

## CAPSTONE PROJECT - 2

### **Question 1 – write Agile Manifesto – 8 Marks**

Answer:

#### **Four main Values**

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

#### **Twelve Principles of Agile Software :**

1. Satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity--the art of maximizing the amount of work not done--is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

**Question 2 – User Stories- Acceptance Criteria-BV-CP – 40 Marks**

Write minimum 40 User stories and their Acceptance Criteria along with their BV and CP.

USER STORY NO. 1	TASK : CREATE CUSTOMER REGISTRATION PORTAL	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT : TO REGISTER IN SCRUM FOODS		
SO THAT : I CAN ORDER FOOD ONLINE		
BV: 500		CP:02
ACCEPTANCE CRITERIA:		
Registration Screen		
Text Boxes for User Name, Password, Nation ID, Mobile No		
Phone Number		
Click on Register Button		
Send Notification To User		

USER STORY NO. 2	TASK : CREATE LOGIN PAGE FOR REGISTER USER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO LOGIN IN SCRUM FOODS APP		
SO THAT I CAN LOGIN ON THE APP		
BV: 500		CP:02
ACCEPTANCE CRITERIA:		
Registration Screen		
Text Boxes for User Name, Password, Nation ID, Mobile No		
Phone Number		
Click on Register Button		

USER STORY NO. 3	TASK : CREATE A LIST OF RESTAURANT AND ADD IN SEARCH BAR	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO SEARCH AND VIEW RESTAURANT		
SO THAT: I CAN CHOOSE FOOD AND ADD TO CART		
BV: 200		CP:03
ACCEPTANCE CRITERIA:		
Should get the list of all the restaurant category wise veg or non veg		

USER STORY NO. 4	TASK : CREATE A LIST OF MENU RESTAURANT WISE	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO SEE RESTAURANT CATEGORY WISE VEG OR NON-VEG		
SO THAT: I CAN CHOOSE FOOD AND ADD TO CART		
BV: 200		CP:03
ACCEPTANCE CRITERIA:		
Should get the list of all the restaurant category wise veg or non veg		

USER STORY NO. 5	TASK : CREATE A LIST OF MENU RESTAURANT WISE	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO SEE RESTAURANT CATEGORY WISE VEG OR NON-VEG		
SO THAT: I CAN CHOOSE FOOD AND ADD TO CART		
BV: 200		CP:03
ACCEPTANCE CRITERIA:		
Should get the list of all the restaurant category wise veg or non veg.		

USER STORY NO. 6	TASK : USER WISE CREATE THE TAB TO ADD ADDRESS	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: TO ADD THE ADDRESS		
SO THAT: I CAN GET THE FOOD ON MY ADDRESS		
BV: 500		CP:02
ACCEPTANCE CRITERIA:		
Once the user wants to order the food it should be order to the given address.		

USER STORY NO. 7	TASK : CREATE ADD TO CART TAB	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: TO ADD THE SELECTED ITEM IN CART		
SO THAT: I CAN GET THE SELECTED ITEM		
BV: 200		CP:03
ACCEPTANCE CRITERIA:		
All the selected item should display in the cart.		

USER STORY NO. 9	TASK : TRACKING TAB SHOULD DISPLAY WITH THE MAP	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: TO TRACK MY GIVEN ORDER		
SO THAT: I CAN ABLE TO VIEW THE CURRENT STATE ON THE MAP		
BV: 200		CP:03
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>• App should display the map and the current movement of the order</li> <li>• Display delivery boy mobile number</li> <li>• Display delivery boy name in tracking field</li> <li>• Display delivery boy picture</li> </ul>		

USER STORY NO. 10	TASK : CANCEL ORDER TAB SHOULD DISPLAY	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: TO CANCEL MY ORDER		
SO THAT: IF NOT REQUIRED I CAN ABLE TO CANCEL MY ALL ORDER		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		
App should able to cancel the order within a minute of the given order.		

USER STORY NO. 11	TASK : FEEDBACK AND RATING	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: TO SHARE MY FEEDBACK FOR FOOD AND SCRUM FOOD APP		
SO THAT: I CAN ABLE TO SHARE MY OPINION AND FEEDBACK ON THE SERVICES		
BV: 100	CP:04	
ACCEPTANCE CRITERIA:		
App should able to show he rating and feedback option so that user can add review.		

USER STORY NO. 12	TASK : LOGOUT TAB SHOULD BE DISPLAYED	PRIORITY: HIGHEST
AS AN ONLINE USER		
I WANT: LOGOUT TAB		
SO THAT: I CAN LOGOUT FROM THE APP		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		
Logout button should be displayed (before logout app should confirm for logout)		

USER STORY NO. 13	TASK : DELIVERY FOR USER CREATION TABLE SHOULD DISPLAY	PRIORITY: HIGHEST
AS A DELIVERY BOY		
I WANT: REGISTER IN THE SCRUM FOOD APP		
SO THAT: I CAN DELIVER THE FOOD		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
Registration Screen		
Text Boxes for User Name, Password, Nation ID, Mobile No		
Phone Number		
Click on Register Button		
Send Notification To User		

