Capstone Project – 2

Scrum Project

**Question 1 – Write Agile Manifesto**

Answer:

**Agile Manifesto**

**4 Main Values**

1. Individuals and Interactions Over Processes and Tools
2. Working Software Over Comprehensive Documentation
3. Customer Collaboration Over Contract Negotiation
4. Responding to Change Over Following a Plan

**12 Principles of Agile Software**

1. Customer satisfaction through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development.
3. Deliver working software frequently, with a preference for shorter timescales.
4. Close, daily cooperation between business stakeholders and developers.
5. Build projects around motivated individuals.
6. Face-to-face conversation is the best form of communication.
7. Working software is the primary measure of progress.
8. Sustainable development, able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design.
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. Regularly reflect on how to become more effective, then tune and adjust accordingly.

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

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

Answer:

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| User Story No:1 | Tasks: 2 | Priority: High |
| As a Delivery Boy,  I want to register in Scrum Foods,  so that I can deliver orders. | | |
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| BV: 500 | CP: 02 | |  |
| Acceptance Criteria:  Registration Screen  Text Boxes for User Name, Password, Nation ID, Mobile No, Email, Address, Phone Number.  Click on Register Button.  Send Successful Notification to the user. | | |  |
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| User Story No: 2 | Tasks: 2 | Priority: High |
| As a customer  I want to browse products,  so that I can view available items. | | |
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| BV: 500 | CP: 03 | |
| Acceptance Criteria:  Product Browsing Screen  Display categories and product lists.  Enable filtering and sorting by price, rating, or availability. | | |
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| User Story No: 3 | Tasks: 2 | Priority: Medium |
| As a Vendor,  I want to upload product details,  so that I can list items in the system. | | |
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| BV: 500 | CP: 03 | |
| Acceptance Criteria:  Product Upload Screen Input fields for product name, description, price, and category.  Upload product images.  Save product listing with a confirmation message. | | |
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| User Story No: 4 | Tasks: 3 | Priority: High |
| As a customer,  I want to add products to my cart,  so that I can proceed to checkout. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Cart Functionality  Add, remove, and update product quantities in the cart.  Show total price and applicable discounts. | | |
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| User Story No: 5 | Tasks: 2 | Priority: Medium |
| As a customer,  I want to make payments online,  so that I can complete my purchase securely. | | |
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| BV: 500 | CP: 04 | |
| Acceptance Criteria:  Payment Integration  Support multiple payment gateways (credit card, UPI, net banking).  Provide confirmation for successful payment and order completion. | | |
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| User Story No: 6 | Tasks: 2 | Priority: High |
| As an Admin,  I want to manage user accounts,  so that I can maintain the system effectively. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  User Account Management.  Enable account suspension and reactivation.  View user details and activity logs. | | |
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| User Story No: 7 | Tasks: 3 | Priority: Highest |
| As a Customer,  I want to track my order status,  so that I can know when to expect delivery. | | |
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| BV: 500 | CP: 04 | |
| Acceptance Criteria:  Order Tracking Feature.  Display real-time order updates with delivery boy location.  Send notifications for order status changes. | | |
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| User Story No: 8 | Tasks: 2 | Priority: Medium |
| As a Vendor,  I want to view sales analytics,  so that I can evaluate my performance. | | |
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| BV: 400 | CP: 03 | |
| Acceptance Criteria:  Sales Analytics Dashboard.  Show metrics like total sales, revenue, and product performance.  Allow filtering by time period and product category. | | |
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| User Story No: 9 | Tasks: 2 | Priority: High |
| As a Delivery Boy,  I want to receive notifications for new orders,  so that I can start delivery quickly. | | |
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| BV: 450 | CP: 02 | |
| Acceptance Criteria:  Order Notification System  Send notifications for new delivery assignments.  Provide order details and estimated delivery time. | | |
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| User Story No: 10 | Tasks: 2 | Priority: High |
| As an Admin,  I want to generate reports on system usage,  so that I can monitor overall performance. | | |
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| BV: 500 | CP: 04 | |
| Acceptance Criteria:  Reporting Feature  Generate user, order, and revenue reports.  Export reports in PDF and Excel formats. | | |
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| User Story No: 11 | Tasks: 2 | Priority: Medium |
| As a customer,  I want to save my address details,  so that I can use them for future orders. | | |
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| BV: 400 | CP: 04 | |
| Acceptance Criteria:  Address Management  Allow adding, editing, and deleting addresses.  Set one address as default for orders. | | |
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| User Story No: 12 | Tasks: | Priority: High |
| As a Vendor,  I want to manage inventory,  so that I can keep track of product stock levels. | | |
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| BV: 500 | CP: 03 | |
| Acceptance Criteria:  Inventory Management  Display current stock levels and low-stock alerts.  Enable adding or reducing stock quantities. | | |
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| User Story No: 13 | Tasks: 2 | Priority: High |
| As a Customer,  I want to apply discount coupons,  so that I can save on purchases. | | |
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| BV: 450 | CP: 02 | |
| Acceptance Criteria:  Coupon Code Feature  Enable entering and validating coupon codes at checkout.  Apply valid discounts to the total order amount. | | |
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| User Story No: 14 | Tasks: 2 | Priority: High |
| As an Admin,  I want to manage product categories,  so that I can organize the product catalogue. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Category Management  Add, edit, or delete product categories.  Assign products to categories. | | |
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| User Story No: 15 | Tasks: 3 | Priority: High |
| As a Delivery Boy,  I want to update order status,  so that customers can track delivery progress. | | |
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| BV: 450 | CP: 02 | |
| Acceptance Criteria:  Order Status Updates  Enable marking orders as picked, on the way, or delivered.  Automatically update the order tracking system. | | |
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| User Story No: 16 | Tasks: 2 | Priority: Medium |
| As a Vendor,  I want to view customer feedback,  so that I can improve my products. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  Feedback Review System  Display ratings and reviews for products.  Allow filtering feedback by date or product. | | |
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| User Story No: 17 | Tasks: 3 | Priority: High |
| As a Customer,  I want to schedule orders,  so that I can receive them at a convenient time. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Order Scheduling Feature  Enable selecting preferred delivery date and time.  Validate availability for selected slots. | | |
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| User Story No: 18 | Tasks: 2 | Priority: High |
| As an Admin,  I want to manage system settings,  so that I can ensure smooth operations. | | |
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| BV: 450 | CP: 04 | |
| Acceptance Criteria:  System Settings  Configure application settings like notifications and thresholds.  Restrict access to authorized personnel. . | | |
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| User Story No: 19 | Tasks: 2 | Priority: Medium |
| As a customer,  I want to receive order updates via SMS,  so that I can stay informed. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  SMS Notification System  Send SMS alerts for order confirmations, shipping, and delivery.  Enable opt-in and opt-out for notifications. | | |
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| User Story No: 20 | Tasks: 2 | Priority: High |
