Capstone Project 1 [Part 1/3]

Question 1: BPM (5 Marks)

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

Answer:

Business Process Model for Online Agriculture Products Store

1. Goal:

To help farmers buy seeds, fertilizers, and pesticides easily through a mobile or web app- without depending on local shops or middlemen.

2. Inputs:
   - Problems shared by farmers (not getting fertilizers, seeds etc.)
   - Product information from companies (fertilizer, seeds, pesticides)
   - Team members like developers, testers, BA, etc.
   - Budget (2 Crore INR), time (18 months), and CSR support
3. Resources:
   - Mr. Henry and his team
   - APT IT Solutions team (developers, PM, testers)
   - Internet, software tools, mobile app/web app tech
   - Product companies (who provide stock info)
4. Activities:
   - Understanding what farmers need
   - Collecting product details from companies
   - Designing a simple app that farmers can use
   - Listing products on the app
   - Allowing farmers to select items, place orders
   - Connecting farmers with sellers
   - Delivering the products to farmers doorstep
5. Outputs:
   - A working mobile/web app
   - Full product list (with prices, details)
   - Smooth buying process for farmers
   - Better connection between companies and farmers
6. Value to the Farmers (End Users):
   - No need to travel or depend on Agents.
   - Buy everything from home
   - Save money and time
   - Get better quality and timely products
   - Grow better crops and increase earnings.

Question 2: SWOT (5 Marks)

Mr. Karthik is doing SWOT analysis before he accepts this project, What Aspects he should consider as strengths, as weakness, as opportunity and as Threats.

Answer:

SWOT analysis for Online Agriculture Product Store Project

- Strengths (What's good/ what we already have)

1. Strong purpose: This project solves a real problem that farmers face daily like not getting fertilizers or seeds on time.
2. Support from experienced businessman: Mr. Henry is funding the project and has a clear vision, which makes execution smoother.
3. Good budget and time frame: The project has 2 crore INR and 18 months of time, which is quite reasonable to build a solid app.
4. Experienced team: APT IT Solutions already has a skilled team – project manager, developers, testers- so the project won't start from scratch.
5. Clear stakeholder roles: All stakeholders (Mr. Henry, farmers, product companies) are already identified and involved.

- Weaknesses (Where we might struggle)

1. Target users are not tech savvy: Most farmers may not know how to use apps, especially if it's their first time using a smartphone for buying products.
2. Internet connectivity issues: Many remote villages still have poor internet, which can affect usage of the app.
3. Product data entry challenge: Collecting accurate product info (like price, availability, quality) from companies regularly can be a difficult and time-consuming task.
4. Language barrier: If the app is only in English, rural farmers may not understand it well. Local language versions will be needed.
5. Initial trust issues – Farmers might hesitate to trust an online system for buying something as critical as farming supplies.

- Opportunities (What can make this project grow)

1. Huge untapped market: There are lakhs of farmers who will benefit from this solution across India.
2. Government Support: The Government is promoting digital agriculture and startups, so this project might get policy support.
3. Scope for more features: Later the app can add services like weather tips, soil testing, expert guidance, etc.
4. CSR and social impact: The project fits well under CSR (Corporate Social Responsibility) which means more companies may join hands to expand this.

5. Repeat orders and partnerships: If it works well, fertiliser/seed companies may regularly update products, and farmers may become repeat buyers.

❖ Threats (Risks that may affect project success)

1. Technical issues: If the app is slow, buggy, or crashes, farmers may stop using it altogether.
2. Resistance to change: Many farmers are used to buying from local shops and may not easily shift to digital platforms.
3. Competitors: Other Agri-Tech apps might enter the market with better offers or features.
4. Data Security: If farmer's or vendors' data isn't kept safe, it can lead to legal and trust issues.
5. Product delivery problems: If logistics/delivery fails (especially in remote areas), it may break user trust in the app.

Final Thoughts for Mr. Karthik:

Before accepting the project, Mr. Karthik should focus on:

- Building a simple, regional-language app
- Making it work well even on low internet
- Training and guiding farmers initially
- Ensuring trust, easy use, and reliable delivery

This way, the project can turn into a long-term success story.

Question 3: Feasibility Study (5 Marks)

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.

Answer:

Feasibility Study for Online Agriculture Product Store Project.

When Mr. Karthik is deciding whether this project can be done smoothly or not, he should look at 5 keys things: hardware, software, trained people, budget, and time.

1. Hardware Requirements:
   - Since its online app (Web + mobile), we don't need heavy infrastructure.
   - Basic servers (cloud hosting like AWS or Azure) are needed to store:
     - Product data
     - Farmer details
     - Order info.

