* Question 1) Identify business process model for online agriculture store. ( Goal, Inputs, Resources, Outputs, Activities, Value created to the end customer?

ANS: **Goal** :- Goal of the business process model for online agriculture store is to solve the problem which was being faced by farmer was they were facing some problem while procuring fertilizer and seeds and also pesticides so goal of the plat form is to build a online agriculture store so that they can buy all these things from that platform.

* INPUT :- while building this platform there are so many inputs like farmer, manufacturer, developer, product catalogue also the tester , project manager designer so these are the main input we have .
* Resources : Farmers, tech team, manufacturing companies, product details these are the important resources which are helping out in this essential point.
* Output :- Is to build a good online web/ and application for the farmer so they can buy all the product regarding farming like seeds, fertilizer , pesticide with the help of online application store. By this they can directly communicate with vendor of the product also they can see the product and get delivery to their own location.
* Activity :- activities will be application should be accept the product details from the manufactures and should be able to display them to the farmers . farmers will browse through these product and select the products what they need and request to buy them and deliver them to farmer location.
* Value add :- Solving the genuine problem which was being faced by the farmer. And also saving there time apart from that giving them the plat form which is user friendly also they can get the variety of product because of the online agriculture store the main objective was to help farmer to get the required product with the easy option.

Q2 ) Mr. karthik is doing SWOT analysis before the accepts this project. What Aspects he should consider as Strengths, as weaknesses, as Opportunity and as threats?

* Ans :- 1) Strength :- in the strength first thing it is innovative platform online agriculture platform.
* It solve the genuine problem of the farmer.
* Create the new market opportunities to the farmer to buy seeds, fertilizer , pesticides with the help of this platform so this is a another strength .
* Save the time of farmer and give them the product as per their requirement.
* Weakness :-
* Lack of knowledge to the farmer about this online platform.
* Most of the farmer they don’t know how to use the application and all so this the another weakness .
* Major farmers are preferring the offline buying rather than online so this also comes under the weakness.

Opportunity :-

* Farmer who are not able to come city on daily basis they can also by these product form this platform.
* They can also sell their product in the market with the help of this platform .
* Farmer and manufacturer they both can have good communication via this online agriculture store.

Threats :-

* First thing which comes under the threats is competition from big stores.
* Market fluctuation is the another threats for agriculture store .
* Climate change is the essential threat because it does the directly impact on the price as well as on demand and supply.

Feasibility study :- Mr. Karthik is a delivery head in Apt it solution company . and he has talent pool available for this project . in this project delivery head karthik has Mr. vandanam is project manager , mr juhi is senior java developer, mr teyson, ms lucle, mr bravo are java developers, network admin is mr mike and db admin is john. For this given project budget is 2 crores INR and 18 months duration.

Gap Analysis :- in the gap analysis of this online agriculture project there are three factor which plays the major role in the gap analysis so first one is objective, current state, and desired state.

Objective:- Is to build a online agriculture store for the farmer to buy the seeds , fertilizer, and pesticides apart from that all farmers they can have connectivity with the manufacturer. By building these application platform they can buy all required product from the same platform in order to get the seed, crop and the product which they want at their own place .

* As is / current state :- farmers they all are depending on the offline store and to them its very hard to go out side on daily basis for buying the required product. And they all are buying product physically from the offline store and also they are not getting they product like seeds, fertilizer, and pesticides which they required.
* Farmer are not connected with the vendor .
* They are not able to do communication about the product and farmer they are not able to see the required product.
* In old module farmer they required huge amount of time in order get the product the current state is to time taking.
* Farmer they are dependent on offline store there fore monopoly it has been created there in the market.

To be / desired state :- Farmer should able to get all the required product with the help of the online agriculture store.

* In the future state farmer is going to see the product on the application with proper detail.
* Also farmer can see the product in the application with price manufacturing date also with the proper dimension.
* Farmer can place the order by sitting at home without going out side of the village.
* Farmer can make the payment by online mode as well as offline mode so this is the another feature we have in online store.
* Farmer can browse the product from these product which are available on the platform.
* Also after the product selection farmer they can get delivery on their own location.