| As a Delivery Boy,  I want to view assigned orders,  so that I can plan my deliveries efficiently. | | |
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| BV: 450 | CP: 02 | |
| Acceptance Criteria:  Delivery Management  Display a list of assigned orders with details such as customer address and contact information.  Provide sorting and filtering options for delivery schedules. | | |
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| User Story No: 21 | Tasks: 2 | Priority: High |
| As a Vendor,  I want to receive notifications for low stock,  so that I can restock in time. | | |
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| BV: 500 | CP: 04 | |
| Acceptance Criteria:  Stock Alerts  Trigger notifications when stock levels fall below the threshold.  Provide an option to configure the low-stock threshold for each product. | | |
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| User Story No: 22 | Tasks: 2 | Priority: Medium |
| As a Customer,  I want to browse products by category,  so that I can find items more easily. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  Category Browsing  Display product categories with expandable subcategories.  Allow sorting and filtering within each category. | | |
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| User Story No: 23 | Tasks: 3 | Priority: High |
| As an Admin,  I want to set up delivery zones,  so that I can optimize the delivery process. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Delivery Zone Management  Enable defining zones based on pin codes or geographic areas.  Display zone-based delivery charges and restrictions. | | |
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| User Story No: 24 | Tasks: 2 | Priority: Medium |
| As a Customer,  I want to track my orders in real-time,  so that I know the exact delivery status. | | |
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| BV: 400 | CP: 03 | |
| Acceptance Criteria:  Real-Time Order Tracking  Show order location updates on a map.  Provide estimated delivery time and status updates. | | |
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| User Story No: 25 | Tasks: 2 | Priority: High |
| As an Admin,  I want to manage user roles and permissions,  so that I can control system access. | | |
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| BV: 450 | CP: 04 | |
| Acceptance Criteria:  Role-Based Access Control  Create, edit, and delete roles with specific permissions.  Assign roles to users and restrict unauthorized actions. | | |
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| User Story No: 26 | Tasks: 3 | Priority: Medium |
| As a Vendor,  I want to upload product images,  so that customers can see how products look. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  Image Upload Feature  Allow uploading multiple images for each product  Enable editing or replacing product images. | | |
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| User Story No: 27 | Tasks: 2 | Priority: High |
| As a Customer,  I want to search for products,  so that I can quickly find what I need. | | |
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| BV: 500 | CP: 02 | |
| Acceptance Criteria:  Product Search Functionality Provide a search bar with autocomplete suggestions.  Allow filtering search results by category, price, and ratings. | | |
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| User Story No: 28 | Tasks: 2 | Priority: High |
| As an Admin,  I want to view system logs,  so that I can troubleshoot issues. | | |
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| BV: 450 | CP: 04 | |
| Acceptance Criteria:  System Logs  Record and display user activities and system errors.  Provide filtering options by date, user, and activity type. | | |
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| User Story No: 29 | Tasks: 2 | Priority: High |
| As a Vendor,  I want to update product availability,  so that customers see real-time stock status. | | |
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| BV: 450 | CP: 02 | |
| Acceptance Criteria:  Stock Status Management Allow updating product stock in real-time.  Display "In Stock" or "Out of Stock" indicators on the customer interface. | | |
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| User Story No: 30 | Tasks: 2 | Priority: Medium |
| As a Delivery Boy,  I want to mark deliveries as complete,  so that the system records the order status. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  Delivery Completion  Provide a button or option to mark an order as delivered.  Update order status to "Completed" in the system. | | |
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| User Story No: 31 | Tasks: 2 | Priority: High |
| As a Customer,  I want to track my order status,  so that I stay informed about my delivery progress. | | |
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| BV: 500 | CP: 04 | |
| Acceptance Criteria:  Order Tracking Screen  Display the current status of the order (e.g., "Processing," "Dispatched," "Out for Delivery").  Include an estimated delivery time based on the current location of the delivery. | | |
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| User Story No: 32 | Tasks: 2 | Priority: Medium |
| As an Admin,  I want to analyse sales reports,  so that I can monitor business performance. | | |
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| BV: 400 | CP: 04 | |
| Acceptance Criteria:  Sales Reporting Tool  Generate sales reports based on selected dates.  Show total sales, top-performing products, and order trends over time. | | |
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| User Story No: 33 | Tasks: 2 | Priority: High |
| As a Vendor,  I want to manage product categories,  so that my inventory is well-organized. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Category Management Add, edit, or delete product categories.  Allow mapping of products to their respective categories. | | |
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| User Story No: 34 | Tasks: 2 | Priority: Medium |
| As a Customer,  I want to provide delivery instructions,  so that my order reaches me easily. | | |
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| BV: 400 | CP: 02 | |
| Acceptance Criteria:  Delivery Instructions  Include a text box for customers to provide delivery instructions at checkout.  Display these instructions to the delivery personnel. | | |
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| User Story No: 35 | Tasks: 2 | Priority: High |
| As a Customer,  I want to receive notifications,  so that I stay updated on my order status. | | |
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| BV: 500 | CP: 02 | |
| Acceptance Criteria:  Notification System  Send push notifications for order updates (e.g., "Order Confirmed," "Out for Delivery").  Include the option for customers to enable or disable notifications. | | |
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| User Story No: 36 | Tasks: 2 | Priority: High |
| As a Vendor,  I want to manage promotional discounts,  so that I can attract more customers. | | |
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| BV: 450 | CP: 04 | |
| Acceptance Criteria:  Discount Management  Add, edit, or delete promotional offers for specific products or categories.  Display the discount details to customers at checkout. | | |
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| User Story No: 37 | Tasks: 2 | Priority: Medium |
| As a Vendor,  I want to view analytics on product performance,  so that I can identify top sellers. | | |
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| BV: 400 | CP: 03 | |
| Acceptance Criteria:  Product Performance Analytics  Display product performance metrics (e.g., sales count, revenue generated).  Highlight top-selling products and those with low sales. | | |
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| User Story No: 38 | Tasks: 2 | Priority: High |
| As a Customer,  I want to repeat a previous order,  so that I can save time on reordering. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Order Repetition  Provide a "Repeat Order" button for previously completed orders.  Auto-fill the cart with the same products as the selected order. | | |
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| User Story No: 39 | Tasks: 2 | Priority: Medium |
| As a Vendor,  I want to upload bulk product data,  so that I can save time in product management. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Bulk Upload Feature Support CSV or Excel file upload for adding multiple products.  Validate the data and display error messages for any inconsistencies. | | |
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| User Story No: 40 | Tasks: 2 | Priority: High |
| As an Admin,  I want to generate customer feedback reports,  so that I can improve service quality. | | |
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| BV: 450 | CP: 03 | |
| Acceptance Criteria:  Feedback Reporting  Compile customer feedback from surveys or reviews.  Display feedback insights and suggestions for improvement. | | |
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**Question 3 – What is Epic? Write 2 Epics**

