COEPD – Traditional Development

Capstone Project1 – Part -1/3 – 100 Marks - Pass 60 % 14 Questions

Instructions to follow:

1. Copy paste (either image, diagram or text) is not entertained. If done, the document will not be evaluated.
2. After submission of the answers of this prep exam, you should be prepared to attend viva and justify your answers in the prep exams. If in Viva, participant is NOT justifying the answers, Viva will be repeated until Candidates justify 60% correctness.
3. Mentor calls are scheduled only if the participant have submitted their task at least for one time. (should apply their knowledge in this task first)
4. For attempting prep exams participant should be thorough on the topics using their references.
5. Please format the document properly (Always have a question no., question and answer).
6. Have a consistent format (Font name: Arial/ Calibri -Font size 12, Font Color: Black).
7. Few Questions are related to the case study, check Questions thoroughly before you answer.
8. Answers should be elaborated in detail (\*not as per the allotted marks).
9. Please focus on learning and applying the knowledge as this knowledge will be helpful in contributing at your BA job.

Online Agriculture Products Store

Mr. Henry, after being successful as a businessman and has become one of the wealthiest persons in the city. Now, Mr. Henry wants to help others to fulfil their dreams. One day, Mr. Henry went to meet his childhood friends Peter, Kevin and Ben. They live in a remote village and do farming. Mr. Henry asked his friends if they are facing any difficulties in their day-to-day work.

Peter told Mr. Henry that he is facing difficulties in procuring fertilizers which are very important for farm. Kevin said that he is also facing the same problem in-case of buying seeds for farming certain crops. Ben raised his concern on lack of pesticides which could help in greatly reducing pests in crops.

After listening to all his friends’ problems, Mr. Henry thought that this is a crucial problem faced not only by his friends but also by so many other farmers. So, Mr. Henry decided to make an online agriculture product store to facilitate remote area farmers to buy agriculture products. Through this Online Web / mobile Application, Farmers and Companies (Fertilizers, seeds and pesticides manufacturing Companies) can communicate directly with each other.

The main purpose to build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity. Since new users are involved, Application should be user friendly.

This new application should be able to accept the product (fertilizers, seeds, pesticides) details from the manufacturers and should be able to display them to the Farmers. Farmers will browse through these products and select the products what they need and request to buy them and deliver them to farmers location.

Mr. Henry has given this project through his Company SOONY. In SOONY Company, Mr. Pandu is Financial Head and Mr. Dooku is Project Coordinator. Mr. Henry, Mr. Pandu, and Mr. Dooku formed one Committee and gave this project to APT IT SOLUTIONS company for Budget 2 Crores INR and

18 months Duration under CSR initiative. Peter, Kevin and Ben are helping the Committee and can be considered as Stakeholders share requirements for the Project.

Mr. Karthik is the Delivery Head in APT IT SOLUTIONS company and he reached out to Mr. Henry through his connects and bagged this project. APT IT SOLUTIONS company have Talent pool Available for this Project. Mr. Vandanam is project Manager, Ms. Juhi is Senior Java Developer, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo are Java Developers. Network Admin is Mr. Mike and DB Admin is John. Mr. Jason and Ms. Alekya are the Tester. And you joined this team as a BA.

Mr. Henry’s Company (Soony) (budget 2cr) (Duration 18 Month)

1. Mr. pandu is a financial head.
2. Mr. dooku is a Project coordinator.
3. Mr. Henry, Mr. Pandu, Mr. Dooku all are committee members.

APT IT Solution

1) Peter, Kevin, Ben are Stakeholders.

2)Mr. Kartik Is a delivery head.

3) Mr. Vandanam is project Manager.

4) Ms. Juhi is Senior Java Developer.

5) Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo are Java Developers.

6) Mr. Mike is Network Admin.

7) Mr. John is DB Admin.

8) Mr. Jason and Ms. Alekya are the Tester

9) Mr. Taher is the BA.

Question 1 – BPM - 5 Marks

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

**Answer**

**Goal:** - Mobile app, facilitate farmers to buy seeds, pesticides, and fertilizers to help farmers and gain profit out of it.

**Inputs**: - Application form, Farmers contact details, Seed, pesticides and fertilizers company’s contracts or contact, Delivery vendor details.

