COEPD – Traditional Development Capstone Project 1 – Part 1/3 – 100 Marks - Pass 60%

Question 1 – Business Process Model.

Answer – Business Process Model for Online Agriculture Store: -

- Goal: The Online Agriculture Product Store will facilitate remote area farmers' buying of agricultural products (Seeds, Pesticides, and Fertilizers).
- Inputs: Product Details from Manufacturers – Product Catalogue.
- Resources: Software Application Used for Online Store, Internet Connectivity, Devices to Access – Online Web/Mobile Application.
- Output: Buying Product, Delivery of the Requested Product, Invoice Generation (Online/Physical).
- Activities: Product Details provided by Manufacturers – Farmers Browse Through Products – Select the Product – Request to Buy the Product – Manufacturers deliver the Product to the Farmer's location.
- End Value: Customer Satisfaction, Availability, Faster Delivery.

Question 2 – SWOT Analysis.

Answer – SWOT Analysis: -

Strengths • Manufacturing Details. • Talented Team. • Fulfills CSR Responsibilities. • Already Available Market.	Weakness • Remote Areas – Internet Connectivity/Payment Issue – Bank Penetration. • Less Technological Knowledge of Customers for Using Web/Mobile applications. • Less English language knowledge.
Opportunities • Expansion of Market. • Expansion of Product Availability to Customers. • New Business Stream for the Company.	Threats • Customers stick to the local vendor shop to buy the product. • Government Schemes provide free Fertilizers, Pesticides, and Seeds. • Fear of Digital Payment.

Question 3 – Feasibility Study.

Answer – Feasibility Study: -

- Hardware: Servers, System Security, Network Connectivity, Computers, Backup System.
- Software: Java Development Kit, Security software.
- Trained Resources: Java Developer Team.
- Budget: 2 Crores INR.

- Time Frame: 18 Months.

Question 4 – GAP Analysis.

Answer – GAP Analysis:

Current State (AS-IS)	Desired State (TO-BE)
• Difficulty in Procuring Fertilizers, Seeds and Pesticides. • Communication Gap between farmers and Manufacturers. • Language and Technological Barrier. • Payment Barrier – Customers are more familiar with cash than digital payment. • Supply Gap. • Less Product Choice availability in market.	• Online Store for Procurement of Fertilizers, Seeds and Pesticides. • Reduced Communication Gap through Web Portal/ Mobile Application. • Continued Investment to enhance User Experience. • Choice of Payment options would increase – UPI, RuPay Card etc. • Reduce Supply Gap with Improved Logistics. • Increase Choices to farmer for selecting best quality product.

Question 5 – Risk Analysis.

Answer – Risk Analysis: -

BA Risks: -

- Incomplete Requirements Gathering from Soony Company Committee.
- E-Commerce domain may be new, BA may not be able to completely understand the domain leading to Incorrect Requirements Gathering.
- Change in Requirements becomes difficult to handle in the new domain.

Process/Project Risks: -

- Scope Risks – Due to challenges such as poor internet connectivity, language barrier, less technical knowledge of stakeholders, more investment might be required to make it user-friendly can lead to out scope of the budget.

Stakeholders Risks – Three Stakeholders may not be enough to understand the requirements of the whole market, which could lead to project failure.

Question 6 – Stakeholders Analysis (RACI Matrix)

Answer – Stakeholders Analysis (RACI Matrix).

	Name	Designation
Responsible	Mr. Karthik	Delivery Head
	Mr. Dooku	Project Coordinator
	Mr. Sunny	Business Analyst
	Mr. Vandanam	Project Manager
Accountable	Mr. Dooku	Project Coordinator
	Mr. Vandanam	Project Manager
Consulted	Mr. Pandu	Financial Head
	Mr. Henry	Client
	Mr. Juhi	Sr. Java Developer
	Mr. Mike	Network Admin
	John	Database Admin
Informed	Mr. Henry	Client
	Peter	Farmer
	Kevin	Farmer
	Ben	Farmer

Question 7 – Business Case Document

Answer – Business Case Document: -

- This Project is Initiated to solve the problems of farmers of remote areas which are facing problems in Product procurement like fertilizers, seeds and pesticides.
- Current Problems are two-fold
    a) Farmers in Remote Areas are facing Product Procurement issues.
    b) Communication Gap between Manufactures/Sellers and Farmers.
- With this project two problems will be solved
    a) Farmers in Remote areas will be able to procure farm products easily and they will be delivered to their house.
    b) Increase in Communication between Manufactures and Farmers will help farmers to express what kind of products they need. Which in turn will help Manufactures to understand the market.
- Organization change required to adapt this technology would be focus on Java Developers to make the Application user friendly.
- Time Frame is 18 Months for Completion of Whole Project.
- To identify Stakeholder above RACI Matrix can be used.

Question 8 – Four SDLC Methodologies.

Answer – Four SDLC Methodologies: -

- Sequential – Waterfall.
    - Most Common and easy to understand, also referred to as linear – sequential life cycle model.

    - Follows a structured approach with each phase having specific deliverables.
    - At the end of each phase a review takes place to determine if the project is running fine.
- Iterative – RUP (Rational Unified Process).
    - RUP is an iterative software development process, where phase/module wise (long term project) applications are developed.
    - Change Request are welcomed in every phase of development.
    - This model has multiple stages which require more resources and more budget.
- Evolutionary – Spiral.
    - Spiral Model gives more emphasis placed on risk analysis.
    - It has four Phases – Planning, Risk Analysis, Engineering and Evolution.
    - A Software project repeatedly passes through these phases in iterations (called Spirals in this model).
- Agile – Scrum.
    - Scrum is an approach or model for developing a software product/application.
    - This model welcomes change requirements even late in development stage.
    - Can be implemented where faster delivery is required.

