Question 1 – BPM - 5 Marks

BPM - A business process model is a visual representation of how a business operates, which can help organizations improve their efficiency and productivity

Identify Business Process Model for Online Agriculture Store – (Goal, Inputs, Resources, Outputs, Activities, Value created to the end Customer)

Goal-
1) To provide online agriculture product buying facility to farmers and to help farmer with online product store.
2) To develop new application should be able to accept the product (fertilizers, seeds, and pesticides) details from the manufacturers and should be able to display them to the Farmers.
 3) To build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity.
4) To fulfill gap between farmer and agricultural product manufacture.
5) To provide N number of option to farmers at the time when they purchase fertilizers, seeds, pesticides. 6) Deliver Pesticides to farmers on time.

Inputs-
Fertilizers, seeds and pesticides manufacturing Companies

Resources-
Manufacturing companies, all agriculture products, delivery channels and payment gateway internet connectivity, mobile application and web.

Outputs-
 To build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity.
Types, Quality and Quantity available with the manufacturing companies.
Available payment method with the manufacturing company, like cash, card or wallet etc.

Activities-
user friendly online web and mobile application to manufacture and farmers.
Delivery of agricultural product services to farmers by online product store.
Collect payment from farmers by varies mode of payment collection.
Farmers will login to the portal.
Checking the desired product from available lists.
Product will be selected by the farmer/purchaser.
Product will be compared by the farmer/purchaser.
Payment method will be chosen.

Value created to the end Customer-
Online Agriculture Store available for all platform of mobile (web, Mobile application).
Agriculture Store has Online Agriculture Store available for anytime and anywhere.
Time and Money saving for farmers.
This leads to increase in their productivity and quality level.
Farmers getting option to choose from variety of products from various brands.

Question 2 – SWOT - 5 Marks

A SWOT analysis is a decision-making tool that helps identify the strengths, weaknesses, opportunities, and threats of a project or organization

SWOT stands for Strengths and Weaknesses (internal factors) Opportunities and Threats (external factors).

Strengths- All these internal factors of organization which leads to success of the Project.

1. Good IT team
2.Talent pool Available
3.Budget 2 Crores
4.Good experience Java developers
5.Good experience testers

Weaknesses- All these internal factors of organization which barriers to success of the Project.

1. Limited duration of project (18 Months)
2.Required huge amount of funds for marketing activity
3.Project was new to team.

 Opportunities - All these external factors of organization which lead to success of the Project.

1. New to the market
2.To provide Solution for the farmers Problem
3.Entrance into the large market segment (industry)
4.Get platform to do marketing for agricultural products.

 Threats- All these external factors of organization which barriers to success of the Project.
1. Market demand for new era
2.Is customer (farmers) preferring to go for online store?
3. How to deliver agricultural product at rural and poor part of country.
4. Connectivity of internet

Question 3 – Feasibility study- 5 Marks

A feasibility study is a detailed analysis that considers all of the critical aspects of a proposed project in order to determine the likelihood of it succeeding

At this point we can analyse the Possibility of doing a Project Within some constraints like Technology, Budget and Time
Yes, for this agricultural project we can turn our Idea into Technology
Right now we have sufficient Fund 2cr and time 18 months
For this project we used JAVA technology
Following Resources

Hardware- servers, clients, peers, transmission media and connecting devices (routers, bridges, hubs, gateways and switches)

Software- networking operating system Protocol suite- OSI model TCP/IP model

Trained Resources-
Project Manager - Mr. Vandanam
Java Developer- Ms. Juhi is Senior Java Developer Mr. Teyson, Ms Lucie, Mr. Tucker, Mr. Bravo are Java Developers. Total number of 5 resources for java developer
Network Admin - Mr. Mike
DB Admin – John
Tester - Mr. Jason and Ms Alekya are the Tester there is two testers with us.
Business analyst – self

Question 4 – Gap Analysis- 5 Marks

A gap analysis is a strategic planning tool that helps businesses identify and address gaps between their current and desired performance.