Risk analysis :- (BA Risks)( For online agriculture store )

* Project domain
* Experience of BA
* Improper requirement gathering
* Team management skill
* Change in requirement
* Tracking a requirement
* Modeling a requirement
* Process Risks :- If the farmer placed a order an did not received the required product within the given time then what ?
* Farmer paid money for the product but due to the server problem payment is not received then what?
* Farmer is facing some network issue while placing a order .
* Suppose farmer want a huge amount of stock and stock is unavailable then what ?

Stakeholder Analysis :- In the process of stakeholder analysis we have to find out the key stake holders who are working together on the project and as per the skills and capability they have assigned the task

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Project plan | BRD | Design | Test cases |
| Project manager | R | A | I | I |
| BA | I | R | A | A |
| UI/UX designer | I | I | R | I |
| Developer | I | I | I | I |
| Tester | I | I | A | R |

In the stakeholder analysis as per their role task is being assigned to them as per them role and responsibility they all are responsible, accountable, informed, supported and consulted .

Business case document :-

* Executive summary :- In the online agriculture store there are some farmer who are facing problem while procuring some product like seeds, fertilizer, pesticide so the one of their friend he wants to resolve the problem with the IT solution by building the online platform for them so that they can buy all these product from the platform with the easy way also they can have connectivity with manufacturer .
* Benefit :- Benefit of the online agriculture store are so many not a single one but there are several like farmer can buy product with using this application, also he can get delivery by his own location with appropriate details about the product , farmer can see the product virtually without visiting their physically , also its save the time of buyer and get the good product as per his demand, platform is easy to use and user friendly .
* Cost :- In this hole process Cost plays a vital role because cost of the product is to low . once the platform is prepared then we don’t have to build it again so therefore cost of the product is to less. Save lot of time as well as money.

* Problem :- In this business case document main objective is to solve the problem of farmer which they all were facing problem for buying the seeds , pesticides , fertilizer and so on this is the main problem which the client wants to solve with the Proposed IT solution,.
* Opportunity :- In this hole process there are so many opportunity are available like by building this platform farmer can get their required product, apart from that the vendor they can get more sale with the help of this plat form they increase their sale and business also , because of the online agriculture store there is good connectivity between buyer and seller.
* That s how the this plat form help to the user in multiple ways .

Four SDLC Methodologies :-

* Sequential :- This is the basic version of SDLC and also linear sequential lifecycle model in this model second phase start after the completion of first step . and there is no overlapping in this model it goes sequentially from on out put to another . there are several steps are involved in this method so first step is Requirement gathering, analysis of requirement , Implementation, testing, deployment, Maintain.

Requirement Gathering :- in this phase BA is collecting information from the client about the project develop that which project or product client wants build about that BA gather requirement and then document it in the first step of sequential method.

Requirement Analysis:- In the second phase of SDLC model BA does analysis of the requirement of the requirement and find out the business requirement and the functional requirement and document them well.

Design :- in the design phase the designer they are doing design of the product and as per the requirement of the product they are preparing they design by they UI/UX Designer .

Implementation :- in this phase of the SDLC developing model after the designing phase development team is doing work on it for building they product with they help of developer.

Testing :- after they coding phase tester will test the project they check , whether there is any bug in system if they found then they work on it .

Deployment :- in this phase of linear method of SDLC after they completion of testing product will ready for launching in the market .

Maintenance :- In the last step of SDLC method of sequential method all thing about the product will be observed here weather the developed product is working well or not and also by the user feedback will be taken for they improvement of the project .

Advantage OF the sequential method :-

* Easy to understand.
* Works well for smaller project .
* Simple ad easy
* Result are well documented.

Disadvantages :-

* Risk and uncertainty
* Not used for big and complex project
* Not for that project where requirement are changing continuously

Iterative :- this model is a incremental model where the each phase of the model is well observed in order to develop it carefully with the proper management in this model there are several phase are available like Communication, planning, modeling, construction, deployment .

