Capstone Project -1

Question 1) – BPM

Answer: A business process means a set of steps or tasks that help us reach a goal. It shows how work is done in a company.

Process Model for Online Agriculture Store -

1. Goal: Help farmers in villages to buy products like seeds, fertilizers, and pesticides using a mobile app or website.

2. Input: Product details (catalog) from the manufacture.

3. Resource: Internet connection, Mobile app or Website and Computers.

4. Output: Farmer chooses the product, Make the Payment, Product gets delivered & Invoice generated by online and offline.

5. Activities: Farmer chooses the requirement of product from the catalogue – Add to cart – Enter delivery address – Makes the Payment – Product gets delivered – Invoice will be generated by online & offline. (PRODUCT DETAILS WILL BE GIVEN BY MANUFACTURER)

6. End Value: Fast service, Customer satisfaction, easy buying and low prices because of direct contact with manufacturer.

Question 2) – SWOT

Answer: SWOT helps us understand Internal Factors Strength & Weakness and External Factors Opportunity & Threats.

SWOT Analysis:

1. Strengths

a) Direct link between farmer and manufacturer.

b) Product details are clear because they are directly from manufacturer.

c) Already established market but new version of entry and complete feasibility to farmers.

2. Weakness:

a) Poor internet connection in remote areas.

b) Not everyone knows how to use mobile apps or computer.

c) Some farmers may not trust online.

3. Opportunity:

a) Government supports digital farming.

b) Scope to expand more Agriculture materials.

4. Threats:

a) Government Schemes give free products.

b) Farmers may still prefer local shops.

Question 3) – Feasibility Study

Answer: A feasibility study helps us to check whether the project idea can be implemented successfully or not. In our Online Agriculture Store project, I checked different areas to confirm if the project is doable.

From the technical side, I found that it is possible to build this system using Java technology. We can create a secure web and mobile application where farmers can log in, search for products, and place orders. It is also possible to connect payment gateways and store data in a database safely.

From the operational point of view, this system can work well if we keep the app simple and support multiple languages. Most farmers in rural areas use smartphones, so if the app is user-friendly and the internet connection is stable, they can use it easily.

Financially, the project is also possible. The company has a budget of ₹2 crores. This will cover the salaries of developers and testers, purchasing servers, development tools, and training costs. We planned to complete the entire project in 18 months. This includes requirement gathering, system design, coding, testing, user training, and going live.

Question – 4) GAP Analysis

Answer: GAP means the difference between "what is happening now" and "what we want to happen".

Current State	***Future State***
1. Farmers finding hard to get farming products.	**1. Can order products online easily.**
2. No direct contact between farmer and manufacturer.	**2. Direct communications establishment.**
3. Products are costly and limited choices	**3. Get more choices at better prices.**
4. No awareness on product quality.	**4. Get educated on quality.**

Question 5) – Risk Analysis

Answer: An uncertain event or condition which can have impact on cost, time ,scope or quality .Risk analysis is done to determine if the proposes project carries more risk than the organization's capacity to support within.

1. Internal Risks:

a) Lack of coordination between development team members.
b) Miscommunication between BA and development team.
c) Developers not understanding farmer needs.

2. External Risks:

a) Poor internet connection in villages & remote areas.

3. Business Analysis Risk:

a) Wrong or missing requirements.
b) Lack of knowledge of farming.

4. Project Risks:

a) Delay in delivery.
b) Running over ₹2 Crore budgets.
c) Lack of farmer (user) training.

Question 6) – Stakeholder Analysis (RACI Matrix)

Answer: Stakeholder analysis is the process of identifying ,analyzing and prioritizing individuals or groups who can influence or be influenced by a project or initiatives. The RACI matrix is a tool used within the stakeholder analysis to clarify and define roles and responsibility for each stakeholder on project or task

Stakeholders are people involved in the project.
R = Responsible (Does the work)
A = Accountable (Owner of the work)
C = Consulted (Gives advice)
I = Informed (Needs updates)

	Name	*Designation*
Responsible	Mr. Karthik	Delivery Work
	Mr. Maharshi	Business Analyst
	Mr. Vandanam	Project Manager
Accountable	Mr. Vandanam	Project Manager
	Mr. Dooku	Project Coordinator
Consulted	Mr. Pandu	Financial Head
	Mr. Henry	Client
	Others	Developers & Admin
Informed	Mr. Henry	Client
	Peter, Kelvin & Ben	Farmers

Question 7) – Business Case Document

Answer: A business case helps explain why this project is important, what problem it will solve, and what benefits it will bring to the business and the users. In this project, the main problem was that farmers in rural areas are not able to buy farming products like seeds, fertilizers, and pesticides easily. They have to depend on local sellers, and sometimes the quality and price are not good. Also, they have no way to directly talk to product manufacturers.

To solve this, they wants to build a simple online system where farmers can check available products, compare them, and place orders directly from manufacturers. This will help them save time and money. It will also give companies an idea about the actual needs of farmers. The solution is useful for both sides.

To implement this system, the organization needs to hire skilled Java developers and testers who can build the application and make sure it runs smoothly. Also, there should be training sessions for clients and admin users so that they understand how to use the system.

Question 8) – Four SDLC Methodologies

Answer: SDLC means Software Development Life Cycle. It is the method we follow to plan, design, develop, test, and deliver a software system. There are different SDLC models that we can use based on the project type and client needs.

