

Question 1 – Identify Business Process Model for Online Agriculture Store – (Goal, Inputs, Resources, Outputs, Activities, Value created to the end Customer)

Ans -

- Goal –To make profit/ customer satisfaction
- Inputs – Products, payment modes, delivery details.
- Resources – mobile, laptop, Project team, internet, Farmers who are working as consultant.
- Outputs – online purchase and delivery of seeds, pesticides and fertilizers.
- Activities – Registration of Farmer and manufacturer, Login, product search, Add Product in catalogue, Add to cart, payment gateway, order confirmation, Delivery.
- Value created – easy availability of seeds, pesticides and fertilizers at discounted price and doorstep delivery.

Question 2 –Mr. Karthik is doing SWOT analysis before he accepts this project. What Aspects he Should consider as Strengths, as Weaknesses, as Opportunity and as Threats.

Ans –

Strength	Weakness	Opportunity	Threats
Have well established team	No prior knowledge of industry in team	No competition	Local agents/suppliers might create an issue
Have money and resources	Huge marketing budget required	Hugh market and demand	Dependency on technology
Farmers are working as a consultant	First of its kind Project	First movers' advantage	Acceptance among Farmers

Question 3 –Mr Karthik is trying to do feasibility study on doing this project in Technology (Java), Please help him with points (HW SW Trained Resources Budget Time frame) to consider in feasibility Study.

Ans –

Feasibility Point 1-

Availability of trained resource-Yes

For doing project in Java, team has 1 sr. Java Developer and 3 Java Developer

Feasibility study point 2-

Availability of budget-Yes

Total Allotted budget-2 cr

Feasibility study point 3- Timeframe for completion is 18 months

Question 4 –Mr. Karthik must submit Gap Analysis to Mr. Henry to convince to initiate this project. What points (compare AS-IS existing process with TO-BE future Process) to showcase in the GAP Analysis

Ans –

Gap analysis is nothing but the comparison of current state of system with future or desired state. It helps us prepare transitional requirements to require for desired transition.

AS-IS	TO BE
Farmers need to visit nearby store to see and purchase the product	Using mobile or laptop farmer can see and purchase a product
Lesser products available for comparison	Number of products can be higher
Needs to visit different stores if products not available in single store	One stop solution

Question 5 –List down different risk factors that may be involved (BA Risks And process/Project Risks)

Ans -

BA RISK	PROJECT RISK
Lack of clarity in stakeholder	Technology risk
Coordination between developers and testers	Performance risk
Clients for UAT	Cost risk
Changing scope	Scope creep risk
Incomplete non-functional requirements	Communication risk
Inadequate Planning	User acceptance risk
Stakeholder disagreement on requirements	Skill resource risk
Lack of adequate details on requirements	Operational risk
Lack of BA Domain Knowledge	Market risk
Inadequate Planning	Governance risk

Question 6 –Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who can take Decisions and Who are the influencers

Resource	Project Plan	BRD	Design	Test Case	Mockups
Karthik	Accounted	Consulted	Consulted	Consulted	Consulted
Henry	Consulted	Consulted	Consulted	Consulted	Consulted
Vandanam	Responsible	Accounted	Accounted	Accounted	Accounted
Mahesh (As BA)	Consulted	Responsible	Consulted	Consulted	Responsible
Juhi	Informed	Informed	Responsible	Informed	Informed
Jason	Informed	Informed	Informed	Responsible	Informed
Mike	Informed	Informed	Responsible	Responsible	Informed

Question 7 – Business Case Document - 3 Marks Help Mr. Karthik to prepare a business case document-

Project Name	Online Agriculture Product Store
Project Manager	Mr. Vandanam
Date of Approval	01/06/22
Point of Contact	BA (MAHESH)
Cost	2 CR
Duration	18 months
Reason for the Project	There is huge gap between Manufacturer and Farmers and using technology would help bridge this gap, making it a good business opportunity. There will be first mover's advantage as well.
Options	1-We can build our inhouse team to build project 2-We can outsource from external company by understanding companies' capability in terms of skills manpower, previous track record and financial status.
Benefits	There is Hugh disconnect in manufacturer and farmers and also, we can reap benefits of mover advantages.
Key Stakeholders	Peter, kevin and Ben Henry, Kartik, Vandanam, Farmers and Manufacturers
Risks	Technological risk and scope creep, BA risk, Project risk

Question 8 - like Sequential Iterative Evolutionary and Agile. Please share your thoughts and clarity on Methodologies

Ans - – Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test quality of software's. It is also called as Software Development Process. SDLC is a framework defining tasks performed at each step in the software development process.