2. Software Requirements:
   - Since the app will be built in java, we will need supporting tools like:
     - Java SDK, Spring Boot (for backend)
     - MySQL or MongoDB (for database)
     - ReactJS/Angular (for frontend)
     - Android Studio or Xcode (for mobile app if native is planned).

- APIs for payment gateways, product listing, order tracking, etc,.will also be needed.
- Admin panel software for manufacturers to upload/manage products.
- Testing tools like Postman, JIRA, and Selenium for QA team.

3.Trained Resources:

- Skilled professionals required:
  - Java Developers (2-3) for backend logic.
  - Frontend Developers (1-2) for website/app UI
  - Mobile app Developer (1) if going for native app.
  - UI/UX Designer to make the interface user friendly.
  - Testers/QA Engineers to ensure quality before launch.
  - Business Analyst to gather farmer and company requirements.
  - Project Manager to track progress and handle timeliness.
- Resources should be familiar with Agile/ Waterfall methods, and cloud platforms like AWS or Azure.

4. Budget:

- The project has been given 2 crore INR as a CSR budget.
- This amount is more than enough for:
  - Developer salaries
  - Cloud hosting
  - App design
  - Testing
  - Launch & promotion

- There's also room to add more features later, no budget issues expected.

6. Timeframe Check:
   - The project is planned for 18 months, which is a comfortable timeline for:
     - Building the app
     - Testing thoroughly
     - Launching in phases
     - Training farmers or giving demo videos

Mr. Karthik can confidently say Yes to this project from a feasibility point of view. He already has the right team, tech stack, budget, and timeline. Only thing to watch out for is making the app user-friendly for farmers, especially those new to technology.

<u>Question 4:</u> Gap Analysis – (Marks 5)

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.

Answer:

AS – IS Process (Current Situation Before the App)

Area	Current (AS–IS) Process
Fertilizer Purchase	Farmers travel to nearby towns or local sellers to buy fertilizers, which is time-consuming and costly.
Seed Availability	Farmers don't know which seeds are available or their quality—mostly rely on shopkeeper's suggestions.
Information Flow	There's no direct link between farmers and manufacturing companies.
Product Prices	Farmers pay higher prices due to middlemen and lack of options.
Effort Required	Farmers waste time, money, and energy going to different shops.
Lack of Updates	Farmers don't get updates about stock, new products, or pest control information.
Record Keeping	No track of previous purchases, expiry dates, or quality ratings.

TO – BE Process (Future Situation – After the App is Live):

Area	Future (TO–BE) Process
Fertilizer Purchase	Farmers can buy directly from their phones—no need to travel.
Seed Availability	Complete list of seeds with price, stock, and company name will be visible in the app.
Information Flow	Direct connection between farmers and companies.
Product Prices	Competitive pricing—farmers can compare and choose what suits their budget.
Effort Required	Everything can be done from home—saves time and energy.
Product Updates	Farmers will get alerts for new products, stock updates, and offers.
Record Keeping	App stores purchase history, reviews, and helps in planning farming better.

Key Gaps Solved by the New App:

1. Bridges the communication gap – Farmers will now know what companies are offering directly.
2. Removes dependency on middlemen – Direct access means better trust and better prices.

3. Saves time and cost – Farmers won't waste time roaming around shops or getting cheated.
4. Gives control to farmers – They'll now have more choices and info at their fingerprints.
5. Makes everything traceable - Records help in making smarter farming decisions every season.

Final Note for Mr. Karthik: The Gap analysis clearly shows that this project is not just helpful, but necessary. It fixes major pain points of farmers and makes their daily work smoother, faster, and cheaper. Once Mr. Henry sees this comparison, he'll understand the real impact this app can have.

Question 5: Risk Analysis (10 Marks)

List down different risk factors that may be involved (BA Risks and Process/Project Risks)

Answer:

When we work on a project like building an Online Agriculture Products Store, there are several risks that can come up during the Business Analysis (BA) phase and throughout the project. Here are some possible risks:

A. Business Analysis Risk:

1. **Unclear Requirements:**
   Farmers or stakeholders may not be able to explain what exactly they need. This can cause confusion and wrong features being developed.
2. **Changing Requirements:**
   The users might change their needs frequently after the project starts. This makes planning and development difficult.
3. **Lack of Domain Knowledge:**
   If the BA doesn't fully understand the farming industry or how agriculture products are bought/sold, it may lead to gaps in the solution.
4. **Improper Communication:**
   If the BA does not communicate well with developers or stakeholders, the final product may not meet expectations.
5. **Missing Use Cases:**
   Some important situations or user needs might be missed if proper analysis is not done, causing problems after the app goes live.