USER STORY NO. 14	TASK : LIST OF ORDER IN SPECIFIC PERIOD	PRIORITY: HIGHEST
AS A RESTAURANT OWNER		
I WANT: TO SEE ALL MY ORDER IN A DAY, WEEK, MONTH, YEAR.		
SO THAT: I CAN VIEW LIST OF ORDER		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		

View order (display order list in a day, week, month, year)

USER STORY NO. 15	TASK : REGISTER ALL RESTAURANT	PRIORITY: HIGHEST
AS AN ADMIN		
I WANT: TO SEE THE LIST OF ALL RESTAURANT.		
SO THAT: I CAN APPROVE THE REGISTRATION.		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"><li>• List of restaurants</li><li>• select Restaurants</li><li>• verify restaurant details</li><li>• approve button</li><li>• reject button</li><li>• notification to the restaurant</li></ul>		

USER STORY NO. 16	TASK : GENERATE RREVENUE REPORT	PRIORITY: HIGHEST
AS A RESTAURANT OWNER		
I WANT: VIEW THE REVENUE REPORT		
SO THAT: I CAN VIEW THE RESTAURANT REVENUE		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"><li>• Select Reports</li><li>• Select Revenue Reports</li><li>• Select to and from date</li><li>• Select Region (can select all)</li><li>• Generate Report</li><li>• Download Report in EXCEL</li><li>• share</li></ul>		

USER STORY NO. 17	TASK : MANAGE LOCAL AND SURROUNDING RESTAURANT	PRIORITY: HIGHEST
AS AN ADMIN		
I WANT: TO MANAGE REGIONAL RESTAURANT		
SO THAT: I CAN TRACK THE PERFORMACE OF REGIONAL RESTAURANT		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"><li>• Click on performance of restaurants</li><li>• select date wise report</li><li>• click on generate report which includes restaurant ID - name and revenue</li><li>• click on download and share button in excel</li></ul>		

USER STORY NO. 18	TASK : GENERATE REGIONAL REVENUE REPORT	PRIORITY: HIGHEST
AS AN ADMIN		
I WANT: TO SEE THE REGIONAL REPORT		
SO THAT: I CAN VIEW THE REGIONAL REPORT		
BV: 200	CP:03	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>View performance of each rest of that region in tabular form which includes restaurant name, revenue, generated .</li> <li>Download in excel or PDF</li> </ul>		

USER STORY NO. 19	TASK : CREATE THE REFUND OPTION TO THE USER	PRIORITY: HIGHEST
AS A REGIONAL ADMIN		
I WANT: TO SEE THE REFUND OPTION		
SO THAT: I CAN ABLE TRACK THE REFUND GIVEN TO USER		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>All should be able to show - all mandatory</li> <li>text box field; display order ID</li> <li>text box for description</li> <li>submit</li> <li>generate issue id</li> <li>share refund and display successful</li> </ul>		

USER STORY NO. 20	TASK : CHECK REVENUE REPORT	PRIORITY: HIGHEST
AS A RESTAURANT OWNER		
I WANT: TO CHECK REVENUE DAY WISE		
SO THAT: VIEW REVENUE GENERATED THROUGH SCRUM FOOD APP		
BV: 100	CP:04	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Mention the list of order generated in a day</li> <li>billing done</li> <li>revenue generated</li> <li>payment received</li> <li>fetch in excel</li> </ul>		

USER STORY NO. 21	TASK : CREATE ADMIN REGISTRATION PORTAL	PRIORITY: HIGHEST
AS AN ADMIN		
I WANT: DO THE REGISTRATION ON THE SCRUM FOOD APP		
SO THAT: I CAN HAVE AN ADMIN REGHT ON THE APP		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>• Should have valid email</li> <li>• Send successful notification to the admin</li> </ul>		

USER STORY NO. 22	TASK : CREATE MANUFACTURER PORTAL	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: DO THE REGISTRATION ON THE SCRUM FOOD APP		
SO THAT: I CAN PLACE THE PRODUCT ON THE APP		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>• Should have valid email</li> <li>• Send successful notification to the manufacturer.</li> </ul>		

USER STORY NO. 23	TASK : CREATE LOGIN PAGE FOR MANUFACTURER	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO LOGIN IN SCRUM FOODS APP		
SO THAT: I CAN LOGIN ON THE APP		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>• Text Boxes for User Name, Password,</li> <li>• Submit button</li> </ul>		

USER STORY NO. 24	TASK : CREATE PRODUCT LIST	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO CREATE THE LIST OF PRODUCT		
SO THAT: I CAN ABLE TO CREATE THE LIST OF PRODUCT IN APP		
BV: 200	CP:04	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>• Should have product list</li> </ul>		

USER STORY NO. 25	TASK : SEARCH FOR PRODUCT	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: ABLE TO SEARCH FOR THE PRODUCT AVAILABLE ONLINE		
SO THAT: I CAN PICK MY CHOICE OF PRODUCT		
BV: 100	CP:05	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to view all products.</li> </ul>		