1. Sequential – Waterfall

In this model, the development is done step by step. One phase must be completed before starting the next. It is simple to manage and works well when requirements are fixed.

2. Iterative – RUP (Rational Unified Process)

This breaks the project into parts or modules. Each part is developed and improved based on client feedback. This is useful for large and complex systems.

3. Evolutionary – Spiral

This model focuses on managing risks. It repeats the planning and testing steps many times until the final system is ready. This model is good when there is high risk and we need continuous improvement.

4. Agile – Scrum

In this model where development is done in small pieces called sprints. The team works fast and the client can give feedback regularly. This model is best when there are frequent changes in the requirements.

Question 9) - Waterfall, RUP, Spiral and Scrum

Answer:

1. Waterfall - This model is best for projects that are small and simple, where the goals are clear from the beginning. In Waterfall, each phase is completed one after the other. Once a phase is done, we don't go back. It's easy to manage and works well when there are no changes expected.

2. RUP - This is used for big and complex projects. The project is divided into modules and each module is planned, designed, and tested separately. It needs more planning and time, but it helps in handling complicated requirements step by step.

3. Spiral - Spiral is good for high-risk projects where we are not sure about the full plan or outcome in the beginning. In this model, the team works in cycles and keeps checking and improving the project at every stage. It helps in finding problems early.

4. Scrum - Scrum is a part of Agile and is very useful when the client may change the requirements often. The work is done in short time blocks called sprints (usually 2-3 weeks). It allows fast development and regular feedback from the client, which improves the final result.

Question 10) – Waterfall vs V Model

Answer:

Waterfall model	V-model
• Low - Cost Model. • Testing Activities start at the later - stages. • Moves in a linear way. • Less Customer Involvement	• Expensive Model. • Testing Activities Start with the first stage. • Doesn't move in a linear way. • More Customer Involvement.

Question 11) - Justify Your Answer

Answer: I feel to choose the Waterfall model for this project because the requirements are already clear and fixed. In this project, farmers need a simple app to buy seeds, fertilizers, and pesticides online and there are not many changes expected later.

Waterfall model is easy to understand, works step by step, and it also helps in planning of budget and time. Since this project has a fixed timeline of 18 months and a budget of 2 crores. Also, this is a small project, so we don't need complex models like Spiral or Agile. That's why Waterfall is best fit here.

I think Waterfall Methodology is best suited for the project because:

•It is a low–cost model as compared to the expensive V – Model which would help us to give the same output with less budget as comapre to other models.

• It is Easy to manage due to rigidity of the model – each phase has a specific deliverable and a review process.

• Although the V model is quite like the waterfall model it is high risk and uncertain. No working software is produced until late.

Question 12 – Gantt Chart

Answer: A Gantt chart is like a project calendar. It shows **who does what task** and **when**. It's a visual tool that helps us track progress.

Resource	RG	RA	D1	T1	D2	T2	D3	T3	D4	T4	UAT
PM											
BA											
Java Developers											
Testers											
DB Admin											
NW Admin											

Question 13 - Fixed Bid vs Billing

Answer:

Fixed Bid: Fixed price for full work, total money is decided at the beginning for the whole project. The work is fixed and clearly planned. If there are any problems or extra costs, the company has to manage them. This type of pricing is mostly used in Indian projects.

Billing: Pay as per hours or client pays based on the time or amount of work completed. The scope of the project can change as the work goes on. The risk is shared between the client and the company. This type of pricing is mostly used for international clients

Question 14 – Timesheets

Answer - Timesheet of BA in various SDLC Stages:

I fill my timesheet daily for each phase of the project. It shows what work I did and how much time I spent. All tasks usually take around 8 hours a day.

1) Design Timesheet of a BA:

Sr .No	Task	Start Time	Stop Time	Total Duration
1`	Prepare Test Cases	11:00AM	8:00PM	8 hours
2	Perform High level Testing	11:00AM	8:00PM	8 hours
3	Prepare End User Manual	11:00AM	8:00PM	8 hours
4	Update RTM	11:00AM	8:00PM	8 hours

2) Development Timesheet of a BA:

Sr .No	Task	Start Time	Stop Time	Total Duration
1`	Organize JAD session	11:00AM	8:00PM	8 hours
2	Clarify Query of Technical team	11:00AM	8:00PM	8 hours
3	Update End User Manual	11:00AM	8:00PM	8 hours
4	Update RTM	11:00AM	8:00PM	8 hours

3) Testing Timesheet of a BA:

Sr .No	Task	Start Time	Stop Time	Total Duration
1`	Prepare Test Cases	11:00AM	8:00PM	8 hours
2	Communication with client with design and solution	11:00AM	8:00PM	8 hours

4) UAT Timesheet of a BA:

Sr .No	Task	Start Time	Stop Time	Total Duration
1`	Prepare Client for UAT	11:00AM	8:00PM	8 hours
2	Request Test data from client	11:00AM	8:00PM	8 hours
3	Update End User Manual	11:00AM	8:00PM	8 hours
4	Update RTM	11:00AM	8:00PM	8 hours
5	Take Sign off from client on client project Acceptance form	11:00AM	8:00PM	8 hours

5) Deployment and Implementation Timesheet of a BA:

Sr .No	Task	Start Time	Stop Time	Total Duration
1`	Forward RTM to Client	11:00AM	8:00PM	8 hours
2	Complete End User Manual	11:00AM	8:00PM	8 hours
3	Plan Training Session for End User	11:00AM	8:00PM	8 hours