A gap analysis is used to identify the difference between the current (AS-IS) state of a process and the desired (TO-BE) state. In the context of the online agriculture products store project, Mr. Karthik could showcase the following points in the gap analysis to convince Mr. Henry to initiate the project:

As-Is :- The access to materials required for farming is restricted. If farmers want to buy fertilizers, seeds, pesticides, they have to purchase through the market. It's time consuming, given less availability of fertilizers, seeds, and pesticides.
To-Be:- To design and deploy an online Platform to enable farmers to buy agriculture products directly from Manufacturers. This will add convenience, save time, effort and cost, and make agriculture more effective.

Question 5 – Risk Analysis- 10 Marks

Risk analysis is a multi-step process that helps organizations identify and evaluate potential risks to their operations, projects, or initiatives

BA Risks:

Requirements Gathering: Inadequate requirements gathering and analysis could lead to misunderstandings or missed requirements that would impact the final product.

Stakeholder Management: Different stakeholders (farmers, companies, project team, etc.) may have conflicting requirements or opinions, leading to difficulties in getting consensus on the requirements.

Communication: Miscommunication between the BA, project team, and stakeholders could lead to misunderstandings and incorrect assumptions about the requirements.

Change Management: Changes in requirements or stakeholders' expectations during the project could result in delays or additional costs.

Project Risks:

Budget: The project budget may be insufficient to cover the development and implementation costs, leading to financial constraints.

Technical: Technical difficulties during the development and implementation of the online store could impact the delivery timeline and quality of the final product.

User Acceptance: The success of an online store depends on the willingness of farmers and businesses to use the platform. If the user acceptance rate is low, the project may not reach its goals.

Integrations: Online stores need to integrate with various systems such as payment systems, logistics systems, and inventory management systems.

Question 6 – Stakeholder Analysis (RACI Matrix) - 8 Marks

A RACI matrix is a tool that defines the roles and responsibilities of people involved in a project or process. RACI stands for Responsible, Accountable, Consulted, and Informed.

Responsible:

Mr. Karthik (Delivery Head, APT IT Solutions)
Mr. Vandanam (Project Manager, APT IT Solutions)
Ms. Juhi (Senior Java Developer, APT IT Solutions)
Mr. Teyson, Ms Lucie, Mr. Tucker, Mr. Bravo (Java Developers, APT IT Solutions)
Mr. Mike (Network Admin, APT IT Solutions)
John (DB Admin, APT IT Solutions)
Mr. Jason and Ms Alekya (Testers, APT IT Solutions)

Accountable:

Mr. Henry (Client, SOONY Company)
Mr. Pandu (Financial Head, SOONY Company)
Mr. Dooku (Project Coordinator, SOONY Company)

Consulted: Peter, Kevin, and Ben (Stakeholders, farmers from remote village)

Informed: Farmers and Companies (manufacturers of fertilizers, seeds, and pesticides)

Question 7 – Business Case Document - 8 Marks

A business case provides justification for undertaking a project, programme or portfolio. It evaluates the benefit, cost and risk of alternative options and provides a rationale for the preferred solution.

● Why is this Project Initiated ?

To provide an IT solution to farmers to buy fertilizers, seeds, pesticides online.

● What are the current problems?

Farmers are facing issues at the time of procurement of fertilizers, seeds, pesticides and to connect to the manufactures, compare prices and get the delivery.

● With this project how many problems can be solved?

By providing the online platform, farmers can check, compare and also buy fertilizers, seeds, pesticides online. Also logistics for delivery is not farmers' concern.

● What are the resources required?

To develop this online Platform we need the following resources
1 Project Manager,1 BA, 5 Developers, 2 testers, 1 Network engineer, 1 database admin , Hardware resources.

● How much organizational change is required to adopt this technology?

In this case the company Sooney is the organization on whose order the solution is being built. This project is being built keeping CSR in mind. Also this is an altogether new project taken by the company. The domain of Soony Company is not clearly mentioned. They will have to work closely with the agri domain experts Peter, Kevin and Ben, understand their needs well, before participating in requirement elicitation meetings with the IT Company. The domain experts are not technically sound or may be inadequately educated. The company will have to make genuine efforts to work in a collaborative manner with the domain experts.

Question 8 – Four SDLC Methodologies - 8 Marks

The software development lifecycle (SDLC) is the cost-effective and time-efficient process that development teams use to design and build high-quality software. The goal of SDLC is to minimize project risks through forward planning so that software meets customer expectations during production and beyond.