B. Project/Process Risks:

1. **Technology Issues:**
   Since the application is being developed in Java, there might be technical limitations or compatibility issues with mobile/web platforms.
2. **Timeline Delays:**
   If the development takes longer than expected due to resource issues or scope creep, it can delay the whole project.
3. **Budget Overrun:**
   If new features are added mid-project or if the team underestimates effort, the cost may go over the 2 Crore budget.

4. **Low User Adoption:**
   Farmers may not be comfortable using the online platform if it's not user-friendly or if they lack digital literacy.
5. **Data Security Issues:**
   Storing sensitive data like orders, payment details, or company info needs to be secure. Any breach can lead to loss of trust.
6. **Vendor Issues:**
   If manufacturers or sellers don't update their product details or pricing regularly, it can affect the system's usefulness.
7. **Infrastructure Failures:**
   Poor internet in rural areas may lead to slow or failed app usage. Server downtime can also disrupt access.

Conclusion:

To reduce these risks, we should have clear communication with all stakeholders, set realistic timelines, test thoroughly, and make sure the system is simple and secure for farmers to use.

Question 6: Stakeholder Analysis (RACI Matrix) (8 Marks)

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

Answer:

RACI stands for:

- R – Responsible (Who does the work?)
- A – Accountable (Who takes the final decision?)
- C – Consulted (Who gives input or advice?)
- I – Informed (Who needs updates on progress?)

Let's now apply this to the Online Agriculture Product Store Project.

RACI Matrix for the Project:

Stakeholder	Role	R	A	C	I

Mr. Henry	Project Sponsor		✓	✓	✓
Mr. Pandu	Financial Head-SOONY			✓	✓
Mr. Dooku	Project Coordinator	✓			✓
Mr. Vandanam	Project Manager (APT IT)	✓	✓		✓
Mr. Karthik	Delivery Head (APT IT)	✓		✓	✓
Business Analyst (You)	Requirement gathering, RACI matrix	✓		✓	✓
Developers (Bravo, Juhi, Teyson)	Build modules	✓			✓
Testers (Jason, Alekya)	Testing and defect logging	✓			✓
DB Admin (John)	Database Management	✓			✓
NW Admin (Mike)	Network setup/support	✓			✓
Farmers/Vendors	End Users/ Stakeholders		✓		✓

Explanation:

- Accountable (A) people like Mr. Henry and Mr. Vandanam make final decisions.
- Responsible (R) people like developers, testers, and BA do the work.
- Consulted (c) are usually senior stakeholder who give input/advice (e.g. sponsor).
- Informed (I) are those who should always know what's happening, even if not directly involved.

Why this is useful:

- Helps avoid confusion in roles.
- Speeds up decision – making.
- Ensures everyone knows what's expected from them.

<u>Question 7:</u> Business Case Document (8 Marks)

Help Mr. Karthik to prepare a Business case Document for the Online Agriculture Products Store Project?

Answer:

What is a Business Case Document?

A business case explains why the project should be done, what benefits it will bring, and what's needed to make it successful. It helps people like Mr. Henery (sponsor) and the APT IT team to take decisions confidently.

❖ Business Case Document for Online Agriculture Product Store

1. Project Title:

   Online Agriculture Product Store for Farmers (CSR Initiative)

2. Purpose of the Project (Why this project?)

   Currently, farmers in many rural areas face big issues:

   - They don't get fertilizers/seeds on time
   - They have to travel far, wasting time and money.
   - They rely on middlemen who charge extra
   - Many don't know about product quality or availability.

   This project aims to fix these problems by building a mobile and web – based platform where farmers can directly:

   - View available products
   - Place orders
   - Get them delivered at home

   This will save time, reduce costs and make farming more efficient.

3. Objectives (What this project wants to achieve)
   - Provide a simple digital platform for farmers to buy agriculture products.
   - Help product companies connect directly with end users.
   - Reduce the dependency on agents/middlemen.
   - Improve farming output by ensuring timely product deelivery.
   - Support rural digital growth under the CSR initiative.

4. Stakeholders Involved

Stakeholder	Role
Mr. henry	Project Sponsor, CSR Head
Mr. Karthik	Business Analyst – planning & coordination
Farmers	End Users
Product Companies	Vendors supplying seeds, fertilizers
APT IT Solutions	Development team (PM, Devs,QA,DB)
Delivery Partners	Logistics for delivering products

5. Project Scope (What's included)

   In Scope:

   - Web + mobile app for ordering agriculture products.
   - Multi–language support.
   - Product listing by companies.
   - Order tracking, payment options.
   - Delivery coordination.

