ANSWER 1

- **GOAL: To develop a user-friendly application to facilitate farmers to buy seeds, fertilizers, and pesticides easily.**
- **INPUTS: Trained employees, Manufacturers, Developers.**
- **RESOURCES: Warehouse, Developed application, Previous experience.**
- **OUTPUT: Sales report, Best quality products.**
- **ACTIVITIES: Incorporate excellent quality seeds, fertilizers and pesticides, Communication with farmers.**
- **VALUES CREATED TO THE END CUSTOMER: Farmers satisfaction, easily accessible application.**

ANSWER 2:

STRENGTHS: • Effective products • User friendly application • Customer acceptance • Inventory record	WEAKNESS: • Approval of farmers • Accessibility .
OPPORTUNITIES: • Employment • Customer collaboration • Finished product	THREATS: External factors, Customer satisfaction

ANSWER 3:

HARDWARE: Excellent network, Storage, Backups.

SOFTWARE: Content management system, Payment gateway software.

TECHNOLOGY: User interface, based on database servers, security.

RESOURCES: Project management team, Business Analysts, Software development team.

BUDGET: Cost for the project to be completed is two crores.

TIME FRAME: The time frame for the project is eighteen months.

ANSWER 4:

AS-IS STATE:

- **There is no crucial platform for farmers, difficulty in buying the most important products of farming like seeds, fertilizers and pesticides.**

TO-BE STATE:

- **An efficient and transparent application that helps the farmers.**
- **A faster and secured payment gateway for easy and hassle free transactions.**

ANSWER 5:

INTERNAL RISKS:

- **Quality issues**
- **Lack of expertise**

EXTERNAL RISKS :

- **Intense competition among other farmers**

BA RISKS

- **Incomplete requirements**
- **Lack of knowledge**
- **Changing requirements**

PROJECT BASED RISKS

- **Scope risks**
- **Cost acceptance**
- **Climatic changes**
- **Farmers acceptance over new products**

Answer 6

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ANSWER 7:

REASON FOR INITIATION:

- This project is initiated for the betterment of farmers.
- Farmers can connect directly with the company to buy products

CURRENT PROBLEMS:

- No existing platform for farmers to interact with the manufacturers.
- Least interaction between the manufactures and the farmers.
- Improper payment gateway

OUTCOME OF THE PROJECT:

- Bridge between the customers and manufacturers is achieved through this project.
- Hassle free methods for purchasing products.

RESOURCES REQUIRED:

- Project manager
- Business Analysts
- Software development team

ORGANIZATIONAL CHANGES:

- The project is completely new and requires inclusion of all the requirements needed by the farmers for easy access of the developed application.

TIME FRAME:

- ROI cannot be predicted as this depends on the number of users using the application.

IDENTIFY STAKEHOLDERS:

- Identification of stakeholders is done through conducting interviews and team meetings.

ANSWER 8 and 9:

SDLC METHODOLOGIES

1. *SEQUENTIAL-WATERFALL:*

   The most used methodology is the waterfall model. Also referred to as linear-sequential model life cycle model. Each phase is completed before the next phase

begins. At the end of each phase a thorough review is done to ensure if the project can proceed further. It includes the following steps:

REQUIREMENTS GATHERING:

Business Analyst and Project Manager form a Business Requirement Document (BRD).

REQUIREMENT ANALYSIS:

Business Analyst and Project Manager identify all the functional requirements.
Technical team identifies the non-functional requirements.
The team finally develops a Requirements Traceability Matrix.

DESIGN:

The technical team including Solution, Network and Database architects along with Graphical User Interface Designer develops a Solution Document.

DEVELOPMENT:

Development of the application is done by the developers and testers that forms a Legal Due Diligence (LDD) OR Customer Due Diligence (CDD).

TESTING:

Thorough testing is done to develop software with less errors.

DEPLOYMENT:

The code is now moved from the developing environment to production hub.
IMPLEMENTATION and DEPLOYMENT is done by Release Engineers.
MAINTENANCE: Overall bugs are fixed. Changes are made to achieve bug free Software.

2. *ITERATIVE:*

- The Rational Unified Process is an iterative software development process framework created by the Rational Software Corporation, acquired by IBM.

  Within each iteration, the tasks are categorized into 9 disciplines:
  Business modelling
  Requirements
  Analysis and Design
  Implementation
  Test
  Deployment
  Configuration and change management
  Project management
  Environment

PHASES in this life cycle include:

INCEPTION- Agreement among the team and customer as to what will be built.
ELOBARATION- Agreement within the team as to the architecture and design needed to deliver the agreed system behavior.
CONSTRUCTION- The iterative implementation of a fully functional system.
TRANSITION- Delivery, defect correction and turning to ensure customer acceptance.