Question 9 – Waterfall RUP Spiral and Scrum models.

Answer – Waterfall RUP Spiral and Scrum models.

- Waterfall.
    - Most Common and Classic life cycle models, also referred to as a linear–sequential life-cycle model.
    - In the Waterfall Model, each phase must be completed in its entirety before the next phase can begin.
    - At the end of each phase, a review takes place to determine if the project is on the right path and whether to continue or discard the project.
- RUP (Rational Unified Process).
    - Rational Unified Process (RUP) is an iterative software development process framework created by Rational Software Corporation, which is acquired by IBM in 2003.
    - RUP is based on a set of building blocks, or content elements, describing what is to be produced, the necessary skills required and the step-by-step explanation describing how specific development goals are to be achieved.
- Spiral.
    - Spiral Model is a risk-driven process model generator for software projects.
    - It has four Phases – Planning, Risk Analysis, Engineering and Evolution.
    - A Software project repeatedly passes through these phases in iterations (called Spirals in this model).

- Scrum.
    - Scrum can be implemented at the beginning of the project or when you sense that project is falling behind schedule. This model exercises full admin power.
    - This model welcomes change requirements even late in development stage.
    - Can be implemented where faster delivery is required.

Question 10 – Waterfall vs V- Model.

Answer – Waterfall vs V-Model.

Waterfall	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.

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 compared 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.
- In V model coding and testing goes parallel whereas in waterfall model first coding is done and then testing happens.

Question 11 – Justify your choice.

Answer – As a BA I would choose Waterfall Model for this project because: -

- It is Simple and easy to use and here every process is reviewed well.
- It is a low–cost model as compared to other models like Spiral where you need a big budget.
- This Project, being a small project waterfall model, is suited for this project because it works well for smaller projects where requirements are well understood.
- There won't be much change requirement for this project as customer involvement is low, so we don't need to go for Scrum Project.

Question 12 – Gantt Chart

Answer – Gantt Chart

Resources	RG	RA	Design	D1	T1	D2	T2	D3	T3	D4	T4	UAT
PM												
BA												
JD												
Testers												
DB Admin												
NW Admin												

Question 13 – Fixed Bid vs. Billing

Answer – Fixed Bid vs. Billing

- The Fixed Bid project is one in which the service provider agrees to deliver a specific scope of work for a fixed price. The scope of work, deliverables, and timelines are agreed upon upfront, and the service provider assumes the risk for any cost overruns or delays.
    - It is usually used for domestic projects.
- Billing Project is one in which the service provider bills the client for the actual time and materials expanded on the project. The client pays for the service provider's time and expenses, and the scope of work can be adjusted as needed throughout the project.
    - It is usually used for overseas projects.

Question 14 – 20 – Timesheets

Answer – Timesheets of BA in various SDLC Stages: -

Requirement Gathering Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Identifying Stakeholders	9:00 AM	5:00 PM	8 hours
2	Interaction with Client and Preparing BRD	9:00 AM	5:00 PM	8 hours
3	Sorting of Gathered Requirements	9:00 AM	5:00 PM	8 hours
4	Prioritize Requirements	9:00 AM	5:00 PM	8 hours
5	Validate Requirements	9:00 AM	5:00 PM	8 hours

Requirement Analysis Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Draw UML Diagram	9:00 AM	5:00 PM	8 hours
2	Prepares Functional Requirements	9:00 AM	5:00 PM	8 hours
3	Prepares Technical Requirements	9:00 AM	5:00 PM	8 hours
4	Prepare SRS	9:00 AM	5:00 PM	8 hours
5	Take Sign off on SRS from Client	9:00 AM	5:00 PM	8 hours
6	Prepare RTM	9:00 AM	5:00 PM	8 hours
7	Trace Requirements	9:00 AM	5:00 PM	8 hours

Design Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Prepare Test Cases	9:00 AM	5:00 PM	8 hours
2	Communication with Client on the Design and Solution Document	9:00 AM	5:00 PM	8 hours
3	Prepare End User Manual	9:00 AM	5:00 PM	8 hours
4	Update RTM	9:00 AM	5:00 PM	8 hours

Development Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Organize JAD Sessions	9:00 AM	5:00 PM	8 hours
2	Clarify Query of Technical Team	9:00 AM	5:00 PM	8 hours
3	Update End User Manual	9:00 AM	5:00 PM	8 hours
4	Update RTM	9:00 AM	5:00 PM	8 hours

Testing Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Prepare Test Cases	9:00 AM	5:00 PM	8 hours
2	Perform High Level Testing	9:00 AM	5:00 PM	8 hours
3	Update End User Manual	9:00 AM	5:00 PM	8 hours
4	Update RTM	9:00 AM	5:00 PM	8 hours

User Acceptance Testing Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Prepare Client for UAT	9:00 AM	5:00 PM	8 hours
2	Request Test Data from Client	9:00 AM	5:00 PM	8 hours
3	Update End User Manual	9:00 AM	5:00 PM	8 hours
4	Update RTM	9:00 AM	5:00 PM	8 hours
5	Take Sign off from Client on Client Project Acceptance form	9:00 AM	5:00 PM	8 hours

Deployment and Implementation Phase				
S. No.	Tasks	Start Time	End Time	Duration
1	Forward RTM to Client	9:00 AM	5:00 PM	8 hours
2	Complete End User Manual	9:00 AM	5:00 PM	8 hours
3	Plan Training Session for End User	9:00 AM	5:00 PM	8 hours