   Out of scope (for now):

   - International shipping
   - Farm tools/equipment sales
   - Live chat with agri experts

6. Benefits/ Value Created

Benefit	Who Gains
Easy access to seeds, fertilizers	Farmers
Saves time, money, travel	Farmers
Direct connections to customers	Product Companies
CSR success & brand image boost	Sponsor (Mr. Henry)
Digital literacy & growth	Rural communities

7. Project Budget and Timeline
    - Budget:2 crore (allocated by Mr. Henry's CSR fund)
    - Duration: 18 months total
        - Planning:2 months
        - Development:9 months
        - Testing & Feedback:4 months
        - Launch & Support: 3 months

8. Risks & Challenges

Risk	Possible Solution
Low digital literacy in farmers	Provide training videos/support helpline
Poor internet in rural areas	Allow offline order-saving & retry options
Resistance to using new app	Pilot launch+ demos+ farmer workshops
Data Entry delays from companies	Give access to upload/manage stock easily

9. Final Recommendation

    Mr. Karthik strongly recommends moving forward with the project, because:

- The need is real and urgent
- The solution is practical and double
- The budget and team are ready
- It will create huge positive impact under CSR

The project is not just about tech – it's about empowering farmers and improving the agriculture ecosystem in a modern, accessible way.

Question 8: Four SDLC Methodologies (8 Marks)

The committee of Mr. Henry, Mr. Pandu, and Mr. Dooku and Mr. Karthik are having a discussion on project Development Approach.

Mr. Karthik explained to Mr. Henry about SDLC. And four methodologies like Sequential, Iterative, Evolutionary, and Agile. Please share your thoughts and clarity on methodologies.

Answer:

1. Sequential
    - This is a step – by – step method.
    - You complete one phase fully before starting the next. (Example: First planning, then designing, then coding, then testing)

- Once a step is finished, you don't go back.

Good for:

→ Projects where everything is clearly defined from the beginning.
→ Projects with less change expected.

Limitations:

Not flexible – if you find a mistake later, it's hard to go back.

Real – life example: Like building a house – you can't change the foundation after you've built the walls.

2. Iterative
   - You build a basic version first, then keep improving it step by step.
   - You don't wait till the end to test- you make small updates continuously.

Good for:

→ Projects where requirements are not fully clear in the beginning.
→ Useful when clients want to "see something early."

Limitations:

Risk of poor planning if too many changes happen randomly.

Real – life example: Like writing a story – you write a draft, review it, then keep editing and improving.

3. Evolutionary

   - Similar to Iterative, but here the software keeps evolving based on user feedback and needs.
   - Each version becomes more complete than the last.

Good for:

→ Projects where users are directly involved and give feedback after every release.
→ Suitable when the end product is not 100% defined early.

Limitation:

→ It can take more time and resources as new requirements may keep coming.
→ Real–life example: Like a mobile app that keeps getting new updates based on user reviews.

4. Agile
   - Agile is like a modern version of Evolutionary/Iterative.
   - Work is done in small sprints (2-4 weeks) with regular feedback from the client.

- Each sprint gives a working piece of the product.

Good For:

→ Projects where clients are involved closely and need frequent changes.
→ Fast – moving projects with evolving goals.

Limitations:

→ Needs regular client involvement and quick decision – making.
→ Real life example: Like preparing a big meal in parts – you cook one dish, serve it, get feedback, and adjust the next dish accordingly.

❖ Which Model is best for Mr. Henry's Online Agriculture Store?

Agile or Evolutionary Model is best.

Why?

- Farmers and product companies may change their needs after using the first version.
- The app has to be user – friendly, which means feedback-based improvements will be needed.
- Agile allows Mr. Karthik's team to deliver fast, get real feedback, and adapt easily.

Summary (Comparision Table):

Methodology	**Approach**	**Flexibility**	**Best For**
Sequential	Step-by-step, fixed	Low	Fixed- scope projects
Iterative	Repeats steps to improve	Medium	Projects with unclear requirements
Evolutionary	Grows based on user feedback	High	Projects with changing user needs
Agile	Fast, feedback-driven sprints	Very High	Modern, fast-paced, flexible projects

<u>Question 9:</u> Waterfall, RUP, Spiral and Scrum Models (8 Marks)

They discussed models in SDLC like waterfall, RUP, Spiral and Scrum. You put forth your understanding on these models. When the APT IT SOLUTIONS company got the project to make this online agriculture product store, there was a difference of opinion between a couple of SMEs and the project team regarding which methodology would be more suitable for this project. SMEs are stressing the use of the V model, and the project team is leaning more towards the side of the waterfall model. As a business analyst, which do you think would be better and why?