SDLC consist of seven phases – Planning, analysis, design, development, testing, implementation and maintenance.

Four Methodologies of SDLC are as follows -:

- **Sequential model** - A traditional SDLC is a linear sequential model. This model assumes that the system will be delivered near the end of its development life cycle. Next phase will start after completion of last phase, Good for smaller projects and where requirements are well-known.

Iterative model - Iterative process starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system is implemented. It is divided in four phases namely, Inception, elaboration, construction, transition. Changes are welcome at any stage

- **Evolutionary model** -More emphasis is place on Risk analysis. It has four Phases: Planning, Risk analysis, Engineering and Evaluation. A software projects repeatedly passes through these phases' iterations called spirals.
Good for large and mission critical project, cost involve is high, high skilled individual needed
- **Agile (Scrum)** –Can be implemented where faster delivery is required, whole project is broken into smaller user stories and delivered module wise which allows faster delivery. Changes are welcomed at any stage. Working software is primary measure of progress. Business people and developers must work together daily throughout the project.

Question 9 – Waterfall RUP Spiral and Scrum Models

Ans –

- **Waterfall model** – It is most common and classic lifecycle model, also referred as linear sequential lifecycle model. It is very simple to understand and use. In this model each phase is completed entirely before the next phase can begin, at the end of each place review is taken to determine if the project is in right path and according to this decision is taken whether to continue with this or discard.

Stages –

- 1) Requirement Gathering
- 2) Requirement Analysis
- 3) Design, Development
- 4) Testing
- 5) Deployment
- 6) Implementation
- 7) Maintenance

Advantages: -

- 1) It is simple and easy to use
- 2) Easy to manage due to rigidity of the model - each phase has a specific deliverables and review process.
- 3) Phases are processed and completed one at a time.
- 4) Works well for smaller projects where requirements are very well understood.

Disadvantages: -

- 1) High amount of risk and uncertainty.
- 2) No working software is produced until late during the life cycle.
- 3) Adjusting scope during the project can kill the project
- 4) Poor model for long and ongoing projects.
- 5) Poor model for complex and object-oriented projects.

- **Rational Unified Process** – It is based on set of building blocks (Roles, work products and Tasks) describing what is to be produced, necessary skills required and the step by step explanation describing how specific development goals are to be achieved

It consists of six engineering disciplines –

1. Business Modelling
2. Requirements
3. Analysis and Design
4. Implementation
5. Test and Deployment.

Three Supporting disciplines-

1. Configuration and change Management
2. Project Management
3. Environment.

Stages –

1. Inception – Agreement among the team and the customer as to what is to be built
2. Elaboration - Agreement within the team as to the architecture and design needed to deliver the agreed system behavior.
3. Construction – The iterative implementation of fully functional system.
4. Transition – Delivery, defect correction and tuning to ensure customer acceptance.

Six Best Practices: -

1. Develop iteratively with risk as the primary iteration driver.
2. Manager requirements.
3. Employ a component-based architecture.
4. Model software visually
5. Continuously verify quality
6. Control changes

- **Spiral** – The spiral model gives more emphasis placed on risk analysis. It consists of four phases.

Phase –Planning, Risk analysis, Engineering and Evaluation.

A software project repeatedly passes through these phases in iterations, called spirals in the model. The baseline Spiral starting in the planning phase, requirements are gathered, and risk is assessed. Each subsequent spiral builds on the baseline spiral. Requirements are gathered during the planning phase. In risk analysis phase a process is undertaken to identify risk and alternate solutions. A prototype is produced at the risk analysis phase. Software is produced in the engineering phase along with testing at the end of the phase. The evaluation phase allows the customer to evaluate the output of the project to date before the project continues to the

next spiral. In spiral model angular component represents progress and the radius of the spiral represents cost.

Advantages: -

1. High amount of risk analysis.
2. Good for large and mission critical project.
3. Software is produced early in the software life cycle.