USER STORY NO. 26	TASK : ADD QUANTITY OPTION	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO PROVIDE THE QUANTITY OPTION ON THE APP		
SO THAT: I CAN MODIFY THE NUMBER OF SPECIFIC ITEMS		
BV: 100	CP:05	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to view all products.</li> </ul>		

USER STORY NO. 27	TASK : ADD QUANTITY BY USER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO QUANTITY FOR ITEMS		
SO THAT: I CAN ADD COUNT FOR SPECIFIC ITEMS		
BV: 500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to add quantity</li> </ul>		

USER STORY NO. 28	TASK : UPDATE QUANTITY BY USER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO UPDATE THE QUANTITY FOR ALREADY CHOSEN ITEM		
SO THAT: I CAN MODIFY THE ALREADY COUNT OF ITEM		
BV: 200	CP:04	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to update quantity</li> </ul>		

USER STORY NO. 29	TASK : DELETE QUANTITY BY USER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: DELETE THE QUANTITY FOR ALREADY CHOSEN ITEM		
SO THAT: I CAN DELETE THE COUNT OF ITEM		
BV:100	CP:05	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to delete quantity</li> </ul>		



USER STORY NO. 30	TASK : REMOVE THE ITEM FROM CART	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: REMOVE THE PARTICULAR ITEM FROM CART		
SO THAT: I CAN DELETE THE PRODUCT		
BV:100		CP:05
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to delete quantity</li> </ul>		

USER STORY NO. 31	TASK : CANCEL THE ORDER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO CANCEL THE ORDER		
SO THAT: I CAN CANCEL THE ORDER AND PLACE THE ORDER WHENEVER NEEDED		
BV:200		CP:04
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to cancel the order</li> </ul>		

USER STORY NO. 32	TASK : CREATE PAYMENT OPTION	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO CREATE VARIOUS PAYMENT OPTION		
SO THAT: USER CAN SELECT ANY OPTION BASED ON THEIR CHOICE		
BV:500		CP:02
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be created different payment option</li> </ul>		

USER STORY NO. 33	TASK : VIEW PAYMENT OPTION	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO VIEW VARIOUS PAYMENT OPTION		
SO THAT: USER CAN VIEW THE PAYMENT OPTIONS		
BV:200		CP:04
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be view different payment option</li> </ul>		

USER STORY NO. 34	TASK : CREATE COD OPTION	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO CREATE COD OPTION		
SO THAT: APP SHOULD CONTAIN COD OPTIONS		
BV:200		CP:04
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to see COD option</li> </ul>		

USER STORY NO. 35	TASK : VIEW COD OPTION	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: USER CAN VIEW COD OPTION		
SO THAT: USER CAN VIEW THE COD OPTIONS		
BV:200	CP:04	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to view COD option</li> </ul>		

USER STORY NO. 36	TASK : PROCEED TO CHECK OUT	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO CREATE PROCEED TO CHECKOUT OPTION		
SO THAT: PROCEED TO CREATE CHECKOUT OPTION ON APP		
BV:200	CP:04	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to see proceed to checkout option.</li> </ul>		

USER STORY NO. 37	TASK : VIEW CHECK OUT	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO VIEW PROCEED TO CHECKOUT OPTION		
SO THAT: I WANT TO SEE PROCEED TO CHECKOUT OPTION ON APP		
BV:400	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to see proceed to checkout option.</li> </ul>		

USER STORY NO. 38	TASK : TRACK THE ORDER	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO TRACK THE ORDER		
SO THAT: I WANT TO SEE WHERE MY ORDER IS		
BV:400	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to track the order.</li> </ul>		

USER STORY NO. 39	TASK : ORDER NOTIFICATION	PRIORITY: HIGHEST
AS A MANUFACTURER		
I WANT: TO SEND THE NOTIFICATION TO CUSTOMER ON ORDER DETAIL		
SO THAT: I CAN SEND THE NOTIFICATION TO CUSTOMER ON ORDER DETAIL		
BV:500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to send notification to user through any device</li> </ul>		

USER STORY NO. 40	TASK : RECEIVE ORDER NOTIFICATION	PRIORITY: HIGHEST
AS A CUSTOMER		
I WANT: TO RECEIVE THE NOTIFICATION ON ORDER DETAIL		
SO THAT: I CAN RECEIVE THE NOTIFICATION ON ORDER DETAIL		
BV:500	CP:02	
ACCEPTANCE CRITERIA:		
<ul style="list-style-type: none"> <li>Should be able to receive notification through any device</li> </ul>		

### Question 3– What is epic? Write 2 epics – 5 Marks

Business Value and Complexity Points

Answer

An epic is a large, high-level user story that represents a significant body of work. It typically encompasses multiple smaller, detailed user stories and spans across multiple sprints. An epic strategically adds value to the product and aligns with business goals. Breaking down an epic into manageable user stories ensures that development teams can effectively prioritize, implement, and deliver the desired functionality.

#### **Epic 1: Login and Account Management**

Description: Consumers should be able to log in using their email ID and password, manage their account settings, and reset their credentials when necessary.