Answer:

1. **Waterfall Model:**
   - Step-by-step process – like water flowing from top to bottom.
   - Each phase (requirements, design, coding, testing, delivery) is done once, in order.
   - No going back once a phase is completed.

   Pros:

   - Easy to manage
   - Good if all requirements are known in the beginning

   Cons:

   - Not flexible
   - Late testing means **bugs are found very late**

   Fit for: Simple or fixed project – Not ideal for this agriculture app where farmer needs may change.

2. **RUP (Rational Unified Process)**
   - Developed by IBM
   - Project is divided into 4 phases: Inception, Elaboration, Construction, and Transition
   - Mix of planning + prototyping+ testing at every stage

   Pros:

   - Very structures
   - Handles risks early

   Cons:

   - Bit complex
   - Needs skilled teams and clear documentation

   Fit for: Large or high–risk enterprise projects with complex needs.

3. **Spiral Model**

   - Works in repeated loops (Spirals): Plan-Risk Analysis – Build – Test – Repeat
   - Each round (spiral) improves the projects with new features or fixes
   - Heavy focus on risk management.

   Pros:

   - Great for risky or experimental projects
   - Gives you early prototypes

   Cons:

   - Costly
   - Time – consuming

- Hard to manage without experienced team

Fit for: Projects where risk and uncertainty are very high – like defence, aerospace.

4. **Scrum Model :**

- A type of Agile – work is broken into short sprints (usually 2-4 weeks)
- Teams meet daily (daily standups), and regular feedback is taken
- Client and user involvement is continuous

Pros:

- Fast, flexible
- Allows changes any time
- Regular working product demo

Cons:

- Needs regular team collaboration
- Requires active user feedback

Fit for: projects like this app – where users (farmers) might give feedback often and changes are expected.

✓ Recommendation as Business Analyst

As a BA, I would recommend using the Scrum (Agile) Model for this agriculture app project.

✓ Simple Reasons:

- Farmers and stakeholders may change their needs after using app.
- Scrum allows us to build quickly and improve based on feedback
- The team can deliver working versions regularly (after every sprint)
- Easy to adjust if farmers ask for things like multi – language, offline support, or price comparison.

❖ Final Summary Table:

Model	Best For	Flexibility	Why Not Ideal/Ideal Here
Waterfall	Simple projects, fixed scope	Low	Too rigid for evolving needs
RUP	Enterprise, well-documented projects	Medium	Too complex for CSR-level app
Spiral	High-risk, experimental projects	High	Overkill for this project

Scrum	Fast-paced, flexible projects	Very High	Best for evolving user feedback

Question 10: Waterfall vs V- Model (5 Marks)

Write down the differences between the waterfall model and V-Model?

Answer:

Differences:

Waterfall	V-Model
Testing after development	Testing parallel to development
Bugs found late	Bugs found early
Linear, less structured	V-shaped, well-structured
Higher failure risk	Lower risk via early validation
Not ideal for critical apps	Preferred for high-quality domains
Easier for small projects	More suitable for complex, quality-focused ones

Summary:

- Use waterfall when you have clear, unchanging requirements and a small project.
- Use V-Model when quality, testing, and safety are very important, and you want to catch mistakes early.

Question 11: Justify Your Choice (3 Marks)

As a BA, state your reason for choosing one model for this project?

Answer:

As a Business Analyst, I would choose the V-Model for this project.

1. Early Testing – Fewer Mistakes Later

This project will be used by farmers in rural areas, where even a small issue in product selection, delivery, or payment can create frustration and loss of trust.

- The V-Model helps us to plan testing from the very beginning, so we can find add fix mistakes early.
- This saves time, money, and reputation in the long run.

2. High Focus on Quality

Since this is a CSR initiative, and the goal is to help farmers – quality and accuracy matter more than speed.

- The V-Model ensures that every requirement is verified and validated proprly.
- This avoids surprises later in development

3. Requirements Are Mostly Stable

Based on the case study, Mr. Henry and his team have already gathered clear, fixed requirements from the farmers and vendors.

- Since we are not expecting frequent changes, the V-Model works better than Agile or Waterfall.

