Problems:

1. Peter: he is facing difficulties in procuring fertilizers which are very important for farm.

2. Kevin: he is also facing the same problem in-case of buying seeds for farming certain crops.

3. Ben: raised his concern on lack of pesticides which could help in greatly reducing pests in crops.

Question: 1 - BPM

Goal: To bridge the Gap between farmers and Companies

Input: Products (Fertilizers, Seeds and Pesticides), Delivery Mode, Price of the product, Payment mode

Resources: Web Application/Mobile application, server, Internet

Output: Product Purchased, Delivered on Time

Activities: Farmers with their required Products, Increase of sales

Value: Farmers Satisfaction, Easy Accessibility to the products

Question: 2 - SWOT

Strength Product from the Companies Farmers Needs	Weaknesses Scarcity of Stock Reachability of Stock
Opportunities Industry Trend Change Business Development Increase in Production	Threats Risk of Project delay due to complex requirement Competitors from existing agri product market place

Question:3 - Feasibility Study

Hardware: Sustainable Server infrastructure to host the online store application

Software: Java can be used for developing the application

Trained Resources: Project Manager, Java Developer, Database administrator, network administrator and Business Analyst.

Budget: An Allocation of 2 Crores is already planned

Time Frame: Availability of Trained Resources, Depend on requirement Scope

Question: 4 - Gap Analysis

Current State

- Farmers Obtain Seeds, fertilizers, pesticides directly from local Suppliers, often at higher cost and with limited choice.
- Limited Information about product quality, pricing and supplier credibility.
- Physical travel required and it is causing delays

Desire State

- Farmers can order these products online via a central platform with competitive pricing and wide range of products
- Farmers view product details, compare prices, read reviews and choose best options online.
- Online ordering and home deliver can save time and effort.

Question: 5 - Risk Analysis

Internal Risks:

- Technical Issues and system downtime that can affect the customer experience
- Resource Availability (Java Developers, Testers or Admin)
- Team Communication Gap

External Risks:

- Rural Farmers may be unfamiliar with using online systems, leading to low adoption rates.
- Events such as floods or droughts may disrupt agricultural activities
- Fluctuations in the economy can affect user spending, project funding, or supply chain operations.

BA Risks:

Incomplete Requirement gathering

Stakeholder Miscommunication

User adoption challenges

Insufficient Validation

Project based risks:

Resource Availability

Budget Overrun

Timeline Delays

Third-Party Dependence

Question: 6 - Stakeholder Analysis (RACI Matrix)

RACI Matrix		
R/A/C/I	Name	Designation
Responsible	Mr. Henry	Sponsor
	Mr. Pandu	Financial Head
	Mr. Dooku	Project Coordinator
Accountable	Mr. Karthik	Delivery Head
	Mr. Vandanam	Project Manager
	Mr. Iftikhaar	Business Analyst
	Mr. Mike	Network Admin
	Mr. John	DB Admin
Consulted	Mr. Peter	Stakeholder
	Mr. Kevin	Stakeholder
	Mr. Ben	Stakeholder
Informed	Farmers	Stakeholder
	Manufacturing Company	Stakeholder

Question: 7 - Business Case Document

Project Initiated

Project was initiated by Mr. Henry to full the demand of the farmers in a remote village. This project was funded by SOONY company under CSR initiative.

Current Problems

Farmers of the remote village cannot find the suitable fertilizers, seeds, pesticides which is essential for agriculture process.

Problems could be solved

Farmers and the manufacturing companies of fertilizers, seeds, pesticides etc. can come in one platform by cutting the middle man. Solving this problem farmers can identify, choose, and buy the products in a discounted price in other hand companies will find the customer directly. So, the companies will be paid upfront which will help manage finance properly. so that, companies can produce more based on the demand.

Resources Required

Budget: 2 Crores INR

Duration of Project: 18 Months

1 Senior Java Developer

4 Java Developer

1 Network Admin

1 DB Admin

2 Testers

1 Business Analyst

Adoption required for this technology

Yes, the farmers and manufacturing companies will under go a basic technology adoption. which can be learned easily because the application will be user friendly.