**Resources**: - Application development team, Farmers, Delivery vendors, Seed, pesticides and fertilizers company’s details.

**Outputs**: - Is the Mobile application which will give all details like, which product of seed, pesticides and fertilizers - Price, uses, direction to use, payment and shipping details etc. so Farmers can get Farming related products online and easily at their door.

**Activities**: - 1. To build Mobile application which will have all necessary functions, 2. order details 3. Payment methods 4. Delivery details 5. Product feedback.

**Value**: - created to the end customer- Farmers will get Agriculture products online within short time frame and it will be direct from companies hence price will below as compare to market rate.

Question 2 – SWOT - 5 Marks

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.

 **Answer**

 **Strengths**  **Weaknesses**

1. Branding is very necessary for the product 1) Price should be minimal for every customer if it
2. Lunch in Market. high then product selling is low.
3. Access the product to market.
4. Build the trust for consumers for the

products.

 **Opportunity**  **Threats**

 1)Expansion of new product categories. 1) Economic downturn.

 2)Expansion on market. 2)change in customer spending habits.

 3) All the product (fertilizers, seeds,

 pesticides) Available.

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**

**1)Technology: -** Mr. Karthik will use JAVA technology to build this application with the help of software

 development team.

**2)Budget-** Two Crores INR

**3)Time**- 18 months

**4)Software** – JAVA application

We required technical team to create app and professional JAVA developers.

We required data for agriculture farmers and professional advisers for farming.

**5)The team needed** – 1 product manager

**6) Technical team**

**7) Java developer**

**8) Tester**

The time required for the production is a maximum of 3 months for collecting data

and arranging and complaining about the software.

Question 4 – Gap Analysis - 5 Marks

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

**AS-IS (Current state): -**

The current situation is farmers are not getting the products on time as per their requirement due to distance of shops and availability of the products on shop, so they can bear the loss. while doing GAP analysis.

 **TO-BE (Desire state): -**

 future process while introducing the online app for local farmers to buy the best quality product in the easily available period as well the advance tech. of doing farming in their preferred language will help profit-making and time-saving.

Question 5 – Risk Analysis - 10 Marks

List down different risk factors that may be involved (BA Risks And process/Project Risks).?

Ans: - **Internal Risk: -**

* Internal risk depends on external vendors for product supply and inventory management.
* High operational expenses due to investment in technology and market.
* Technical issue and system down time that can affected the experience.

**External Risk: -**

* Internal competition from other online and open market for farming product.
* Change in govt. regulation and policies that affect the e-commerce industries.

**BA Risk: -**

* Improper information at requirement gathering
* The period for project development
* Choosing improper elicitation technique
* soil and climate study for crops
* Change requests given by stakeholder in last phase.
* Multilanguage input for the whole Indian farmer
* coding and java developer coordination are important
* Easy payment gateway as well proper connect with delivery channel partner.

**Process/Project Risks: -**

* Seeds quality and quantity in fare prices
* Not a proper Awareness of the app among the farmers can cause the failure
* Advice for farming should be according to land and climate
* Portal handling for the product is cost-efficient for the farmer to buy.
* For understanding the app function and its working module should be easy for the farmer to understand.

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?

**ANS:** - RACI Matrix is stands for Responsible, Accountable, Consulted, and Informed. It's a project management tool that helps define roles and responsibilities for a project team.

communication, it improves decision-making, it ensures accountability for tasks or deliverables, it helps organizations decide what each person is doing.

**Examples of RACI matrix roles (in this project):**

Responsible: Rasika as a BA and the technical team are responsible for the project things.

Accountable -Mr. Vandanam as a project manager is accountable and approves of the project guidance.

Informed: Customers- Peter, Kevin and Ben.

Consultant: Ms. Juhi, Mr. Tyson, Mr. Tucker, Mr. Bravo, Mr. Mike, Alkeya and Jhon,

Mr. Pandoo and Mr. Dooku.