Conclusion:

V – Model is a more disciplined and quality–focused approach. It will help deliver a reliable, farmer-friendly platform with fewer bugs and smoother experience, which aligns well with the goals of this project.

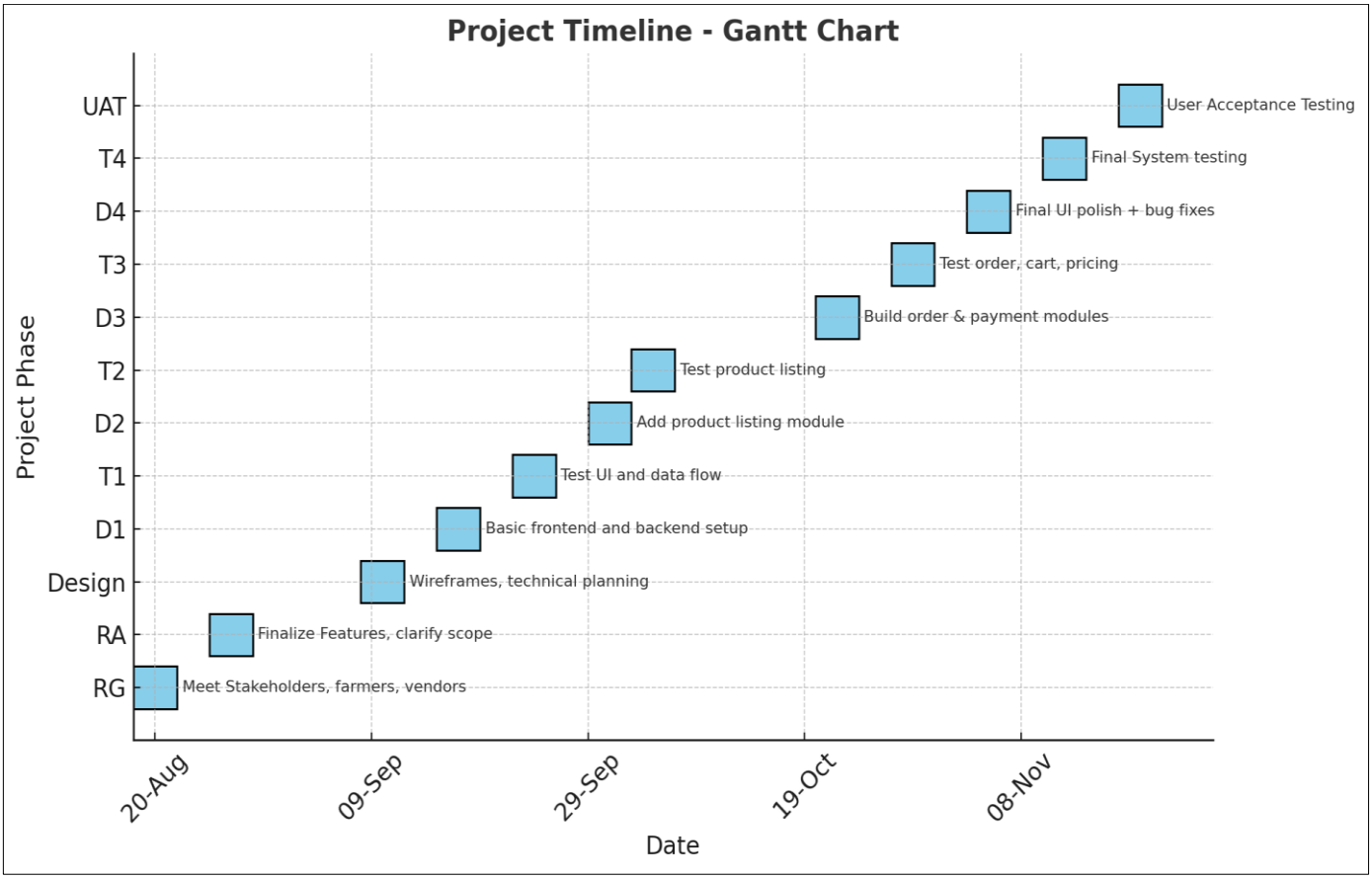
Question 12: Gantt Chart (5 Marks)

The Committee of Mr. Henry, Mr. Pandu, and Mr. Dooku discussed with Mr. Karthik and finalized on the V Model approach (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) Mr. Vandanam is mapped as a PM to this project. He studies this Project and Prepares a Gantt chart with V Model (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) as development process and the Resources are PM, BA, Java Developers, testers, DB Admin, NW Admin.

