interview:** Interviews with the stakeholders(farmers) in remote areas can provide valuable insights into their current challenges, purchasing behaviors, technology literacy, and expectations for an online platform.
Interview questions can focus on their preferred product categories, desired features (e.g., product information, payment options, delivery options), and pain points in the current procurement process.

Suppliers: Interviews with suppliers can help understand their logistical capabilities, pricing strategies, and preferred methods of communication and order fulfillment.
Gathering their perspectives**:** Understanding their concerns and expectations regarding the platform, such as commission rates, order processing timelines, and competition

**Brainstorming:** Brainstorming is a great way to come up with lots of ideas to make the online store better for farmers and everyone else who uses it. We can then choose the best ideas to actually use.
Brainstorming works best when you have a group of 8 to 12 people. This gives you lots of different perspectives and helps you get many ideas from users and people involved in the project.

**Prototyping: Prototyping** is an excellent elicitation technique for this case study because it allows stakeholders—such as farmers, suppliers, and the project committee—to **visualize the system early** and provide valuable feedback. Given that many farmers may have limited technical knowledge, seeing a working model rather than just discussing abstract requirements can help bridge the gap between their needs and the system's capabilities.

**Question 7 – 10 Business Requirements (which include stakeholder requirements)**

Business requirements are the specific needs or conditions that a business must meet to achieve its objectives.
High level requirements so that business must need to achieve its objectives.

BR001 - Farmers should be able to view product details including price, availability, and specifications.
BR002- Suppliers should be able to add, update, and remove product listings.

BR003 – All users should able to register with minimal effort using mobile numbers or E-mail id.
BR004- Once user login they should be able to add their address and required details to place the order.
BR-005-User must be able to browse through the product catalogue.
BR-006-User/farmer should be able to place the order easily via website or application.
BR-007-There should be add to cart and buy now option.
BR-008- Supplier/manufacturer should get the notification to fulfil the desired requirement.
BR-009- User should have save it for later or wishlist option so that they can buy later.
BR-010- User should have easy payment gateway. They should have option to choose their payment method UPI, credit or debit card, cash on delivery.
BR-011- User should be able to track their order.
BR-012- User should get an email once the order is confirmed.
BR-013-User should be able to cancel or return the product.
BR-014-Use should have an option to rate the product & give feedback.

**Question 8 –Assumptions-**

What all the possibilities we can take to complete the project.

* User and supplier should have basic technical knowledge to navigate application/website.
* Farmers in remote area have stable internet access.
* They should have active E-mail address.
* They should have active registered mobile number.
* Suppliers should maintain stock level to fulfil the orders
* Delivery service should be available to remote areas
* Online platform should have adequate security features to protect user data and privacy.

**Question 9 – This project Requirements Priority -**

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Req Name | Req description | Priority |
| BR001 | Farmer search product | Farmers should be able to view product details including price, availability, and specifications. | 9 |
| BR002 | Suppliers’ product listing | Suppliers should be able to add, update, and remove product listings. | 8 |
| BR003 | User login | All users should able to register with minimal effort using mobile numbers or E-mail id. | 9 |
| BR004 | User add details | Once user login they should be able to add their address and required details to place the order. | 9 |
| BR005 | user browse through catalogue | User must be able to browse through the product catalogue. | 8 |
| BR006 | Add to cart | There should be add to cart and buy now option. | 8 |
| BR007 | Supplier gets notify | Supplier/manufacturer should get the notification to fulfil the desired requirement | 8 |
| BR008 | Wishlist option for users | User should have save it for later or wishlist option so that they can buy later. | 7 |
| BR009 | Easy payment gateway | User should have easy payment gateway. They should have option to choose their payment method UPI, credit or debit card, cash on delivery. | 9 |
| BR010 | Orders tracking | User should be able to track their order. | 7 |
| BR011 | Cancel & return option | -User should be able to cancel or return the product. | 8 |
| BR012 | Rating and feedback | Use should have an option to rate the product & give feedback. | 6 |

**Question 10 – Use Case Diagram**

Use case diagram is a visual representation of the interaction between users(actors) and a system (MS Visio) or draw.io
Include=mandatory
Extend= may or may not be (in case of use case/ supporting use case)
Generalization- empty

**Question 11 – (minimum 5) Use Case Specs**

A use case specification document which provides a detailed description of a use case outlining how users (actors) will interact with the system to achieve a specific goal.
**1. Registration**

|  |  |
| --- | --- |
| **Name of Use Case:** | **User registration /Login** |
| **Created By:** | **Priya Pandit** | **Last Updated By:** |  |
| **Date Created:** | xyz | **Last Revision Date:** | xyz |
|  |  |
| **Description:** | How user register and login into online agricultural store. |
| **Actors:** | Farmers, Supplier, Admin |
| **Preconditions:** | 1. User should have active email address/phone number.
2. User should have laptop or android cellphone.
3. Farmers and supplier should have stable internet connectivity.
 |
| **Postconditions:** | 1. The user id has been successfully completed
2. The details updated in log accordingly.
 |
| **Basic Flow:** | **Use** **case** **Begins** – When a new user starts register himself with the user details. **1.** User enters user details: Name, Address, Mobile number, and Email ID.**2.** Application displays option to send OTP to mobile for mobile verification. **3.** User sends OTP to the mobile number.**4**. User enters OTP received. **5**. Application displays OTP verified. **6**. User validation performed. **7**. Application displays User created successfully. Use case Ends |
| **Alternative Flows:** | **1. Invalid OTP**: If the user enters the incorrect OTP. **Display Msg**: Please enter the correct OTP. **2. Mobile number already used**: In this case, if the user enters the mobile number which is already in use, which means that the user is already a registered user. **Display** **Msg**: Mobile number is already in use. Please enter the correct mobile number.**3. Email address is already used:** If the user enters the email address which is already used to register, which means that the user has already a registered user. **Display Msg**: Email address is already in use. Please enter the correct Email address. **4. User ID not available:** If the user enters the User ID which is already used, then the application gives the below message. **Display Msg**: User ID already used. Please enter another user id. **5. Server issue:** If the user not able to create the user id, when the server breakdown. **Display Msg**: Server busy. Please try again later. |
| **Requirements:** | The application must record all completed and incomplete transactions, including the date and time. |