Disadvantages: -

1. Can be costly model to use.
2. Risk analysis requires highly specific expertise.
3. Projects success is highly dependent on the risk analysis phase.
4. Doesn't work well for smaller projects.

- **Scrum** – It is an iterative development methodology used to manage software projects. In scrum-based projects there isn't a specific project manager directing project team tasks, the team is self-directed with team members relying on communication over documentation for effective project delivery. Agile is lightweight, It can be implemented where fast delivery is required. No documentation due to which high customer retention. Scrum can be implemented either at the beginning of the project or when you sense that project is falling behind schedule. This model exercises full Admin power. The code in itself forms as a document. SDLC life cycle is cut down by employing seasoned developers.

12 principles: -

1. Early and continuous delivery.
2. Welcome change request even late in project.
3. Deliver working software in shorter span.
4. All the stakeholder must work together throughout the project
5. Build project around motivated individual.
6. Face to face conversation over documentation
7. Working software is primary measure of progress.
8. Promote sustainable development, All the stakeholder should be able maintain constant pace.
9. Continuous attention to technical excellence and good design enhance agility
10. Simplicity
11. Self-organized teams
12. Continuous involvement and Testing.

Four Main Values: –

1. Individuals and interactions over processes and tools.
2. Working software over comprehensive documentation. Customer collaboration over contract negotiation.
3. Customer collaboration over contract negotiation

4. Responding to change over following a plan.

Question 10 – Waterfall Vs V-Model

Waterfall Model	V-Model Model
It is a continuous process	It is a simultaneous process
Simplicity of Waterfall model is simple.	Simplicity of V-model is Intermediate.
Waterfall model is Rigid	V – model is little flexible
The cost of waterfall model is low	V- model is expensive
Success rate of Waterfall model is low.	Success rate of V-model is high.

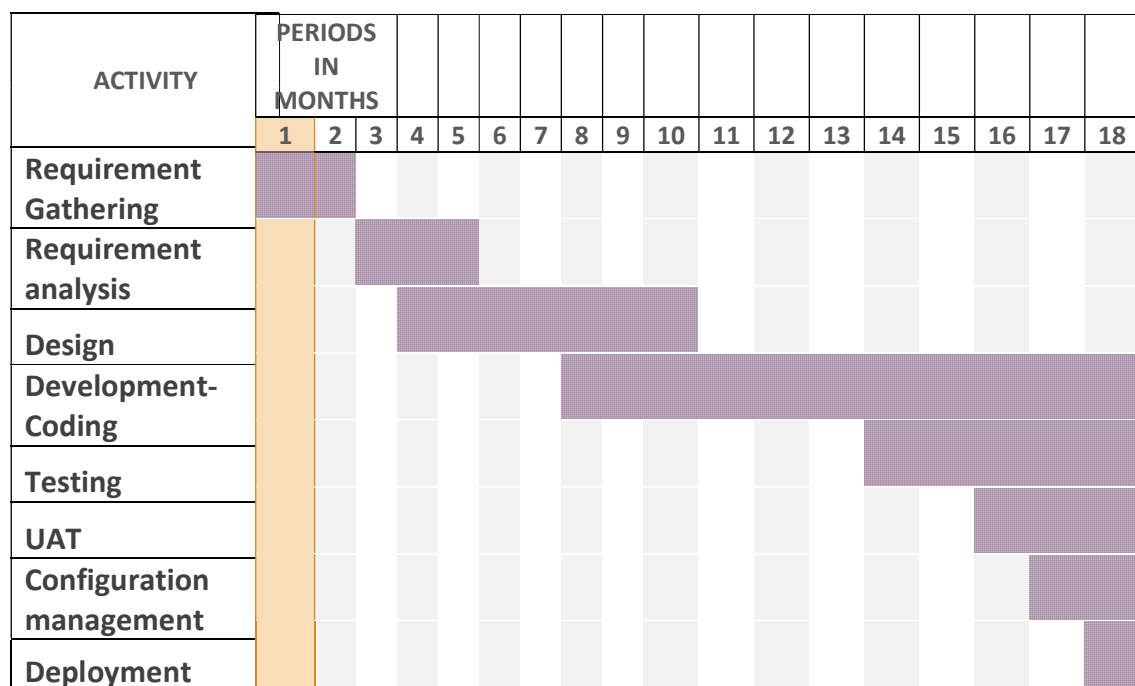
Question 11 – As a BA, state your reason for choosing one model for this project

Ans –

I would choose Waterfall model as the requirements are very clear, technical expertise in terms of Java team is available also subject matter experts that is farmers are also working as consultant.