Answer:

**What is an Epic?**

An **Epic** is a large body of work that can be broken down into smaller, manageable user stories. It represents a high-level requirement or feature that spans multiple sprints. Epics help in organizing work and providing a roadmap for achieving bigger goals in Agile projects.

* 1. **Epic: User Registration and Authentication**
* Enable users to create accounts, log in, and manage their profiles securely.
* Includes user stories like:
* As a user, I want to register using my email and phone number so that I can create an account.
* As a user, I want to reset my password so that I can regain access to my account if forgotten.
  1. **Epic: Order Management System**
* Allow users to place, track, and manage orders effectively.
* Includes user stories like:
  + As a user, I want to view my order history so that I can track my previous purchases.
  + As a vendor, I want to manage incoming orders so that I can fulfil them efficiently.

**Question 4 – What is the difference between BV and CP**

Answer:

1. **Definition**:
   * Business Value (BV) refers to the importance of a task from a business perspective. It indicates how much value or benefit the task will deliver to the business.
   * Complexity Points (CP) represent the effort, time, or complexity involved in completing the task. It reflects the technical or logistical challenges in implementing the task.
2. **Purpose**:
   * The primary purpose of BV is to prioritize tasks based on their potential impact on business outcomes, helping teams focus on what brings the most value.
   * CP is used to estimate how much work or effort is required to complete a task, helping teams assess the resources, skills, and time needed for implementation.
3. **Measurement**:
   * BV is quantified using a numerical value, such as 100, 200, or 500, to indicate its importance to the business.
   * CP is typically measured in story points or other units that estimate the workload or complexity of the task.
4. **Focus**:
   * BV focuses on the business outcome and the potential return on investment or strategic benefit a task provides to the organization.
   * CP is concerned with the technical aspects of the task, such as how difficult it is to develop, implement, or complete.
5. **Usage in Decision-Making**:

* BV is primarily used by stakeholders to determine which tasks should be prioritized in a sprint or project timeline based on their business impact.
* CP is used by development teams to plan and allocate resources and time, ensuring they can handle the task's complexity effectively.