User Stories:

1. As a consumer, I want to log in with my email ID and password so that I can access my personalized account.
2. As a consumer, I want to reset my password in case I forget it so that I can regain access to my account.
3. As a consumer, I want to update my account details (e.g., email or phone number) so that my information stays current.

#### **Epic 2: Order Management and Tracking :**

Customers should be able to manage their orders, including viewing current and previous orders and tracking their delivery status on a map.

User Stories:

1. As a customer, I want to locate my current orders and previous orders so that I can review my purchase history.
2. As a customer, I want to track my order's delivery status on a map so that I know when to expect its arrival.
3. As a customer, I want to filter my order history by date or category so that I can easily find specific past purchases.

#### Question 4 –What is the difference between BV and CP – 2 Mar

Difference Between BV (Business Value) and CP (Complexity Points)

Aspect	BV (Business Value)	CP (Complexity Points)
Definition	BV represents the value or impact the feature brings to the business or customers.	CP measures the complexity or effort required to implement the feature.
Purpose	Helps prioritize features based on their importance or contribution to business goals.	Helps estimate the effort, time, and resources needed to complete a feature.
Measurement Unit	Typically expressed in numerical values like 100, 200, etc., reflecting its importance.	Typically expressed in points (e.g., 1, 2, 3), indicating development difficulty.
Perspective	Focuses on the "Why"—why the feature is important for the product or business.	Focuses on the "How"—how difficult it will be to develop the feature.
Decision Influence	Determines the priority of the feature in the backlog.	Helps in sprint planning and workload estimation.
Examples	High BV: A feature that enhances customer retention. Low BV: A minor UI improvement.	High CP: An integration with a third-party system. Low CP: Updating static content.

#### Question 5 –Explain about Sprint– 5

Answer

A Sprint is a fixed-length timebox, typically lasting 1 to 4 weeks, during which a Scrum team works to deliver a potentially shippable product increment. It is a key component of the Scrum framework, allowing teams to break down large projects into manageable iterations and continuously deliver value.

Key Features of a Sprint

1. Timebox:
  - A Sprint has a fixed duration that does not change once it begins.
  - Common durations are 2 weeks, though teams may choose durations that suit their workflow.
2. Goal-Oriented:
  - Each Sprint has a clearly defined Sprint Goal that provides focus and direction for the team.
3. Planning and Commitment:
  - At the beginning of a Sprint, teams hold a Sprint Planning meeting to select user stories from the product backlog and commit to completing them.

4. Iterative and Incremental:
  - Sprints allow for iterative development, where each iteration builds upon previous ones to create a complete product over time.
5. Inspection and Adaptation:
  - At the end of the Sprint, the team conducts a Sprint Review to showcase work done and a Sprint Retrospective to reflect on the process and improve in the next Sprint.
6. Deliverable:
  - The output of a Sprint is a potentially shippable product increment that meets the Definition of Done (DoD).

#### Benefits of a Sprint

- Promotes focus and alignment on short-term goals.
- Encourages collaboration and stakeholder engagement.
- Enables frequent delivery of valuable increments.
- Facilitates adaptability to changing requirements.

Sprints are the backbone of the Scrum methodology, ensuring continuous progress and regular feedback loops for agile development.

#### **Question 6 – Explain Product backlog and sprint back log– 5 Marks**

Answer:

**Product Backlog** : The Product Backlog is a prioritized list of work items or features that represent everything needed to build and enhance a product. It serves as the central source of truth for the development team and stakeholders, capturing requirements, features, bug fixes, technical tasks, and enhancements.

The Product Backlog is dynamic and evolves as the product grows and market conditions change. It is maintained by the Product Owner, who ensures it is well-organized and prioritized.

#### Key Features of the Product Backlog

1. **Dynamic Nature:** The backlog is not static; it evolves over time as new requirements are discovered, or existing ones are refined.
2. **Prioritized List:** Items in the backlog are ordered based on their business value, urgency, and alignment with the product goals.
3. **Granularity:** High-priority items are detailed enough to be worked on immediately, while lower-priority items may remain less detailed until needed.
4. **Owned by the Product Owner:** The Product Owner is responsible for managing and prioritizing the backlog to maximize the product's value.
5. **Includes All Work Types:** It encompasses all kinds of work, including new features, bug fixes, technical debts, and research tasks.

**Sprint Backlog:** The Sprint Backlog is a subset of the Product Backlog that contains the items the Scrum team commits to completing during a specific Sprint. It includes detailed tasks necessary to achieve the Sprint Goal and represents the actionable work for the development team during the Sprint.

Key Features of the Sprint Backlog

1. **Focused Scope:** It is limited to the current Sprint and aligns with the Sprint Goal. Only high-priority and ready-to-develop items are included.
2. **Static During the Sprint:** Once a Sprint begins, the Sprint Backlog rarely changes, ensuring the team remains focused.
3. **Owned by the Development Team:** The team has full control over how the Sprint Backlog is managed, updated, and executed.
4. **Task-Level Details:** Each selected item is broken into actionable tasks that can be completed during the Sprint.
5. **Visibility:** The Sprint Backlog is visible to all team members, often displayed on Scrum boards or digital tools for tracking progress.