In the method of they iterative model each phase is tested by the team for the better understanding about the product and they feedback is taken by they client . also the first requirement they got they start doing work on it again they sent it for they feedback purpose .

Advantages :-

* Work with small size team
* Initial delivery of they project is faster.
* This model can accommodate changes
* Customer response and feedback is considered

Disadvantages :-

Actual cost may exceed the estimated cost

System broken into small increments.

Agile Method :- IN the Development of the software agile is they methodology is commonly used for the changing they requirement , change of the requirement is well handled by the agile . and in the process of the agile model they main focus on they people and interaction rather than tool and techniques.

* It gives the more focus on the incremental .
* In this method the core requirement are give first priority to the development .
* Each increment is to sent to the respective stakeholder for the feedback purpose.
* In this model each phase is developed by they incremental way .
* So that the product can be developed in appropriate way .
* Also its help in getting the proper feedback from the stakeholders.
* So the complex, and large project are being handled by the agile project .
* It gives the direction about the project that it is on right track of they project.

Question 9) :- Waterfall RUP Spiral and scrum model ?

ANS :-

Waterfall :- In this model of SDLC this model contain several stages like Requirement gathering , Analysis of requirement , Design, Implementation, Testing, Deployment and then Maintenance. These are the stage we have in the waterfall model so basically waterfall model is useful for the linear and sequential software development where each stage it is developed after the previous stage.

* This model is easy to understand
* Also easy to use and simple
* There is no up-down in this model every thing is going with the sequential way.
* Waterfall model mostly used for only small project.
* Waterfall model document all they requirement appropriately.

Disadvantages :-

* This model is unpredictable hard to predict.
* Changing requirement will not happen in the method.
* Only useful for the small project not suitable for big and complex project.

Spiral :- This is the most important model of SDLC where the High risk is involved in the each phase we are identifying the requirement that what are the requirement we have . and also the this is the combination of iterative model and waterfall model in this model we measurably we have four pillar like Identification, Design, Risk analysis, Building the software.

* Identification :- in this phase all required information is gathered from the respective stakeholder and after the analysis of the requirement work is started by the developer on the software development.
* Design :- in this phase of the software development phase we are making the design on the basis of given requirement so design phase is developed by the given requirement and your requirement phase is most essential for the building the design.

And this is called the blue print of the system how the system is going to look after development.

Building :- In this phase of the development we are trying to work on in with the help of previous phase like in this process previous phase it becomes input to this phase. Also in the development phase coding is done by the development team, apart from that which language is suitable for this project it is selected in this phase so that the project can develop in good way .

Risk Analysis:- In this phase we are evaluating the developed product whether the developed product is working well or not apart from that also we are doing system integration testing, unit testing, system test, UAT these are the test are being performed while evaluating the system and while analyzing the developed product.

Advantages :-

* Project monitoring is easy
* Suitable for the high risk
* Reduces the number of risk
* Changes can be done in late stage.

Dis adv :-

* Not suitable for low risk projects
* Cost of this approach is usually high
* Strict rules and protocols are followed.

Summary :- in this Spiral Model phase each phase is Identified well and the Design , Risk analysis, and the building and development phase is begin. Apart from that from each phase feedback is taken for the better understanding about the project . if there are some changes in it then again the spiral model does same thing for the resolution of the problem.

Scrum :- In the approach of Scrum there are so many factor are important so basically in scrum there is product owner who is also involved. So he decides how the product is going to be .

Product Backlog :- in the product back log there is list of requirement which has to be developed with the planning so here in the PB we are prioritizing the requirement in order to completion.

Sprint :- also In the scrum development method we have sprint where the time line it is involved and the basis of time line work is completed , sprint is nothing but the time for or deadline.

Sprint planning :- In this phase there are some work prioritization is being done by the team for the development of the product . in the Sprint planning the requirement are collected for the development purpose. And work will be done on it.