**Question 5 –Explain about Sprint**

Answer:

A **Sprint** is a fundamental concept in the Scrum framework, representing a time-boxed period during which a Scrum team works to complete a set of tasks or deliverables. Typically lasting between 1 to 4 weeks, a Sprint aims to produce a potentially shippable product increment at the end of the period. Here's a breakdown of the key aspects of a Sprint:

1. **Time-boxed Period**:  
   A Sprint has a fixed duration, usually between 1 to 4 weeks. The team works on a set of prioritized tasks, known as the Sprint Backlog, and aims to complete them within the Sprint timeframe. The duration is consistent throughout the project to allow for predictability.
2. **Sprint Planning**:  
   The Sprint starts with a **Sprint Planning Meeting**, where the team discusses and selects tasks from the Product Backlog that can be accomplished during the Sprint. These tasks are moved to the Sprint Backlog, and the team commits to completing them by the end of the Sprint.
3. **Daily Standups**:  
   During the Sprint, the team holds daily **Daily Standup Meetings** (or Daily Scrums). These short, focused meetings provide an opportunity for team members to share updates on their progress, address any blockers, and synchronize their efforts.
4. **Increment Delivery**:  
   The goal of the Sprint is to produce a **potentially shippable product increment**. This means the work done during the Sprint should be of high enough quality and completeness that it can be delivered to the customer if needed, though it may still undergo further refinement.
5. **Sprint Review and Retrospective**:  
   At the end of the Sprint, a **Sprint Review** is conducted, where the team demonstrates the completed work to stakeholders. This is followed by a **Sprint Retrospective**, a meeting where the team reflects on the Sprint to identify what went well, what could be improved, and how to optimize processes for the next Sprint.

In summary,

Sprint is a time-boxed iteration in Scrum where the team works on a specific set of tasks to achieve a defined goal, producing a potentially shippable product increment. The Sprint is structured with planning, daily standups, review, and retrospective meetings to ensure continuous improvement and alignment with stakeholder expectations.

**Question 6 – Explain Product Backlog and Sprint Backlog**

Answer:

1. **Product Backlog**:  
   The **Product Backlog** is a prioritized list of all the features, enhancements, bug fixes, and other requirements for a product. It serves as a dynamic to-do list for the Scrum team and evolves as the product grows and customer needs change.
   * Managed by the **Product Owner**.
   * Items are often written as user stories with acceptance criteria.
   * Prioritization is based on business value and stakeholder feedback.
2. **Sprint Backlog**:  
   The **Sprint Backlog** is a subset of the Product Backlog that the team commits to completing during a Sprint. It includes tasks derived from the selected user stories, along with any technical or design work necessary to complete them.
   * Created during the **Sprint Planning Meeting**.
   * Owned and managed by the **Development Team**.
   * Represents the team’s focus for the Sprint.

**Sprint Planning Meeting:**

* Before a Sprint starts, all **8 Scrum Developers** meet to assess how many user stories they can commit to completing in a two-week Sprint.
* They review the **Product Backlog** and move selected user stories to the **Sprint Backlog**.

**Scrum Meeting (Daily Stand-Up):**

At the end of every Scrum (a working day during the Sprint), the team participates in a **Daily Scrum Meeting**. Each member answers three questions:  
a. **What task did you work on in this Scrum?**  
b. **What task will you work on next Scrum?**  
c. **Any Challenges/Impediments?**

**Question 7 – What is impediments log? Write 2 Impediments.**

Answer:

**Impediments Log**

An **Impediments Log** is a tool used by the Scrum Team to document and track challenges or obstacles encountered during a Sprint that may hinder or delay progress. These impediments could be technical, procedural, or resource-related and can significantly affect the team’s ability to deliver sprint goals effectively.

The log serves as a central repository where all issues are recorded, prioritized, and assigned for resolution. It is reviewed regularly during daily stand-ups or Scrum meetings to ensure that these roadblocks are addressed promptly. Resolving these impediments allows the team to maintain focus, improve productivity, and meet deadlines more efficiently. The Scrum Master plays a critical role in managing and clearing these impediments to ensure the smooth functioning of the team.

**Impediments Log**

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| **Impediment No.** | **Description** |
| 1 | The design team delayed providing essential UI/UX assets, such as wireframes and design mockups, causing a bottleneck in the development process |
| 2 | A critical user story lacked detailed requirements, creating confusion among developers regarding the expected functionality and acceptance criteria. |
| 3 | Unplanned server downtime interrupted the development and testing phases, delaying the deployment of a crucial sprint deliverable. |
| 4 | Key team members were unavailable due to unforeseen personal emergencies, impacting the completion of assigned tasks within the sprint timeline. |
| 5 | Dependency on a third-party API integration caused delays, as the API documentation was incomplete and support from the vendor was not timely provided. |

**Question 8 – Explain Velocity of the Team**

Answer:

**Velocity of the Team –**

Velocity refers to the number of Complexity Points (CP) completed by the team in a single sprint. It is a measure of the team's capacity to deliver work within the sprint duration.