### **Impediments Log:**

An Impediments Log is a tool used in Agile and Scrum to document and track obstacles or issues that hinder the progress of a development team during a Sprint. It ensures that impediments are identified, recorded, prioritized, and resolved promptly to maintain team productivity and Sprint success.

Key Features of an Impediments Log:

1. **Visibility:** Provides a centralized list of issues affecting the team, making it easy to track and resolve.
2. **Ownership:** The Scrum Master is primarily responsible for managing the impediments log and ensuring issues are addressed.
3. **Continuous Updates:** It is updated regularly as new impediments arise and old ones are resolved.
4. **Categorization:** Issues can be categorized (e.g., technical, resource-related, or external dependencies) for easier prioritization.

Two Impediments are as follows:

### **Technical Impediment:**

- "The team cannot proceed with testing because they lack access to the staging environment."
- **Impact:** Testing tasks are delayed, potentially impacting the Sprint Goal.
- **Resolution:** Scrum Master coordinates with IT to expedite access.

### **Resource Impediment:**

- "A key team member is on unplanned leave, causing a delay in the implementation of critical features."
- **Impact:** Development tasks may not be completed within the Sprint.
- **Resolution:** Reassign tasks or adjust the Sprint scope.

### **Question 8 – Explain Velocity of the Team – 1 Marks**

Velocity – How many CP is covered in this sprint

Answer

Velocity is a measure of the amount of work a team completes during a Sprint. It is typically calculated based on the total completed story points or complexity points (CP) for all tasks or user stories finished in the Sprint.

How Velocity is Measured:

1. Add up the CP of all completed tasks or user stories at the end of the Sprint.
2. Only include tasks that meet the Definition of Done (DoD)—partially completed tasks are excluded.

Uses of Velocity:

1. Sprint Planning:
  - Helps predict how much work the team can commit to in future Sprints.
2. Progress Tracking:
  - Provides a benchmark for assessing team performance over time.
3. Project Forecasting:
  - Assists in estimating timelines and completion dates for the project.

### **Question 9 – Draw Sprint Burn Charts n Product Burn Down Charts– 3 Marks**

Answer

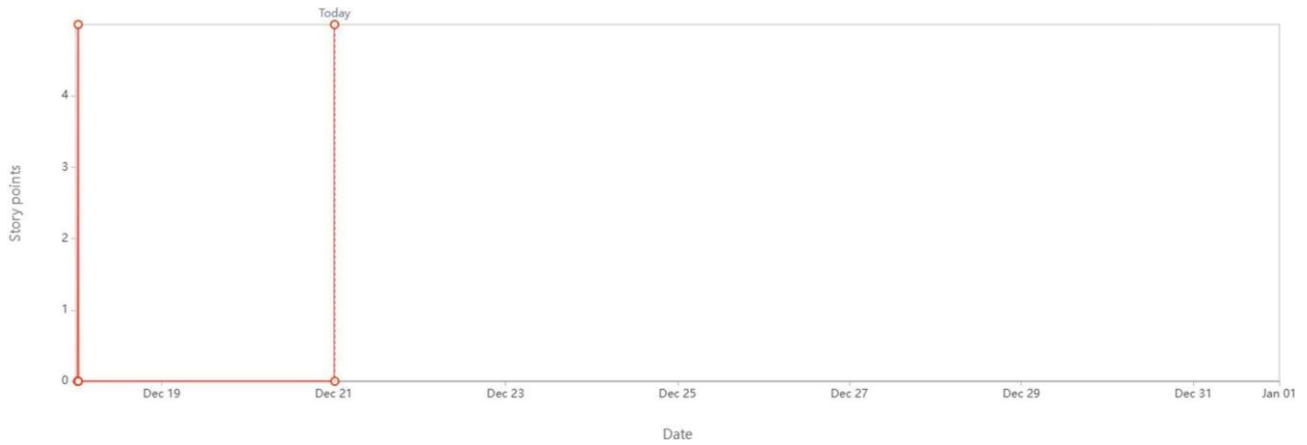
#### **Sprint Burn Charts**

Definition:

A Sprint Burn-Down Chart tracks the progress of work completed during a Sprint. It shows how much work remains to achieve the Sprint Goal over time.

Key Features:

- X-axis: Represents the Sprint duration (e.g., days).
- Y-axis: Represents the remaining work (e.g., story points, hours, or tasks).
- Ideal Line: A straight line representing the expected pace of work completion.
- Actual Line: Represents the actual progress.