Sequential: This methodology follows a linear approach and moves through each phase of the SDLC in a set sequence. This method is best suited for projects with well-defined requirements, low risk, and predictable outcomes.

Iterative: This methodology involves developing the software in iterations, where each iteration builds upon the previous one. This method is best suited for projects with complex requirements and high risk.

Evolutionary: This methodology involves developing a basic version of the software and then incrementally improving it. This method is best suited for projects with rapidly changing requirements and high risk.

Agile: This methodology is based on an iterative and incremental approach, and involves close collaboration between the development team and stakeholders. This method is best suited for projects with rapidly changing requirements, high risk, and complex environments.

Question 9 – Waterfall RUP Spiral and Scrum Models – 8 Marks

Waterfall: This model is a sequential approach where each phase of development must be completed before moving on to the next phase. It is best suited for projects with well-defined requirements and clear project goals.

RUP: This model is a unified and iterative approach that uses a set of best practices for software development. It is best suited for complex projects with changing requirements.

Spiral: This model is a combination of both the sequential and iterative approaches, where each iteration builds upon the previous one. It is best suited for high-risk projects with uncertain requirements.

Scrum: This model is an agile approach that emphasizes teamwork, collaboration, and adaptability. It is best suited for projects with rapidly changing requirements and complex problem-solving.

Since I am BA and in this project I supposed to use a V Model methodology is to be better for this project. As V- Model is the most important model that is used in the process of software testing. It is also known as Verification and Validation Model. It is introduced by the late Paul Rook in 1980s. V- Model is a sequential process in which the next phase begins only after the completion of the present phase. In this model, steps don’t move in a linear way while the steps are bent upwards. It is similar to Waterfall model because we follow V-model from left to right as well as follow a sequential path of execution of processes like as in waterfall model. In waterfall model steps are followed as requirements, design, implementation, verification and finally maintenance. In the same way, the same steps are followed in V-model. So we can say that V-model is the alternate of the waterfall model.

Question 10 – Waterfall Vs V-Model - 5 Marks

Waterfall Model:

The Waterfall Model is a sequential development process, where progress flows in a downward, linear fashion from one phase to the next.
It is a traditional and straightforward methodology.
It is well suited for projects with well-defined and fixed requirements.
Each phase must be completed before the next one starts.
Testing is done only after the development phase is completed.

V Model:

The V Model is a variation of the Waterfall Model, where each stage of development is accompanied by a corresponding testing phase.
It allows for the integration of testing and development into a single continuous process.
It is well suited for projects with high-quality and regulatory requirements.
It allows for early detection and correction of defects, reducing the cost of fixing them later. It provides a clear and traceable path for verifying the software development process.

Question 11 – Justify your choice - 3 Marks

V model is selected. It is recommended by the SME and is more suited for the project. The V model allows changes in between the project which might be suitable for project where change requirement can arise due to regulator. V model provides more flexibility and can adapt some changes to project if required. V- Model is based on verification and validation of each phase of developing online agricultural product store. This V model properly works with small projects like developing online agricultural product store where requirements are easily understood. In V model, testing activities like planning, test designing happens well before coding. This saves a lot of time. Hence higher chance to get success model.

Question 12 – Gantt chart - 5 Marks

A Gantt chart is a visual tool that helps project managers and teams plan and track a project's progress.

 Fig : Gantt Chart

Question 13 – Fixed Bid Vs Billing - 5 Marks

Fixed Bid Model:

The Fixed Bid Model is a method of project delivery where the price for the project is agreed upon and fixed at the outset. In this model, the scope of the project is defined and agreed upon by the client and the vendor, and the vendor is responsible for delivering the project within the agreed-upon budget and timeline. The vendor bears the risk of any cost overruns or schedule delays.

Billing Model:

The Billing Model is a method of project delivery where the client is charged based on the actual time and resources used on the project. In this model, the scope of the project is not fixed. The client is charged based on the actual time and resources spent on the project, and any changes to the scope of the project are accommodated through changes to the budget and timeline. This model allows for greater flexibility in the project.

Question 14 – Preparer Timesheets of a BA in various stages of SDLC - 20 marks