Time frame to recover ROI

This project was CSR initiated by SOONY Company to fill the gap between the Farmers and manufacturing companies. This initiated was made for the welfare of farmers.

Identify Stakeholders

Mr. Peter, Mr. Kevin and Mr. Ben are the key stakeholders for this project they will share requirements. Other than we can consider other local farmers and manufacturing companies for this project.

Question: 8 - four SDLC Methodologies

Sequential Methodology

- Follows a step by step, ordered progression where each phase must be completed before the next begins.
- High degree of control and predictability.
- Straightforward management and scheduling.
- Simplifies progress tracking and milestone handling.
- Best used when requirements are clear and unlikely to change during the project.

Iterative Methodology

- Build the product through repeated cycles (“Iterations”) with each cycle improving or expanding on the previous version.
- Risk reduced by breaking down delivery.
- Facilitates early exposure to a working system or prototype.
- Requires careful version control and progress monitoring.

Evolutionary Methodology

- Delivers the system incrementally, focusing on rapidly producing a basic version and continuously evolving the system based on real user feedback.
- Maintains flexibility to adapt to new requirements or challenges
- May lead to unclear scope if not well managed
- Requires ongoing user involvement and engagement.

Agile Methodology

- Centres on adaptability, collaboration, and frequent delivery of usable software in small, cross-functional teams.
- Highly responsive to changing user or business needs
- Promotes close stakeholder engagement and team communication
- Delivers working increments quickly and regularly.
- Relies on disciplined, collaborative, and mature teams for success.

Question: 9 - Waterfall RUP Spiral and Scrum Models

Waterfall

- A traditional, linear methodology where the development process flows sequentially through distinct phases: Requirements, design, implementation, testing, deployment, and maintenance.
- Each phase must be completed before the next begins.
- Emphasizes thorough documentation and upfront planning.
- Changes are difficult and costly once a phase is finished.
- Projects with well-defined, stable requirements and low risk of changes

V Model (Verification and Validation Model)

- An extension of waterfall, structured in a “V” shape: development phases run down the left side, corresponding testing/validation phases run up the right side.
- Each development stage has an associated testing activity.
- Promotes early test planning and error detection
- Projects requiring high quality and reliability, where requirements are clear and validated early.

RUP (Rational Unified Process)

An Iterative and incremental framework that divides the project into four distinct phases: Inception, Elaboration, Construction and Transition.

- Encourages repeated cycles (Iterations), refining the product with each cycle.
- Emphasizes risk management, Stakeholder involvement, and regular delivery of completed increments.
- Supports creation of detailed artifacts and definition of clear roles and responsibilities.
- Large, complex projects needing disciplined approach and adaptability to changing requirements.

Spiral

A risk-driven, iterative methodology combining elements of both waterfall (structured phases) and iterative development (repetition and feedback).

- Repeats cycles(“spirals”), each with planning, risk analysis, engineering, and evaluation.
- Focuses on identifying and mitigating risks early and throughout the project.
- Incrementally evolves the system based on continuous stakeholder review and feedback
- High-risk, complex projects where frequent refinement is needed and requirements are uncertain or liable to change.

Agile

An adaptive, collaborative methodology that prioritizes flexibility, customer involvement, and rapid delivery through short iterations or sprints.

- Teams deliver functional product increments frequently, welcoming changing requirements even late in development.
- Emphasis on direct communication, working software, and frequent stakeholder feedback.
- Lightweight processes and less documents, focusing on evolving needs
- Projects with uncertain or changing requirements, fostering innovation and responsiveness through continuous feedback.

Question: 10 - Waterfall Vs V-Model

Aspect	Waterfall Model	V Model
Process Flow	Linear and sequential – flows step by step downward.	Also sequential, but shaped like 'V' – development on left side, testing on right.
Testing	Testing is performed only after development is complete	Testing is planned and done in parallel with each development phase.
Flexibility for Changes	Difficult to accommodate changes once the process has started	Testing is planned and done in parallel with each development phase.
Error Detection	Errors are detected late in the process	Errors can be found earlier because testing starts early.
Best Suited For	Project with clear, stable requirements.	Projects needing high quality and early test planning; when validation is important.