Sprint Backlog :- in the sprint backlog work which is pending on that work team is doing work so basically sprint period it would be 2 to 4 week in the time work is done. And also for the completion of the Sprint backlog daily scrum is conducted by the scrum master. In the scrum meeting the discussion it is on the progress of the project , difficulties, or related queries asked to the respective person like stakeholders, scrum master, developer, tester .

PSPI :- After the all daily scrum meeting one last step is done that is potential shippable product increment .on this at the end of the project one review is conducted on the basis of this product.

Sprint review :- in the sprint review the developed product is shown to the stakeholder to the user that come and give your feedback about this developed product , that the all required things are available or not so for the taking review from the team member sprint review it is conducted.

Sprint Retrospective :- After the completion of the project at the end sprint retrospective is conducted for the knowing the weakness, strength, opportunity, and the planning about the upcoming project everything is discussed in the sprint retrospective meeting .

Q 9) when the APT IT solution company go the project to make this online agriculture product store , there is a difference of opinion between a couple of SME and the project team regarding which methodology would be more suitable for this project. SME are stressing on using the V model and the project team is leaning more onto the side of waterfall as a business. Which methodology do you think would be better for this project?

Ans :- In this above case study which is about the online agriculture store as a business analyst I will use the V model for the project because in the V model there are three steps are involved Verification phase , Coding phase, Validation phase

In each phase we are verifying the requirement , analyzing, testing it with the different testing methods also we are design it.

In the verification phase these are the some step are include.

* Requirement Analysis :- IN the requirement analysis phase gathered requirement are analyzed by the business analyst. For the clarity of the requirement.
* System design :- in this phase designing of the system it is done by the designer to know more about the system and to interact with the system.
* Module design :- in the phase of this requirement are module and the same time UAT is taken by the client for the clarity about the requirement so that they can start the work on given project.

In V Model while doing the analysis of the requirement on same time Acceptance testing is done also system test is done for design phase also while designing while doing the analysis of the requirement these thing are done .

* In the development of the online agriculture store V Model module is suitable for this one because in the v model.
* Requirement analysis is done along with user acceptance test
* Every requirement is verified and validate.
* While building the product testing is done for the clarity purpose.
* Changes can be accepted in the v model so that as compare to waterfall model v model is good for the online agriculture store.
* In even late in the development changes in requirement can happen.
* If the project is complex so in that waterfall model will not work.
* Product is verified at each stage for the better improvement of the product.

IN V Model Requirement analysis, system design , acceptance test design, unit test , integration testing, unit testing is done so for the building the quality product as a business analyst I will go with V Model for the developing the online agriculture store.

Question 10) Differences between waterfall model and V Model ?