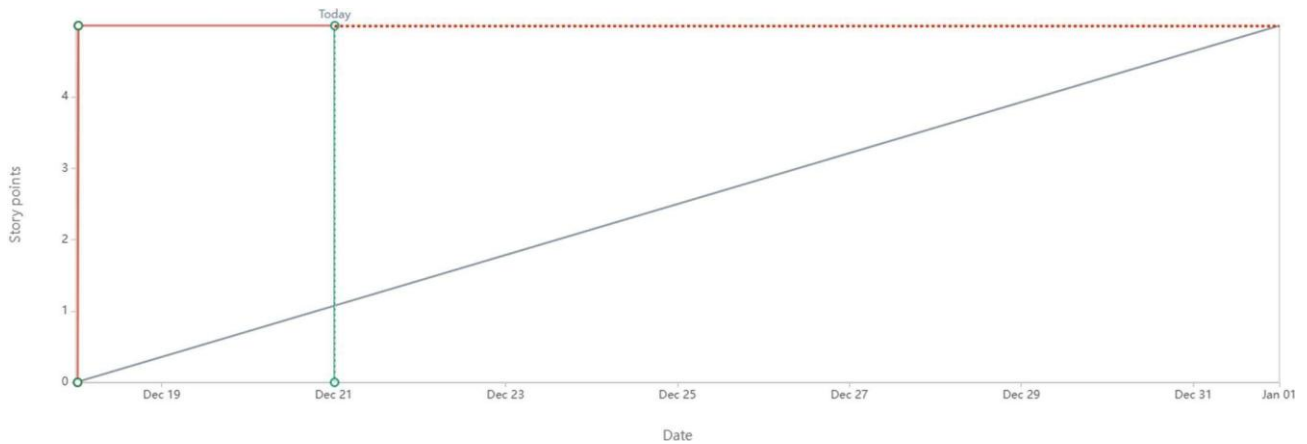
## 2. Product Burn Chart

Definition:

A Product Burn-Down Chart tracks the progress of work remaining in the entire Product Backlog over time. It helps stakeholders understand how close the team is to completing the project.

Key Features:

- X-axis: Represents the project timeline (e.g., Sprints).
- Y-axis: Represents the total remaining work (e.g., story points or tasks).
- Ideal Line: Shows expected progress over time.
- Actual Line: Tracks real progress.



### Question 10 – Explain about Product Grooming – 2 Marks

Answer



## **Product Grooming (Backlog Refinement):**

Product Grooming, also known as Backlog Refinement, is the process of regularly reviewing and updating the Product Backlog to ensure it is well-organized, prioritized, and ready for future sprints. It involves refining backlog items, breaking them down into smaller tasks, estimating effort, and adding necessary details to make the items actionable for the development team.

### Key Activities in Product Grooming

1. **Prioritization:** The Product Owner ensures that the most valuable and important features or tasks are at the top of the backlog, ready to be worked on in upcoming sprints.
2. **Breaking Down Large Items:** Larger or vague backlog items (also known as epics) are split into smaller, more manageable user stories or tasks that can be completed in a sprint.
3. **Estimation:** The development team estimates the effort required for backlog items, typically in terms of story points or complexity points (CP).
4. **Clarification:** Any unclear backlog items are discussed with the team to ensure that the requirements and acceptance criteria are well-defined.
5. **Removing Irrelevant Items:** Outdated, irrelevant, or low-priority items are removed from the backlog to keep it focused on the current project goals.

## **Question 11 – Explain the roles of Scrum Master and Product Owner – 3 Marks**

Answer

### **Scrum Master:**

The Scrum Master is a facilitator who ensures that the Scrum process is followed and removes any obstacles that may hinder the development team's progress. They serve the team, the Product Owner, and the organization by fostering an environment where Agile principles can thrive.

### Key Responsibilities:

- **Facilitate Scrum Events:**  
The Scrum Master facilitates the core Scrum events (Sprint Planning, Daily Standups, Sprint Review, and Sprint Retrospective) to ensure they are productive and efficient.
- **Remove Impediments:**  
The Scrum Master works to identify and remove any obstacles or impediments that may slow down the team's progress, allowing the team to stay focused on delivering value.
- **Coach the Team:**  
They coach the development team on Scrum principles and practices, helping them self-organize and continuously improve their processes.
- **Serve as a Shield:**  
The Scrum Master protects the team from external distractions and interruptions, ensuring that the team can focus on delivering the sprint backlog.
- **Promote Continuous Improvement:**  
The Scrum Master encourages and facilitates a culture of continuous improvement within the team, helping them to reflect and learn from each sprint.

## 2. Product Owner:

The Product Owner is responsible for maximizing the value of the product by managing the Product Backlog. They act as the voice of the customer and stakeholders, ensuring that the development team is working on the most valuable and impactful features.

Key Responsibilities:

- **Manage Product Backlog:**  
The Product Owner is responsible for creating, maintaining, and prioritizing the Product Backlog. They ensure that the backlog is clear, well-prioritized, and contains detailed user stories that are ready for implementation.
- **Define and Communicate the Product Vision:**  
The Product Owner defines and communicates the product vision to the development team and stakeholders. This vision provides the team with a clear understanding of the product's goals and direction.
- **Prioritize Work:**  
The Product Owner prioritizes the Product Backlog items based on business value, customer needs, and other relevant factors. They ensure that the most valuable features are worked on first.
- **Ensure Acceptance Criteria and Definition of Done (DoD):**  
The Product Owner defines clear acceptance criteria and works with the team to establish a Definition of Done (DoD) for backlog items to ensure the team delivers the expected functionality.
- **Stakeholder Engagement:**  
The Product Owner communicates with stakeholders, gathering feedback and aligning the product with customer needs. They also ensure that the stakeholders' expectations are met.