Answer:

Sample Gantt Chart for Online Agriculture Store Project (V-Model Based)

Here's a simplified and practical version of a Gantt Chart showing who does what and when, based on the V-Model steps.



✓ Phases & Timeline Table (Sample)

Phase	Activities	Team Involved	Duration
RG (Requirement Gathering)	Meet Stakeholders, farmers, vendors	BA, PM	18th Aug
RA (Requirement Analysis)	Finalize Features, clarify scope	BA, PM	25th Aug
Design	Wireframes, technical planning	BA, Dev Team, NW Admin	8th Sep
D1 (Dev 1)	Basic frontend and backend setup	Java Devs, DB Admin	15th Sep
T1 (Test 1)	Test UI and data flow	Testers	22nd Sep
D2	Add product listing module	Java Devs, DB Admin	29th Sep

T2	Test product listing	Testers	3rd Oct
D3	Build order & payment modules	Java Devs	20th Oct
T3	Test order, cart, pricing	Testers	27th Oct
D4	Final UI polish + bug fixes	Java Devs, NW Admin	3rd Nov
T4	Final System testing	Testers	10th Nov
UAT	User Acceptance Testing	BA, Testers, Client (Farmers)	17th Nov

✓ Resources Involved:
- PM (Mr. Vandanam): Monitors progress, approves deliverables.
- BA: Gathers requirements, supports design, validates UAT.
- Java Developers: Code the product and modules (D11 – D4)
- Testers: Test each module as per V-Model (T1-T4)
- DB Admin: helps with database setup during development.
- NW Admin: Supports network, deployment, and tech issues.

✓ How this Gantt Chart Helps:
- Shows clear timeline from start to delivery
- Assigns roles & responsibilities to each person.
- Helps Mr. Karthik and Mr. Vandanam track project progress.
- Ensures testing is done after every development phase (V-Model style)

Question 13: Fixed Bid Vs Billing (5 Marks)

Explain the difference between Fixed Bid and Billing projects?

Answer:

Fixed Bid vs Billing Projects (Time & Material)

Sr. No.	Point	Fixed Bid Project	Billing/Time &Material Project
1	Costing Method	Fixed price is agreed before the work starts	Client is billed based on time and resources used
2	Scope flexibility	Very limited – scope is usually locked early	Flexible – scope can change as per ongoing needs
3	Risk ownership	Vendor/IT company carries more risk	Client shares the risk (more involved in decisions)
4	Payment terms	Payment based on milestones or deliverables	Payment is done monthly or weekly, based on hours worked
5	Budget Control	Client knows the total cost from the beginning	Final cost depends on effort and hours consumed
6	Best for	Short, well-defined projects with clear goals	Long-term or evolving projects with changing requirements
7	Client involvement	Less frequent involvement needed	Regular involvement needed for approvals and changes
8	Examples	Website for a local shop, fixed mobile app scope	E-commerce platform, support projects, ongoing software builds

✓ **Simple Explanation in Practical terms:**

- Fixed Bid is like giving a quote to build a house:
  "we'll build it for 10 lakhs no matter how long it takes."
- Billing/Time & Material is like hiring a contractor by the day:
  "we'll charge 5000k per day, and you can change things as we go".

✓ Which one is better?

It depends on the project:

- If everything is clear and won't change- Fixed Bid is better.
- If changes are expected during the project – Billing works better.

Question 14: Preparer Timesheets of a BA in various stages of SDLC (20 marks)

➢ Design Timesheet of a BA

➢ Development Timesheet of a BA

➢ Testing Timesheet of a BA

➢ UAT Timesheet of a BA

➢ Deployment n Implementation Timesheet of a BA

Answer:

Here's a detailed yet simple timesheet structure showing BA activities, hours, and contribution in each SDLC phase. This is written in a realistic, non–bookish style, perfect for practical understanding and academic submission.

1. Design Stage – BA Timesheet

Designing			
Timecard			
Employee Name			
Date (Enter 1st of period only)	**Time In (HH:MM)**	**Time Out (HH:MM)**	Designing
27-12-2021	AM 9:00:00	PM 6:00:00	3 Hrs
28-12-2021	AM 9:00:00	PM 5:00:00	
29-12-2021	AM 9:00:00	PM 5:00:00	3 Hrs
30-12-2021	AM 9:00:00	PM 5:00:00	3 Hrs
31-12-2021	AM 9:00:00	PM 5:00:00	
03-01-2022	AM 9:00:00	PM 5:00:00	
04-01-2022	AM 9:00:00	PM 5:00:00	2 Hrs
05-01-2022	AM 9:00:00	PM 5:00:00	3 hrs
06-01-2022	AM 9:00:00	PM 5:00:00	4 Hrs
07-01-2022	AM 9:00:00	PM 5:00:00	
	Total Hours OF Designing		18 Hrs