* Ans –
* Waterfall is linear, sequential approach where each phase must be completed before moving to the next.
* V model is an extension of the waterfall model, where each development phase has a corresponding testing phase which is forming a V shape
* Waterfall follows a strict sequential order like Requirement, design, implementation , testing, deployment, Maintenance.
* Where as the V model phases are Requirement , Acceptance testing, design , system design.
* Waterfall testing begins after the development phase is complete.
* IN V model testing start parallel with development. Each phase has its own testing activities.
* Waterfall model is less flexible as its difficult to go back to a previous phase once its completed.
* More flexible than waterfall, but still rigid in terms of progression and phase overlap .
* In the waterfall risk is identified and managed after the project starts issue might arise late in the development.
* In V Model Risk is identified earlier, as testing is planned in parallel with each phase.
* In the waterfall changes in the requirements can be difficult and expensive after the project has progressed.
* In V Model Changes can be done and manage at any time.
* Waterfall Emphasis on heavy documentation before starting development.
* V model emphasis on both thing documentation as well as testing.
* Waterfall Project is divided in to distinct, non-overlapping phases.
* In V Model has distinct phases, but they are paired with validation, testing, forming mirrored structure .
* Waterfall feedback is generally received at the end of the project, which can delay fixes.
* V Model feedback is received early since testing and validation occur alongside development.
* Waterfall is not iterative once a phase is complete you cannot go back.
* V model is more iterative as testing occurs after each development phase, following for continuous improvements.
* Waterfall can be inefficient for larger project, as testing and development are not integrated.
* V-model can be more efficient because testing occurs in parallel with development, potentially catching errors early.
* Waterfall is suitable for the small, well defined project .
* V-Model is suitable for project where requirement are well defined and stable but require parallel testing validation.
* Waterfall best suited for smaller project or project with simple requirement.
* V-Model better suited for medium to large project with more complexity .
* Waterfall testing usually done at the end, with no clear mapping to development phases.
* V-model each development phase is directly linked to a testing phase.
* Waterfall delayed delivery as testing and debugging are done after development.
* V-Model testing is integrated from the start, but still, the overall delivery time may not differ significantly form waterfall.
* Waterfall changes and fixed later in the development process are expensive.
* V-Model Easier to identity the errors earlier in the process, potentially reducing overall cost.
* Waterfall customer are typically involved only during the requirement gathering and final delivery.
* V-Model Customers can provide feedback during various stages as testing and validation.
* Waterfall Quality assurance is performed after the development phase is complete.
* V-model quality assurance occurs simultaneously with development, ensuring early detection of defects.
* Waterfall progress is usually measured based o the completion of predefined milestones.
* V-Model Progress is measured based on both development and corresponding testing phase.
* Waterfall change management can be difficult due to rigid structure and phase progression.
* V-Model changes are handled more effectively since testing and validation phases overlap with development.

Q 11 ) Justify your choice ?

ANS – As a BA I Will chose the agile methodology for building this software because it work for big and large project as well as for complexity project. In this method there is a quick response to the change where all type of requirement are welcomed even in the late in the development process.

Apart from that in agile method there is more focus on people and there interaction rather then tool .

* Helpful for the large project
* Changing the requirement are welcomed.
* In the agile method there is more focus on individual and also on interaction.
* Also there are giving more value to the working software over the comprehensive documentation.
* Customer collaboration over contract negation is there in agile model.
* In the agile model changing requirement is to easy even late in development also so this is the key feature of the agile model.
* The main objective of the agile method is to satisfy the customer and build the product as per the customer demand.
* Also it gives the appropriate output to the client over their expect .

So over all as a BA I will chose the agile methodology for building the software or any product for the better improvement of the project.

Question 12) Gantt Chart ?

ANS -

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Task | Project V model | Development  team | Design | Testing | Requirement fullfillment |  |
| 1 | R G | BA | D1acceptance | T1 Acc | UAT |  |
| 2 | RA | BA | D2 System | T2syste | UAT |  |
| 3 | Design | Designer | D3 integration | T3 integration | UAT |  |
| 4 | Testing | Tester | D4Unit | T4 unit | UAT |  |
|  |  |  | Coding |  |  |  |

Q 13 ) Fixed BID Vs Billing ?

Ans - IN project management fixed bid model involves a pre-agreed set price for a project with defined deliverables while a billing model like time and materials charges are based on the actual time and resources used, offering flexibility but potentially higher cost.

Fixed model :- A fix project involves a vendor committing to a set amount of money for a project with defined deliverables.

Pricing :- the price is calculated based on the project and does not change despite not change despite changes in the number of working hours or resources.

Advantages :-

* Provides clarity and certainty around the final cost of the project.
* Encourages efficient resources allocation.
* Reduces the risk of cost overruns.
* Client can plan their budgets effectively.
* Disadvantages :-
* Can be inflexible if the project scope changes.
* May lead to disputes or delay if the scope is not clearly defined.
* Requires a high level of upfront planning and documentation.

Time and Material :- A project is billed based on the number of hours worked at the hourly daily, or monthly fixed billing rates assigned for that project.

Customer are charged based on the time and material used in the project.

Advantages :-

* Offer more flexibility for project with evolving requirement
* Can be suitable for project where the scope is not fully defined upfront.

Disadvantages :-

* Requires constant communication between client.
* May be less predictable in terms of final cost,.
* This billing mode is suitable for the large and complex project where the requirement are high and changing the continuously.