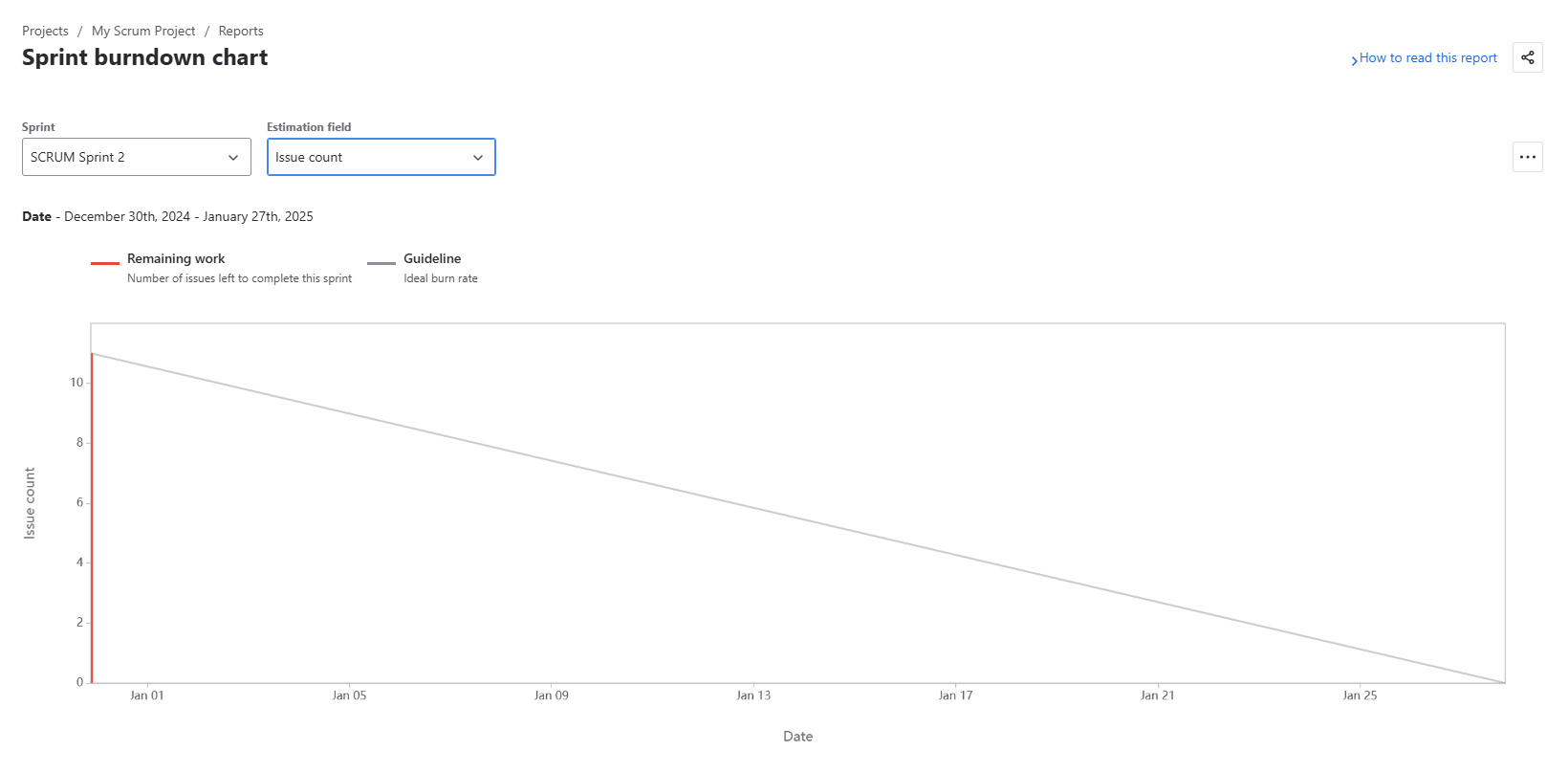
**Example:**  
If the team completes 40 CP worth of tasks in a sprint, the velocity for that sprint is 40 CP.

Velocity helps in planning future sprints and understanding the team's delivery potential.