Total Hours (Design Stage) = 18 hours

2. Development Stage – BA Timesheet

Development			
Timecard			
employee Name			
Date (Enter 1st of period only)	**Time In (HH:MM)**	**Time Out (HH:MM)**	**Development**
27-12-2021	AM 9:00:00	PM 6:00:00	
28-12-2021	AM 9:00:00	PM 5:00:00	4 Hrs
29-12-2021	AM 9:00:00	PM 5:00:00	
30-12-2021	AM 9:00:00	PM 5:00:00	
31-12-2021	AM 9:00:00	PM 5:00:00	3 Hrs
03-01-2022	AM 9:00:00	PM 5:00:00	5 Hrs
04-01-2022	AM 9:00:00	PM 5:00:00	5 Hrs
05-01-2022	AM 9:00:00	PM 5:00:00	
06-01-2022	AM 9:00:00	PM 5:00:00	3 Hrs
07-01-2022	AM 9:00:00	PM 5:00:00	2 Hrs
	Total Hours of Development		22 Hrs

Total Hours (Development Stage) = 22 hours

3. Testing Stage – BA Timesheet

Testing			
Timecard			
employee Name			
Date (Enter 1st of period only)	**Time In (HH:MM)**	**Time Out (HH:MM)**	**Testing**
27-12-2021	AM 9:00:00	PM 6:00:00	
28-12-2021	AM 9:00:00	PM 5:00:00	2 Hrs
29-12-2021	AM 9:00:00	PM 5:00:00	
30-12-2021	AM 9:00:00	PM 5:00:00	
31-12-2021	AM 9:00:00	PM 5:00:00	2 Hrs
03-01-2022	AM 9:00:00	PM 5:00:00	2 Hrs
04-01-2022	AM 9:00:00	PM 5:00:00	1 Hrs
05-01-2022	AM 9:00:00	PM 5:00:00	
06-01-2022	AM 9:00:00	PM 5:00:00	

07-01-2022	AM 9:00:00	PM 5:00:00	
	Total Hours		7 Hrs

Total Hours (Testing Stage) = 7 hours

4. UAT Stage (User Acceptance Testing) - BA Timesheet

UAT			
Timecard			
employee Name			
Date (Enter 1st of period only)	**Time In (HH:MM)**	**Time Out (HH:MM)**	UAT
27-12-2021	AM 9:00:00	PM 6:00:00	
28-12-2021	AM 9:00:00	PM 5:00:00	2 Hrs
29-12-2021	AM 9:00:00	PM 5:00:00	
30-12-2021	AM 9:00:00	PM 5:00:00	
31-12-2021	AM 9:00:00	PM 5:00:00	3 Hrs
03-01-2022	AM 9:00:00	PM 5:00:00	1 Hrs
04-01-2022	AM 9:00:00	PM 5:00:00	
05-01-2022	AM 9:00:00	PM 5:00:00	
06-01-2022	AM 9:00:00	PM 5:00:00	1 hrs
07-01-2022	AM 9:00:00	PM 5:00:00	2 Hrs
	Total Hours		9 Hrs

Total Hours (UAT Stage) = 9 hours

5. Deployment & Implementation Stage – BA Timesheet

Development and Implementation			
Timecard			
Employee Name			
Date (Enter 1st of period only)	**Time In (HH:MM)**	**Time Out (HH:MM)**	D & I
27-12-2021	AM 9:00:00	PM 6:00:00	
28-12-2021	AM 9:00:00	PM 5:00:00	
29-12-2021	AM 9:00:00	PM 5:00:00	
30-12-2021	AM 9:00:00	PM 5:00:00	
31-12-2021	AM 9:00:00	PM 5:00:00	
03-01-2022	AM 9:00:00	PM 5:00:00	
04-01-2022	AM 9:00:00	PM 5:00:00	
05-01-2022	AM 9:00:00	PM 5:00:00	
06-01-2022	AM 9:00:00	PM 5:00:00	
07-01-2022	AM 9:00:00	PM 5:00:00	4 Hrs

	Total Hours of D & I		4 Hrs

Total Hours (Deployment Stage) = 4

Final Summary Table:

SDLC Stage	BA Contribution (Hours)
Design	18
Development	22
Testing	7
UAT	9
Deployment & Implementation	4
Total	**60**