Q14) Prepare timesheets of a BA in various stages of SDLC?

Design Timesheet of a BA

|  |
| --- |
| Time sheet Week of : Start date – End Date |

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Name:- | Vishal | Role :-UI/UX Designer |  |
| Employee NO:- | 123 | Status :- Working |  |
| Department Name :- | IT |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Start time | End Time | Regular Hours | Overtime Hours | Total Hours |
| 1/1/2025 | 10:30 | 8:00 | 8.00 | 0 | 8.00 |
| 2/2/2025 | 8:00 | 8:00 | 8.00 | 4.00 | 12.00 |
| 3/2/2025 | 10:00 | 9:00 | 8.00 | 3.00 | 11.00 |
| 4/2/2025 | 12.00 | 4:00 | 4.00 | 00.00 | 4.00 |

|  |
| --- |
| Employee Signature :- |
| Project Manger signature :- |

* Development timesheet of BA :-

|  |
| --- |
| Timesheet for development |

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Name | Rahul | Team | Status |
| Employee No | 234 | Programmer | Working |
| Employee Dept | IT development | Java developer | Working |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Start Time | End Time | Regular Hours | Overtime hours | Total Hours |
| 5/2/2025 | 10:00 | 6:00 | 8:00 | 00 | 8.00 |
| 7/3/2025 | 8:00 | 8:00 | 8:00 | 4:00 | 4.00 |
| 9/3/2025 | 10:00 | 8:00 | 8:00 | 00 | 8.00 |

|  |
| --- |
| Employee Signature : |
| Project Manager :- |

* Testing Time Sheet of BA

|  |
| --- |
| Testing timesheet for BA |

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Name | Ramesh | Testing | Status |
| Employee NO | 123 | System Testing | Working |
| Employee Dept | Testing | Integration Testing | Working |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Start Time | End Time | Regular hours | Overtime hours | Total hours |
| 12/2/2025 | 10:00 | 8:00 | 8:00 | 00 | 8.00 |
| 13/2/2025 | 10:00 | 8:00 | 8:00 | 00 | 8.00 |
| 14/2/2025 | 9:00 | 9:00 | 8:00 | 4:00 | 11.00 |

|  |
| --- |
| Tester Signature |
| Project Manager Signature |

* UAT Timesheet of BA

|  |
| --- |
| UAT Timesheet of BA |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Client Name | Hari | Requirement | Fulfillment | UAT |
| Client ID | 111 | Business Requirement | YES | Accepted |
| Client Signature | Hari | Functional Requirement | YES | Accepted |
|  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Task | Completed | UAT | Start time | | End Time | | Regular Hour | | Overtime | | Total Hours | |
| 16/2/2025 | Business Req | Completed | Accepted | 10:00 | 8:00 | | 8:00 | | 00 | | 8.00 | |
| 17/2/2025 | Functional Req | Completed | Accepted | 10:00 | 8:00 | | 8:00 | | 00 | | 8:00 | |
| 18/2/2025 | Changes | Completed | Accepted | 8:00 | 8:00 | | 8:00 | | 3:00 | | 11.00 | |

|  |
| --- |
| Client Signature For UAT :- |
| BA Signature :- |

* Deployment And Implementation Timesheet of a BA

|  |
| --- |
| Deployment and implementation timesheet of a BA |

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Name | Harish | Role | Feedback |
| Employee ID | 123 | Deploy | Take Feedback |
| Dept | Deployment/implementation | Implement | Take feedback |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Start time | End Time | Regular hours | Overtime hours | Total hours |
| 18/2/2025 | 10:00 | 8:00 | 8:00 | 0.00 | 8.00 |
| 19/2/2025 | 8:00 | 8:00 | 8:00 | 4:00 | 12.00 |
| 20/2/2025 | 10:00 | 9:00 | 8:00 | 1:00 | 9.00 |

|  |
| --- |
| Client Signature :- |
| Product Manager Signature :- |