### Question 12 – Explain all Meetings Conducted in Scrum Project – 8 Marks

Answer

Scrum projects rely on a set of structured meetings (also known as Ceremonies) to ensure effective communication, collaboration, and progress tracking. These meetings allow the Scrum Team to plan, inspect, and adapt continuously, enabling them to deliver high-value products incrementally. The key Scrum meetings include Sprint Planning, Daily Scrum (Stand-up), Sprint Review, Sprint Retrospective, and Backlog Refinement.

### 1. Sprint Planning Meeting

The Sprint Planning meeting is held at the beginning of each Sprint to define what will be accomplished during the upcoming Sprint and how the work will be completed.

### 2. Daily Scrum

The Daily Scrum (also known as the Daily Stand-up) is a short, focused meeting to synchronize the team, discuss progress, and identify any impediments to achieving the Sprint Goal.

### 3. Sprint Review Meeting

The Sprint Review is held at the end of each Sprint to inspect the product increment and adapt the Product Backlog. The goal is to assess the progress made toward the Product Goal and gather feedback from stakeholders.

### 4. Sprint Retrospective Meeting

The Sprint Retrospective is held after the Sprint Review to reflect on the Sprint and identify areas for improvement in the team's processes and practices.

### 5. Backlog Refinement Meeting

Backlog Refinement (or Backlog Grooming) is an ongoing process where the Scrum team ensures that the Product Backlog is well-organized, prioritized, and ready for future Sprint Planning meetings.

## **Question 13 – Explain Sprint Size and Scrum Size– 2 Marks**

Answer

### 1. Sprint Size

Definition:

Sprint Size refers to the duration or length of a Sprint, which is a time-boxed iteration during which a team works to complete a set of Product Backlog items.

Common Sprint Duration:

- Typically, a Sprint lasts between 1 to 4 weeks.
- Most Scrum teams prefer 2-week or 1-month durations, as they provide enough time to deliver a meaningful increment while being short enough for teams to stay focused and adaptable.

Factors Influencing Sprint Size:

- Team Experience: Less experienced teams may start with shorter Sprints to allow frequent adjustments.
- Complexity of Work: If the work is complex, a longer Sprint duration might be needed to deliver valuable increments.
- Stakeholder Feedback: Shorter Sprints enable quicker feedback, leading to faster adaptation and delivery.

### 2. Scrum Team Size

Definition:

Scrum Team Size refers to the number of people in a Scrum Team who collaborate to deliver the product increment in a Sprint.

Recommended Scrum Team Size:

- The ideal Scrum Team size is typically between 3 to 9 members. This includes all roles in the Scrum Team: Product Owner, Scrum Master, and Development Team.
  - Too Small: A team of fewer than 3 members may struggle to handle the workload.
  - Too Large: A team larger than 9 members might face coordination difficulties and communication overhead.

#### Factors Influencing Scrum Team Size:

- Project Complexity: Larger teams may be necessary for more complex projects with many features.
- Skill Diversity: A variety of skills (e.g., development, testing, UX) may require a larger team, while smaller, more focused teams can handle specific tasks.

#### Question 14 – Explain DOR and DOD – 2 Marks

##### Answer

##### 1. Definition of Ready (DoR)

###### Definition:

The Definition of Ready is a set of criteria that a Product Backlog item (PBI) must meet before it is considered ready to be worked on by the Scrum Team in a Sprint. It ensures that the team has enough information and clarity to start working on a task or user story without confusion.

###### Purpose:

The DoR ensures that the team only starts work when the necessary details, such as acceptance criteria, dependencies, and requirements, are clearly defined and understood. This helps prevent delays or incomplete work during the Sprint.

###### Common Criteria for DoR:

- Clear User Story/Item: The user story or task is clearly defined, with a proper title and description.
- Acceptance Criteria: Well-defined and understood acceptance criteria or conditions for the feature to be considered complete.
- Dependencies Identified: Any external dependencies or blockers are identified and addressed.
- Estimation: The team has estimated the effort required (e.g., in story points).
- No Ambiguity: The user story is free from ambiguity and can be understood by all team members.

##### 2. Definition of Done (DoD)

###### Definition:

The Definition of Done is a shared understanding of what "done" means for any Product Backlog item or task. It sets the criteria for when a piece of work is considered complete, ensuring that the quality is consistent and that all work meets the agreed-upon standards.

###### Purpose:

The DoD ensures that all work delivered by the team meets the minimum quality standards and is ready to be shipped, tested, or deployed. This minimizes rework, avoids misunderstandings, and ensures that only fully finished work is presented to stakeholders.

###### Common Criteria for DoD:

- Code Complete: All code for the user story has been written, and the functionality works as expected.

- Code Review: The code has been peer-reviewed, and all issues or improvements have been addressed.
- Unit Tests: Unit tests have been written and passed, ensuring the code works as expected.
- Integration Tests: The feature has been integrated with the larger product, and the integration tests have passed.
- Documentation: Any necessary documentation (e.g., user manuals, technical documentation) is updated.
- Acceptance Testing: The feature has passed the acceptance tests as defined in the acceptance criteria.
- No Known Bugs: There are no critical or high-priority bugs related to the feature.