Supportable: Mr. Henry is a sponsor so he is a supportable.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Position** | **R** | **A** | **S** | **C** | **I** |
| Mohammed Taher Yousuf | BA | Yes |  |  |  |  |
| Mr. Vandanam | Project manager |  | Yes |  |  |  |
| Peter, Kevin and Ben  | Farmers (customer) |  |  |  |  | Yes |
| Mr. pandu and Mr. dooku  | Business Stakeholder |  |  |  | Yes | Yes |
| Ms. Juhi ,Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo  | Developer |  |  |  | Yes |  |
| Mr. Jason and Ms. Alekya  | Tester |  |  |  | Yes |  |
| Mr. Mike | Network admin |  |  |  | Yes |  |
| Mr. John  | DB admin |  |  |  | Yes |  |
| Mr. Henry |  |  |  | Yes |  |  |
|  |  |  |  |  |  |  |

Question 7 – Business Case Document - 8 Marks

Help Mr. Karthik to prepare a business case document?

**Ans:** Mr. Henry initiated this project to help his farmer friends and other farmers. The framers in

remote areas are facing the problem as not getting fertilizers, pesticides and seeds on time to

perform their day-to-day farming activities. In the business case documents MR. Karthik needs to

analyse the things like A business case is a package of information, analysis & recommendations.

A business case is a package of information, analysis & recommendations. A business case is prepared

by Sr. BA, Business Architect & Pre-sales team. A business case also helps in identifying key

A business case also helps in identifying key stakeholders who are affected by the problem.

* Why are the project initiates?
* What is the current problem?
* With this project how many problems could be solved?
* What is the resource required?
* How many organizations change is required to adopt this technology?
* What is the time from to recover ROI?
* How to identify stakeholders?
* This mobile application will be beneficial for all the farmers, fertilizers and pesticides
* companies. The time frame for return on investment is 4 to 5 years.
* To complete this project we need PM, BA, software developers, testers, technical
* team, DB. We need some organizational changes.
* This mobile application will be beneficial for all the farmers, fertilizers and pesticides
* companies. The time frame for return on investment is 4 to 5 years.
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project we need PM, BA, software developers, testers, technical team, DB. We need some organizational changes.

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

**Ans: SDLC Methodologies: -**

* Sequential waterfall.
* Iterative – RUP
* Evolutionary- Spiral
* Agile- Scrum

**Sequential waterfall**-

This waterfall model is referred as a linear –sequential life cycle model. It is simple and classic life cycle

model. In this waterfall model each phase must be completed and review is done and if project is good to

continue, then only next phase will start or project can be discarded.

In this sequential –waterfall methodology below are the stages.

1. Requirement gathering

2. Requirement analysis

3. Design

4. Development- Coding

5. Testing

6. UAT

7. Configuration management

8. Deployment

**Iterative-RUP (Rational Unified Process)-**

The Rational Unified Process is an iterative software development process framework. RUP is based on a set

of building blocks describe what is to be produced, the skill required and step by step building blocks

describe what is to be produced, the skill required and step by step explanation how we can achieve or

develop goal. It has four project life cycle phases

* Inception- what we build
* Elaboration- del or design need to deliver
* Contraction- implementation
* Transition- delivery, defect correction, UAT.

**Evolutionary- Spiral -**

 This spiral model gives more emphases placed on risk analysis. The spiral model has four phases:

1. Planning

2.Risk analysis

3. Engineering

4. Evaluation.

This model is good for large and critical projects.

**Agile- Scrum -**

 This model can be implemented in which project the faster delivery is required. No documentation.

There are 12 principles of this software – Late changes are accepted, All projects and business and

and business people should work together daily. Fast delivery of software. It has face to face conversation

within Development team.

Question 9 – 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 is 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 on using the V model and the project team is leaning more onto the side of waterfall model. As a business analyst, which methodology do you think would be better for this project?

 **Ans: -**

 **1.Waterfall -**

waterfall methodologies where each phase must be completed in its entirety before the next phase can

being and at the end of each phase, a review takes place to determine if the project is on the right path

whether or not continuous or discard the project.

**2. Rational unified process-**

It 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.

**3. Spiral -**

in the model gives more emphasis placed on risk analysis, it has four looks out to work planning, risk analysis, engineering, and evaluation.

**4. Agile scrum-**

 in the scrum model where can implement either at the beginning of the project or when you sense

 that project is falling behind schedule. The V model SDLC methodology would be best for this project.