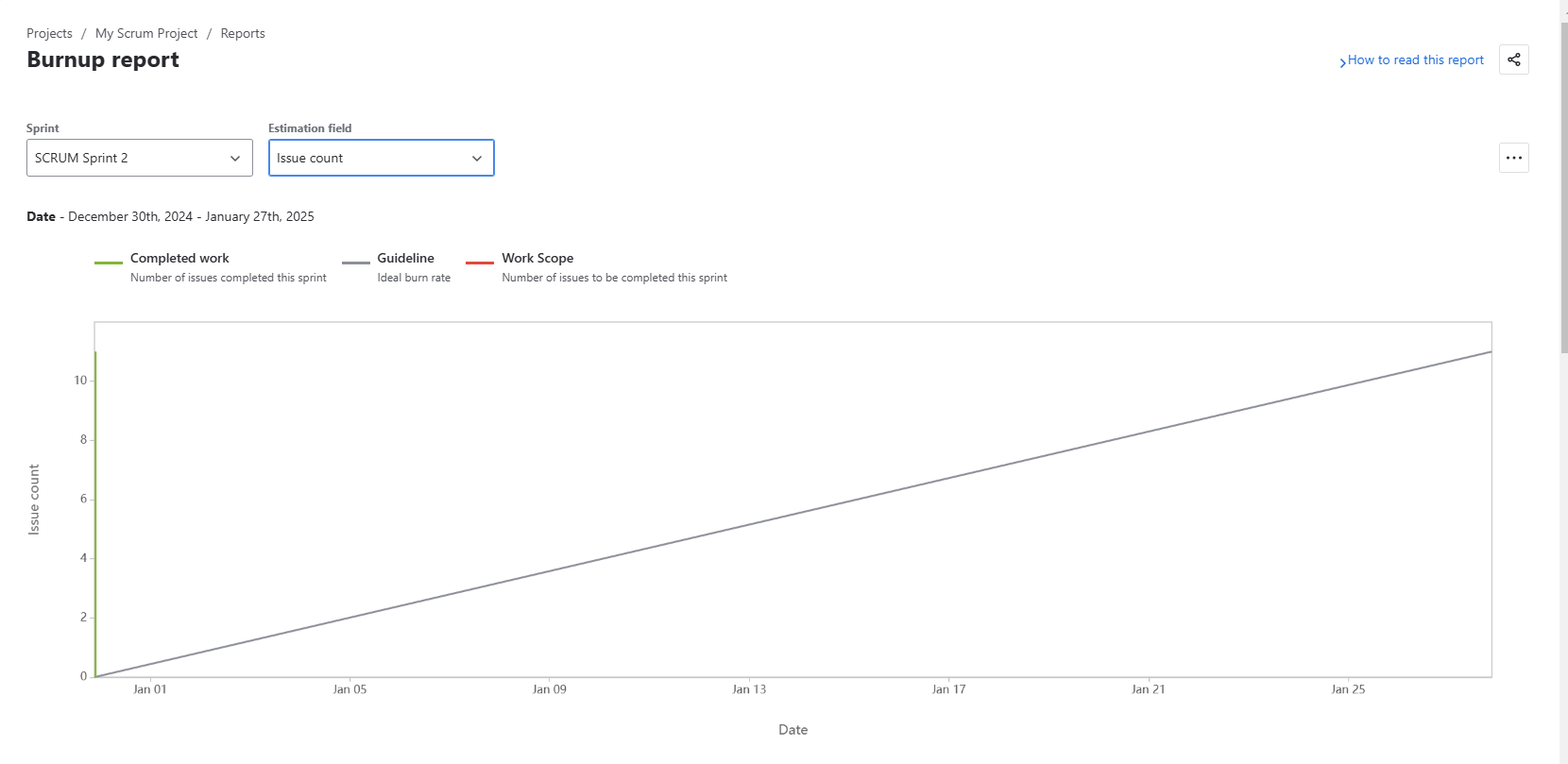
**Question 9 – Draw Sprint Burn Charts and Product Burn Down Charts**

Answer:

**Sprint Burndown Chart –**



**Product Burndown Chart -**



**Question 10 – Explain about Product Grooming**

Answer:

**Product Grooming -**

**Definition:**  
Product Grooming (also known as Backlog Grooming) is the process of refining and maintaining the Product Backlog. This involves reviewing, updating, and prioritizing backlog items to ensure they are ready for future sprints. The goal is to ensure the backlog is clear, prioritized, and contains well-defined user stories.

**Key Activities:**

1. **Prioritizing Items:** The Product Owner and team ensure the most important tasks are at the top of the backlog.
2. **Refining User Stories:** The backlog items are clarified, with acceptance criteria and details to ensure that they are actionable for the development team.
3. **Estimating Effort:** The team may assign estimates to the tasks, such as story points or complexity points (CP), to gauge the effort required for completion.

**Benefits:**

* **Improves Sprint Planning** by ensuring the team has well-defined, prioritized tasks ready for the next sprint.
* **Reduces Ambiguity** by clarifying tasks and requirements, minimizing misunderstandings.
* **Ensures Alignment** with business goals and customer needs, making sure the team works on the highest-priority items.

Regular grooming helps maintain an effective and efficient development process, leading to better outcomes in future sprints.

**Question 11 - Explain the roles of Scrum Master and Product Owner**

Answer:

**Scrum Master:**

The Scrum Master is responsible for facilitating the Scrum process, ensuring that the Scrum Team follows Agile principles and practices. Their role is to serve the team by removing any obstacles (impediments) that hinder progress, coaching the team on Scrum practices, and ensuring that the Scrum events (such as Sprint Planning, Daily Scrum, Sprint Review, and Sprint Retrospective) are conducted smoothly.

**Key Responsibilities of the Scrum Master:**

1. **Facilitates Scrum Events**: Ensures all Scrum events (Daily Standups, Sprint Planning, Review, and Retrospective) are properly conducted.
2. **Removes Impediments**: Identifies and helps resolve any issues or barriers that may prevent the team from achieving their sprint goals.
3. **Servant Leadership**: Acts as a servant leader for the team by coaching and mentoring them to follow Scrum practices and principles.
4. **Protects the Team**: Shields the team from external distractions and interruptions to maintain focus on their work.

**Product Owner:**

The Product Owner is responsible for managing and prioritizing the Product Backlog. They are the primary link between the stakeholders (customers, business owners, etc.) and the development team, ensuring that the product meets business needs and delivers value to the customers.

**Key Responsibilities of the Product Owner:**

1. **Manages Product Backlog**: Defines, refines, and prioritizes backlog items based on business goals, stakeholder feedback, and team capacity.
2. **Clarifies Requirements**: Works closely with the team to clarify user stories and ensure they understand the business value of each task.
3. **Represents Stakeholders**: Acts as the voice of the customer, ensuring the team delivers the right product by gathering feedback from stakeholders and users.
4. **Sets Sprint Goals**: Collaborates with the Scrum Team to set sprint goals, ensuring that they align with business objectives and customer needs.