3.SPIRAL:

- The Spiral model gives more emphasis on RISK ANALYIS.
- A software project repeatedly passes through all these phases in iterations called Spirals in this model.
- It has 4 phases.
- Planning: Requirements are gathered in the planning phase.
- Risk analysis: A Process is undertaken to identify risk and alternate solutions. A prototype is produced at the end of this phase.
- Engineering: Software is produced in the engineering phase along with testing at the end of the phase.
- Evaluation: The evaluation phase allows the customer to evaluate the output of the project to date before the project continues to the next spiral.
- In the spiral model, the angular component represents progress and the radius of the spiral represents cost.

ADVANTAGES:

- High amount of risk analysis
- Good for large and mission critical projects.
- Software is produced early in the software life cycle.

DISADVANTAGES

- Can be costly model to use
- Risk analysis requires high specific expertise
- Project's success is highly dependent on the analysis phase.

4.AGILE

- Agile can be implemented where faster delivery is required.
- It does not require any kind of documentation.
- The code itself acts as a document.

- AGILE follows Agile Manifesto that consists of 4 main values and 12 principles.

FOUR MAIN VALUES

- Individuals and interaction over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan.

TWELVE PRINCIPLES

- Satisfy the customer through early and continuous delivery.
- Welcome changing requirements.
- Deliver working software frequently.
- Businesspeople and developers must work together.
- Build projects around motivated individuals.
- Face to face conversations.
- Working software is the key measure of progress.
- Promotes sustainable development.
- Continuous attention on technical excellence
- Simplicity
- The best architecture, requirements and design emerge from self-organization team.
- At regular intervals, the team reflects how to become more effective.

Scrum has five phases:

1. Initiation

- Identifies stakeholders and assigns roles to each member of the team and determines epics to form a PRODUCT BACKLOG.

2. Planning and estimation

- To achieve the goal of product epic various actions and tasks are performed BY SCRUM TEAM as USERSTORIES.
- Tasks are broken down into unit called SPRINTS that takes 2 to 4 weeks to complete.
- Sprint planning is done, and the team decides on the USER STORY to work called SPRINT BACKLOG

3. Implementation

- This process includes execution of tasks and processes required to achieve goals.

- Scrum process performs the STANDUP meeting and BURNDOWN CHARTS are made.

4. Reviewing

This includes

- Sprint review
- Sprint retrospective
- Product backlog grooming
- Product retrospective

5. Releasing

- This process deals with project deliverables

ANSWER 10:

WATERFALL MODEL	V MODEL
- **Cost effective process**	- **Expensive process**
- **Testing activities start at the later stages**	- **Testing activities start with the initial stages**
- **Activities are performed in linear way.**	- **Activities are not performed in linear way**
- **Less customer involvement.**	- **Involvement of customers is more.**

ANSWER 11:

The project can be executed using Sequential methodology & V Model because of the following reasons:

- Since this is new project, the software is bugs free.
- Products developed can be tested at each phase.
- Increased transparency and customer collaboration.
- Efficient payment gateway.
- Faster delivery of products.
- Reduced risk of project failure.
- Customer retention.

METHODOLOGY OF V MODEL:

- The V-model processes pairing each development phase with a corresponding testing phase, focusing on early test planning and preventing errors.
- It suits projects with well-defined boundaries and ensures quality.

ANSWER 12:

Stages	Req Gathering	Req Analysis	Design	D1	T1	D2	T2	D3	T3	UAT
Resources	**Week 1**	**Week 10**	**Week 20**	**Week 30**	**Week 40**	**Week 50**	**Week 60**	**Week 65**	**Week 70**	**Week 72**
PM										
BA										
Developers										
Tester										
DB Admin										
Net. Admin										

ANSWER 13:

Fixed Bit

- Budget is 2crores.
- Allotted time is 18 months.
- User friendly application.
- API solutions provide resources to finish the project on time

Billing Project

- PM 1500rs per hour 18-month project is 360 working days 8 hours a day results in 43,20,000
- BA 1200rs per hour 360 days on project 34,56,000lacs
- DB Admin 900rs per hour 360 days on project 25,92,000lacs
- Network Admin 900rs per hour 360 days on project 25,92,000lacs

- Sr Java dev. 1000rs per hour 200 days on project 16,00,000lacs
- 4 developers 600rs per hour 200 days on project 38,40,000lacs
- 2 testers 600rs per hour 150 days on project 14,00,000lacs
- Billing cost for project is 1Cr 98 lakhs.

ANSWER 14:

REQUIREMENT GATHERING PHASE					
S.NUM	**TASKS**	**ACTIONS**	**START TIME**	**END TIME**	**DURATION**
1.	Identify stake holders	Meeting to list down the stakeholders	10:00 AM	11:00 AM	1 HOUR
2.	Client interaction	Provide the clients on the progress and collect the feedback	11:00 AM	1:00PM	2 HOURS
3.	Inputs for BRD Document	Requirements elicitation	2:00 PM	3:00 PM	1 HOUR
4.	Sorting requirements	Working on template	3:30 PM	4:30 PM	1 HOUR
5.	Team meeting	Discussion on day tasks	4:30 PM	7:00 PM	2.5 HRS
					7.5 hrs.