**2. Search Product**

|  |  |
| --- | --- |
| **Name of Use Case:** | **Product searching** |
| **Created By:** | **Priya Pandit** | **Last Updated By:** |  |
| **Date Created:** | xyz | **Last Revision Date:** | xyz |
|  |  |
| **Description:** | This describes how user can search for specific product. |
| **Actors:** | Farmers/user |
| **Preconditions:** | **1**. User must be logged in to the system.**2**.User should have basic knowledge of technology. |
| **Postconditions:** | Successful completion: User can see desired product or alternatives. |
| **Basic Flow:** | **Use case Begins** – when the user search for the product**1**.The farmer enters the search query or selects a category (e.g., fertilizers, seeds, pesticides).**2**. The system retrieves matching products from the database.**3**. The results are displayed to the farmer with details like name, price, and availability.**4**. The farmer selects a product to view more details**Use case Ends** |
| **Alternative Flows:** | If no products match the search criteria.**Displays Msg:** "No results found" and suggests related categories. |
| **Requirements:** | The application shall keep a log, Including date and time, of all complete and incomplete searches. |

**3**. **Payment process**

|  |  |
| --- | --- |
| **Name of Use Case:** | **Payment process** |
| **Created By:** | **Priya Pandit** | **Last Updated By:** |  |
| **Date Created:** | xyz | **Last Revision Date:** | xyz |
|  |  |
| **Description:** | This describes How payment is done by user to place an order. |
| **Actors:** | Farmers/user, Bank |
| **Preconditions:** | **1**. user should have active bank account.**2**.User should have active mobile number linked to bank to receive OTP |
| **Postconditions:** | Successful completion: payment is completed & order placed successfully. |
| **Basic Flow:** | **Use case Begins** – when the user initiates the payment after the selection of the product. **1**. User validation performed. **2**. Application displays multiple options to Pay by Credit card, Debit card, Net Banking, and UPI. **3**. User has option to pay by Credit card, Debit card, Net Banking, UPI **4**. User selects the Payment mode and fill the details.**5**. Application displays Payment completed. **6**. User receives email and SMS with the Order completion. **Use case Ends** |
| **Alternative Flows:** | **1**. Incorrect Card details: If the user enters incorrect Card details. User receives SMS from Bank about Payment failure due to incorrect card details entered. **Display Msg**: Payment not completed. **2**. Incorrect OTP: If the user enters incorrect OTP. **Display Msg:** Payment declined. Incorrect OTP entered. **3**. Insufficient Funds: Payment got declined due to insufficient funds. **Display Msg:** Payment declined. User receive SMS from Bank confirming the Payment declined due to insufficient funds. **4**. Server Busy: Payment didn’t complete due to Server busy. **Display Msg:** Payment not completed. Server Busy. Please try again. |
| **Requirements:** | The application shall keep a log, Including date and time, of all complete and incomplete transactions. |

**4**. **Order placement**

|  |  |
| --- | --- |
| **Name of Use Case:** | **Payment process** |
| **Created By:** | **Priya Pandit** | **Last Updated By:** |  |
| **Date Created:** | xyz | **Last Revision Date:** | xyz |
|  |  |
| **Description:** | This describes how to place an order on online agricultural product store. |
| **Actors:** | Farmers/user |
| **Preconditions:** | The farmer must have selected products and added them to the shopping cart. |
| **Postconditions:** | Successful completion: Oder successfully placed. |
| **Basic Flow:** | **Use case Begins** – when the user selects the product to place an order**1**.The farmer navigates to the shopping cart and reviews the selected products.**2**. The farmer confirms the order and provides delivery details.**3**. The system calculates the total cost, including any applicable taxes and shipping charges.**4**. The order is submitted to the supplier.**5.** The farmer receives an order confirmation.. **Use case Ends** |
| **Alternative Flows:** | If delivery details are incomplete/ invalid.**Display msg**: Fill the required field/ Valid info |
| **Requirements:** | The application shall keep a log, including date and time, and save the user’s details (address, number, email id). |

5.

|  |  |
| --- | --- |
| **Name of Use Case:** | **Delivery tracking** |
| **Created By:** | **Priya Pandit** | **Last Updated By:** |  |
| **Date Created:** | xyz | **Last Revision Date:** | xyz |
|  |  |
| **Description:** | This describes how to track the product which user has placed an order for. |
| **Actors:** | Farmers/user |
| **Preconditions:** | User must have placed an order. |
| **Postconditions:** | The farmer can monitor the order status until delivery is complete. |
| **Basic Flow:** | **Use case Begins** – when the user selects the product to place an order1.The farmer logs into the system and navigates to the "Track Order" section.2. The system displays the current status of the order (e.g., shipped, in transit, delivered).3. The farmer can view details such as the expected delivery date and tracking history.**Use case Ends** |
| **Alternative Flows:** | If the tracking information is unavailable**Displays Msg:** Check again later. |
| **Requirements:** | The application shall keep a log, including date and time, delivery instructions. |

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

**1. Login**



**2. Registration Page**



**3. Product Search**



**4. Order placement**



**5. Order Tracking**