This is small project and V model works well for small project. In this project the requirements are very

well, understood. And in this V model, in each phase testing and review process done, so we will know the project is going on correct path or not

Question 10 – Waterfall Vs V-Model - 5 Marks

20Write down the different between waterfall model and V model?

| **Waterfall model** | **V-model** |
| --- | --- |
| The cost of Waterfall model is low. | V-model is expensive. |
| Simplicity of Waterfall model is simple. | Simplicity of V-model is Intermediate. |
| Flexibility of Waterfall model is Rigid. | Flexibility of V-model is Little flexible. |
| There is no way to return to the earlier phase. | There is no such constraint in V-model. |
| Waterfall model is a sequential execution process. | It is also a sequential execution process. |
| Waterfall model’s steps move in a linear way. | V-model’s steps don’t move in linear way. |
| Re-usability of Waterfall model is Limited. | V-model can be Re-use for some extent. |
| User involvement in Waterfall model is only in beginning. | User involvement in V-model is also only in beginning. |
| In Waterfall model testing activities start after the development activities are over. | In V-model testing activities start with the first stage. |
| Guarantee of success through Waterfall model is low. | Guarantee of success through V-model is high. |
| Waterfall model is a continuous process. | V-model is a simultaneous process. |
| Software made using Waterfall model, the number of defects is less in comparison of software made using V-model. | Software made using V-model, the number of defects are greater in comparison of software made using Waterfall model. |
| Requirement specification in Waterfall model is necessary in beginning. | Requirement specification in V-model is also necessary in beginning. |
| Less customer involvement. | More customer involvement as compared to waterfall model. |
| It is not possible to test a software during its development. | There is possibility to test a software during its development. |
| Identification of defects is done in the testing phase. | Identification of defects can be done from the beginning. |
| Debugging is done after the last phase. | Debugging can be done in between phases. |
| Waterfall model is less used now-a-days in software engineering. | V-model is widely used in software engineering. |

Question 11 – Justify your choice - 3 Marks

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

**Ans: -** As a BA, I would like to choose V model for this project as this is a small project. Also, the V model is very flexible and in each phase testing and review process done.

Question 12 – Gantt Chart - 5 Marks

The Committee of Mr. Henry, Mr Pandu, and Mr Dooku discussed with Mr Karthik and finalised 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.

**Ans: -**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Process | Jan-March | April-June | July-Sept | Oct-Dec | Jan-March | April-June |
| Requirement gathering |   |   |   |   |   |   |
| Requirement Analysis |   |   |   |   |   |   |
| Design1 |   |   |   |  |   |   |
| Testing1 |   |   |   |   |   |   |
| Design2 |   |   |   |   |   |   |
| Testing2 |   |   |   |   |   |   |
| Design3 |   |   |   |   |   |   |
| Testing3 |   |   |   |   |   |   |
| Design4 |   |   |   |   |   |   |
| Testing4 |   |   |   |   |   |   |
| UAT |   |   |   |   |   |   |
|  |   |   |   |   |   |   |
| Progress |   |   |   |   |   |   |
| Achivment |   |   |   |   |   |   |

Question 13 – Fixed Bid Vs Billing - 5 Marks

Explain the difference between Fixed Bid and Billing projects

**Ans: -** A fixed bid project is a type of billing project where the price is set in advance, while a billing project can be based on time or materials.

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

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| --- | --- | --- |
|  Requirement Gathering & Analysis Phase |  |  |
| **SL NO** | **Task** | **Actionable Items** | **Start Time** | **End Time** | **Duration** |
| 1 | Identify stakeholder meeting | meeting to list down the stakeholder |  10:00AM |  11:00AM | 1 Hour |
| 2 | Client interaction | Azoom call to update the client on the MOM |  11:00AM |  1:00AM | 2 Hour |
| 3 | Finetuning the inputs for BRD document | SME discussion in person call |  2:00AM |  3:00AM | 1 Hour |
| 4 | Requirements sorting | working on the template |  3:30AM |  4:30AM | 1 Hour |
| 5 | Team meeting | Discussion on the day inputs |  4:30AM |  7:00AM | 2.5 Hour |
|  |  |  |  |  | 7:5 Hour |