Question:11 - Justify your choice

As a Business Analyst, I would choose the V Model for this project because:

- The V model emphasizes validation and verification at every stage, ensuring that each development phase has a corresponding testing activity.
- This approach is suitable for projects where quality, correctness, and early error detection are crucial-important for farmers relaying on accurate, reliable product delivery.
- By integrating testing alongside development, the project can identify and fix requirements or design issues early, reducing costly fixes later and leading to better overall user satisfaction.

Question: 12 – Gantt Chart

Resources	Week 1	Week 10	Week 20	Week 30	Week 38	Week 48	Week 55	Week 65	Week 78
Project Manager	1								
Business Analyst	1								
Java Developer			5						
Tester				2					
DB admin	1								
Network Admin	1								

Question: 13 – Fixed Bid Vs Billing

Explain the difference between Fixed Bid and Billing Projects

Aspect	Fixed Bid Project	Billing Project (Time & Material)
Pricing	Total project cost is agreed upfront	Billed based on actual effort (hours/days) worked.
Scope	Well-defined and fixed at the start	Scope can be flexible and may change as needed
Risk	Supplier bears the risk of cost overruns	Client bears the risk, as costs depend on effort
Payment	Payment is usually milestone-based or lump sum.	Payment is periodic, according to effort spent.
Example Use	Suitable for project with clear requirements	Used for projects where requirements may evolve.

Question:14 - Prepare Timesheets of a BA in various stages of SDLC

1. Design Timesheet of a BA

S. No	Tasks	Actionable items	Start Time	End Time	Duration
1	Requirement Gathering	Conduct meetings with stakeholders	09:00	11:00	2 hrs
2	Requirement Documentation	Create BRD (Business Requirement Document)	11:15	13:00	1hr 45m
3	Requirement Validation	Review and validate with stakeholders	14:00	15:00	1hr 30m
4	Wireframe Support	Assist UX/UI in creating user-friendly designs	15:45	17:00	1hr 15m
Total					6hrs30m

2. Development Timesheet of a BA

S. No	Tasks	Actionable items	Start Time	End Time	Duration
1	Requirement Clarification	Support developers in understanding user requirements	09:30	11:00	1hr 30m
2	Change Management	Track and document change requests	11:30	12:30	1hr
3	Update Functional Specs	Update documents per development feedback	14:00	15:30	1hr 30m
4	Sprint Review Support	Join sprint reviews to ensure dev progress matches business needs	16:00	17:30	1hr 30m
Total					5hrs 30m

3. Testing Timesheet of a BA

S. No	Task	Actionable Items	Start Time	End Time	Duration
1	Test Case Review	Review test scenarios written by QA	09:00	10:30	1hr 30m
2	Business Logic Validation	Ensure tests align with requirements	11:00	12:30	1hr 30m
3	Defect Triage Meetings	Participate in defect prioritization with QA/dev	14:00	15:00	1hr
4	Regression Planning	Help identify scenarios for regression testing	15:30	16:30	1hr
Total					5 hrs

4. UAT Timesheet of a BA

S. No	Task	Actionable Items	Start Time	End Time	Duration
1	UAT Environment Prep	Coordinate UAT readiness with IT/infra team	09:00	10:00	1hr
2	User Training	Train end-users (Peter, Kevin, Ben)	10:30	12:30	2 hr
3	Test Case Validation	Review test results and validate against acceptance criteria	14:00	15:30	1hr 30m
4	Sign-Off Collection	Collect UAT sign-offs from committee	16:00	17:00	1hr
Total					5hrs 30m

5. Deployment & Implementation Timesheet of a BA

S. No	Task	Actionable Items	Start Time	End Time	Duration
1	Release Planning	Coordinate go-live plan with technical team	09:00	10:00	1hr
2	Go-Live Support	Monitor first use of app by farmers	10:30	12:00	1hr 30m
3	Feedback Collection	Collect farmer and stakeholder feedback	13:00	14:30	1hr 30m
4	Post Implementation Review	Conduct project retrospective	15:00	16:30	1hr 30m
Total					5hrs 30m