**Team Experiences with Sprint 1**:

|  |
| --- |
| **Scrum Master:**  As the Scrum Master, the main focus was on ensuring that the Scrum process ran smoothly. This included removing any impediments and fostering open communication within the team. |

|  |
| --- |
| **Product Owner:**  As the Product Owner, the key task was managing the backlog and prioritizing features. The experience involved balancing stakeholder needs and ensuring that the development team understood the business value of the features they were working on. Regular feedback and clarifications were crucial to align the team's work with the business goals. |

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

Answer:

In Scrum, meetings (or events) are designed to foster collaboration, transparency, and continual improvement. These meetings help ensure that the team is aligned, progress is tracked, and any obstacles are identified and addressed promptly. The Scrum framework defines five essential events: **Sprint Planning**, **Daily Scrum (Stand-up)**, **Sprint Review**, **Sprint Retrospective**, and **Backlog Refinement (Grooming)**. Each of these meetings has a specific purpose and set of activities associated with it.

**1. Sprint Planning**

* **Purpose**: To define the work that will be done in the upcoming Sprint and how it will be accomplished.
* **Participants**: Scrum Master, Product Owner, and Development Team.
* **Activities**:
  + **Sprint Goal**: The Product Owner presents the highest priority items from the Product Backlog.
  + **Selection of Backlog Items**: The Development Team selects the work they can commit to completing during the Sprint.
  + **Task Breakdown**: The team breaks the selected Product Backlog items (user stories) into smaller, manageable tasks.
  + **Estimate**: The team provides estimates for the effort required to complete each task, and the total effort is considered to ensure, it is achievable within the Sprint.
  + **Outcome**: The Sprint Backlog is created, which contains the work the team commits to complete during the Sprint.

**2. Daily Scrum (Stand-up)**

* **Purpose**: To ensure team members are aligned and focused on the Sprint Goal, and to identify and address any impediments.
* **Participants**: Scrum Master, Product Owner (optional), and Development Team.
* **Activities**:
  + **Three Questions**: Each team member answers three questions:
    1. What did I work on yesterday?
    2. What will I work on today?
    3. Do I have any blockers or challenges?
  + **Impediments**: Any impediments are identified and brought to the attention of the Scrum Master to resolve.
  + **Outcome**: The team has a quick update on each member’s progress and any challenges, keeping the work focused and ensuring that everyone is aligned.

**3. Sprint Review**

* **Purpose**: To demonstrate the work completed during the Sprint and gather feedback from stakeholders.
* **Participants**: Scrum Master, Product Owner, Development Team, and Stakeholders.
* **Activities**:
  + **Demonstration**: The Development Team showcases the completed work (product increment) to the Product Owner and stakeholders.
  + **Feedback**: Stakeholders provide feedback on the work, and the Product Owner can adjust the Product Backlog based on the new insights.
  + **Outcome**: The team gets feedback on the product, and the Product Backlog is updated based on the discussions.

**4. Sprint Retrospective**

* **Purpose**: To reflect on the Sprint process and identify areas for improvement.
* **Participants**: Scrum Master, Product Owner, and Development Team.
* **Activities**:
* **What Went Well**: The team discusses what worked well during the Sprint.
* **What Can Be Improved**: The team identifies what didn't work or areas where the process can improve.
* **Actionable Improvements**: The team agrees on specific actions to improve the process in the next Sprint.
* **Outcome**: Continuous improvement by implementing actionable changes in the next Sprint.

**5. Backlog Refinement (Grooming)**

* **Purpose**: To ensure that the Product Backlog is well-defined, prioritized, and ready for the next Sprint Planning meeting.
* **Participants**: Product Owner, Scrum Master, and Development Team.
* **Activities**:
  + **Reviewing Backlog Items**: The team discusses the items in the Product Backlog to ensure they are well-understood and clearly defined.
  + **Prioritizing Backlog Items**: The Product Owner ensures that the highest-priority items are at the top of the backlog.
  + **Estimating Items**: The team estimates the effort required to complete each item, often using techniques such as story points or T-shirt sizing.
  + **Outcome**: A refined and prioritized Product Backlog that is ready for the next Sprint Planning.

**Conclusion:**

Each of these meetings is essential for the success of a Scrum team. They help in ensuring effective communication, transparent tracking of progress, continuous improvement, and aligning the team’s efforts towards delivering the highest value to the customer. By following these meetings, Scrum teams can stay focused on their Sprint goals, adapt to changes quickly, and continuously improve their processes for better productivity and team cohesion.

**Question 13 – Explain Sprint Size and Scrum Size**

Answer:

**Sprint Size:** Sprint size refers to the duration or length of a Sprint, which is the time-boxed period during which a Scrum team works to complete a set of tasks (user stories) from the Product Backlog. The length of a Sprint is typically **1 to 4 weeks**, with **2 weeks** being the most common duration. The size of the Sprint is determined by the team’s capacity, the complexity of the work, and the need to deliver valuable increments frequently. A smaller Sprint duration allows for faster feedback and quicker adaptation to changes, but it also depends on the team’s ability to handle the workload within that period.