This model will allow us divide project in various phases and review those phases at the end of phase to know whether project is running fine or not.

Question 12- Gantt Chart: -



ACTIVITY	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION
Requirement Gathering	1	2	1	2
Requirement analysis	3	3	3	3
Design	4	7	4	7
Development-Coding	8	13	8	13
Testing	14	15	14	15
UAT	16	16	16	16
Configuration management	17	17	17	17
Deployment and Implementation	18	18	18	18

Question 13 – The Committee of Mr. Henry, Mr. Pandu, and Mr. Dooku is now discussing about the funds and how to release the funds for development. They were studying Fixed Bid model and Billing Model. Share your knowledge on Fixed Bid model and Billing Model.

Ans –

- **Fixed Bid mode** - A fixed cost pricing model is a model that guarantees a fixed budget for the project, regardless of the time and expense.
- **Billing Model** – Resources working in the project will be billed to the client on Hourly basis eg – PM - \$120/Hr, Programmers – \$50/Hr, Network engineer - \$80/Hr.

Question 14, Preparer Timesheets of a BA in various stages of SDLC

Ans -Timesheet for BA -Requirement gathering stage

Requirement Gathering

Date	Task	In time	Out time	Over Time	Total Hours
21/07/22	Identify Stakeholder	10:00:00	18:00:00	0	8
22/07/22	Prepare RASI Matrix	10:00:00	18:00:00	0	8
23/07/22	Requirement Elicitation by Interviews	10:00:00	18:00:00	0	8
24/07/22	Brainstorming with stakeholders	10:00:00	18:00:00	0	8
25/07/22	Document the Requirement	10:00:00	18:00:00	0	8
26/07/22	Confirm the Requirement	10:00:00	18:00:00	0	8

Timesheet for BA-Requirement analysis stage-

Requirement Analysis

Date	Task	In time	Out time	Over Time	Total Hours
27/07/22	Sort the requirement	10:00:00	18:00:00	0	8
28/07/22	Prioritize the Requirement	10:00:00	18:00:00	0	8
29/07/22	Validate The Requirement	10:00:00	18:00:00	0	8

Timesheet for BA -Design stage-

DESIGN

Date	Task	In time	Out time	Over Time	Total Hours
30/08/22	Identify Actors and and Functions	10:00:00	18:00:00	0	8
31/08/22	Prepare use case diagram and specification	10:00:00	18:00:00	0	8
01/09/22	Activity Diagram	10:00:00	18:00:00	0	8
02/09/22	Data flow and DB design	10:00:00	18:00:00	0	8

Timesheet for Development stage-

Developement

Date	Task	In time	Out time	Over Time	Total Hours
03/09/22	Requirement communication to tech team	10:00:00	18:00:00	0	8
04/09/22	doubt Clarification	10:00:00	18:00:00	0	8
05/09/22	meeting with tech team for Prototype Presentation	10:00:00	18:00:00	0	8

Timesheet for Testing-

Testing					
Date	Task	In time	Out time	Over Time	Total Hours
06/10/22	Prepare use case test cases	10:00:00	18:00:00	0	8
07/10/22	Unit Testing	10:00:00	18:00:00	0	8
08/10/22	System integration testing	10:00:00	18:00:00	0	8

Timesheet for UAT-

UAT					
Date	Task	In time	Out time	Over Time	Total Hours
09/10/22	Plannig UAT	10:00:00	18:00:00	0	8
10/10/22	Visiting Customers place for UAT	10:00:00	18:00:00	0	8
11/10/22	Taking Feedback on UAT	10:00:00	18:00:00	0	8

Timesheet for Deployment-

Deployment					
Date	Task	In time	Out time	Over Time	Total Hours
12/10/22	Product Delivery	10:00:00	18:00:00	0	8
13/10/22	Create user Training Manual	10:00:00	18:00:00	0	8
14/10/22	Training of end user	10:00:00	18:00:00	0	8