**Question 15 – Explain Prioritization Techniques and MVP – 3 Marks**

Answer

Prioritization Techniques –

MOSCOW” Technique: Must should could would

A project management technique that categorizes tasks into four categories: Must-haves, Should-haves, Could-haves, and Won't-haves

Dollars Test Top 10 requirements : Numerical Assignment-Mandatory, very important, rather important, not important; does not matter. The 100-dollar test is a prioritization technique, where each individual member of a group literally puts their (virtual) money where their mouth is, placing bids in virtual dollars to indicate relative importance to them, for each item in a list.

“FURPS” Technique : FURPS is an acronym representing a model for classifying software quality attributes (functional and non-functional requirements)This technique is used to validate must requirement.

F-Functionality

U-Usability

R-Reliability

P-Performance

S-Supportability (Extendable, Testable & Enhance-able)

A minimum viable product (MVP) is the release of a new product (or a major new feature) that is used to validate customer needs and demands prior to developing a more fully featured product. To reduce development time and effort, an MVP includes only the minimum capabilities required to be a viable customer solution. A minimum viable product is a version of a product with just enough features to be usable by early customers who can then provide feedback for future product development. A focus on releasing an MVP means that developers potentially avoid lengthy and unnecessary work

**Question 16 – Difference between Business Analyst n Product Owner – 3 Marks**

Answer

Aspect	Business Analyst	Product Owner
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Primary Focus	A BA focuses on understanding the business needs, gathering detailed requirements, and ensuring that these needs are clearly communicated to the development team.	A PO focuses on the product vision and ensuring that the development team delivers the most valuable product features aligned with the business goals.
Scope of Work	A BA works at a detailed level, analyzing business processes, defining requirements, and mapping out workflows.	A PO works at a strategic level, managing the product backlog, prioritizing features, and making decisions based on business value and customer feedback.
Requirement Gathering	BAs are responsible for gathering detailed business requirements from stakeholders and users, ensuring clarity and understanding.	POs may gather requirements, but their main responsibility is to define the product backlog and prioritize the features that will deliver the most value.
Decision Making	BAs often work with the team to analyze options and provide recommendations, but they do not make final decisions.	The PO is the final decision-maker on the product's features and priorities, ensuring alignment with the business strategy.
Day-to-Day Interaction	BAs may interact with the development team by providing detailed clarifications and ensuring the team is following the business requirements.	POs work closely with the development team to prioritize user stories in the backlog and ensure the team is building the right features.
Scrum Team Role	BAs are not formal members of the Scrum team but work with them on business analysis tasks.	The PO is a key member of the Scrum team and is responsible for defining and prioritizing the backlog to ensure the team is working on the right things.
Timeframe Focus	BAs often work on short-term requirements and ensure that they are clearly defined and actionable.	POs focus on the long-term product roadmap and continuously refine the backlog to reflect the evolving business needs and user feedback.

**Question 17 – Prepare a sample Resume of 3yrs exp Product Owner – 3 Marks**

**Aditya Singh**

Email: [dr.adityasing2611@gmail.com](mailto:dr.adityasing2611@gmail.com) Mobile: 9936357490

Location: Pune, Maharashtra

**PROFILE**

Highly motivated and results-driven Product Owner with delivering innovative product solutions. Skilled in managing product backlogs, gathering requirements, and leading cross-functional teams to meet customer needs. Expertise in Agile methodologies, with a strong focus on delivering high-value products that enhance user experience. Proven ability to prioritize features based on business value and customer feedback to drive product success.

**PROFESSIONAL EXPERIENCE**

**Associate Product Owner**

ABC Corp, Pune June 2019 – February 2021

- Assisted in the management of the product backlog for a mobile app that served over 100,000 active users.
- Coordinated with business stakeholders and customers to understand requirements and convert them into actionable user stories.
- Supported the Product Owner in creating and prioritizing the product roadmap, resulting in a 15% increase in revenue due to the successful launch of a new feature.
- Collaborated with engineering and QA teams to ensure timely product delivery and meet user expectations.
- Conducted competitive analysis and market research to identify opportunities for product differentiation.
- Monitored key performance metrics (KPIs) to track the success of new features and reported findings to senior management

### **SKILLS**

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- Product Backlog Management
- Agile/Scrum Methodology
- Requirement Gathering & Documentation
- Cross-functional Team Collaboration
- Product Lifecycle Management
- Market Research & Competitive Analysis
- User Story Creation & Prioritization
- Data Analysis & Reporting

### **EDUCATION**

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*Master of Business Administration (MBA)*

DR. DY Patil University

Graduated: May 2019

*Bachelor of Science in Computer Science*

DR. DY Patil University

Graduated: May 2016

### **CERTIFICATES**

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- Certified Scrum Product Owner (CSPO) – Scrum Alliance, 2020
- Agile Certified Practitioner (ACP) – PMI, 2021