**Scrum Size:** Scrum size refers to the size of the Scrum team, which includes the Scrum Master, Product Owner, and Development Team. The ideal Scrum team size is typically between **3 to 9 members**, with the optimal size being around **5 to 7 members**. This size ensures that the team is large enough to have diverse skills and perspectives, yet small enough to maintain effective communication and coordination. Teams that are too small might lack the necessary skills, while larger teams can face challenges in collaboration and decision-making due to the increased complexity of managing more members.

**Question 14 – Explain DOR and DOD**

Answer:

**Definition of Ready (DOR):** DOR refers to the criteria that a user story or task must meet before it is taken into a Sprint or development cycle. It ensures that the team is ready to begin working on a task by verifying that all necessary information and requirements are available. This helps prevent any delays or blockers during the Sprint. Typical elements of DOR might include:

* Clear and concise user story.
* Acceptance criteria defined.
* Dependencies identified.
* Any necessary design or mockups available.
* Team has the necessary resources or access to complete the task.

The DOR ensures that the team is not wasting time on incomplete or unclear tasks and can start work immediately upon entering the Sprint.

**Definition of Done (DOD):** DOD refers to the criteria that a product increment or user story must meet for it to be considered complete. It sets the standards for what it means to have fully finished a task. The DOD ensures that the increment is ready for release and adheres to quality standards. Common elements of DOD may include:

* Code is written and unit tested.
* Acceptance criteria have been met.
* Code is reviewed and merged.
* Documentation, if required, is complete.
* The product is integrated and works with other parts of the system.
* The feature is deployable in the production environment.

The DOD ensures quality and consistency, helping the Scrum Team understand when a piece of work is truly complete.

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

Answer:

**Prioritization Techniques:** In Scrum, prioritization is essential to ensure that the most valuable work is completed first. There are several techniques used for prioritizing product backlog items:

1. **MoSCoW Method:**

* **Must Have**: Critical features required for the project to be functional.
* **Should Have**: Important but not critical features.
* **Could Have**: Nice-to-have features that are optional.
* **Won't Have**: Features that are out of scope for the current iteration.

**Minimum Viable Product (MVP):** The MVP refers to the version of a product that includes only the essential features required to meet the needs of early adopters and provide value. It is the smallest version of the product that can be launched to test the market, gather feedback, and validate assumptions before building additional features.

**Key Characteristics of MVP:**

* **Core Functionality**: Only the most critical features are developed.
* **Quick to Market**: The MVP is developed quickly to get feedback from real users.
* **Feedback-Driven**: The goal is to test hypotheses and adjust the product based on user feedback.
* **Cost-Effective**: Developing an MVP ensures that resources are not wasted on unnecessary features.

An MVP helps reduce the risk of building a product that doesn't meet customer needs by validating ideas before investing significant resources.

**Question 16 – Difference between Business Analyst and Product Owner**

Answer:

The roles of a **Business Analyst (BA)** and **Product Owner (PO)** are often confused, but they serve distinct functions within a Scrum or agile project. Below is a comparison of their roles:

1. **Role Focus**:
   * **Business Analyst (BA)**: Primarily focuses on understanding and gathering business requirements, analyzing data, and defining the functional specifications for the system. The BA works closely with stakeholders, users, and technical teams to ensure the system's requirements are well-understood and documented.
   * **Product Owner (PO)**: The PO is responsible for defining the vision and goals for the product, ensuring that the team works on the most valuable features. The PO prioritizes the product backlog, making key decisions about which features should be developed based on business value and customer needs.
2. **Responsibilities**:
   * **Business Analyst (BA)**:
     + Gathers, documents, and analyzes business requirements.
     + Communicates with stakeholders to clarify needs.
     + Works with technical teams to translate business needs into functional specifications.
     + May create user stories and use cases for development teams.
   * **Product Owner (PO)**:
     + Owns the product vision and ensures it aligns with business goals.
     + Manages and prioritizes the product backlog.
     + Collaborates with the Scrum team to deliver features based on priority.
     + Makes decisions on the release and increment schedule, balancing business needs and technical feasibility.
3. **Interaction with Stakeholders**:
   * **Business Analyst (BA)**: Works primarily with stakeholders, users, and subject matter experts to elicit detailed business requirements and system specifications.
   * **Product Owner (PO)**: Works closely with the stakeholders to understand customer needs and ensure that the product backlog is aligned with these needs. The PO also engages with the Scrum team, providing clarification and feedback on requirements as needed.
4. **Decision Making**:
   * **Business Analyst (BA)**: The BA typically does not make decisions about what gets built but helps to ensure that requirements are accurately captured and communicated.
   * **Product Owner (PO)**: The PO makes key decisions about the product, including feature prioritization, release planning, and determining the product's direction.
5. **End Goal**:
   * **Business Analyst (BA)**: The BA’s goal is to ensure that the business requirements are clear, well-documented, and understood by the development team to deliver the system as per stakeholder expectations.
   * **Product Owner (PO)**: The PO’s goal is to maximize the value delivered by the Scrum team by ensuring the product aligns with customer needs and business objectives.

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

Answer:

**Professional Summary**

A results-driven and detail-oriented Product Owner with 3 years of experience in leading product development teams using Agile methodology. Skilled in managing product roadmaps, defining user stories, prioritizing backlogs, and ensuring the timely delivery of features aligned with business objectives. Expertise in collaborating with stakeholders, development teams, and designers to create innovative product solutions that enhance user experience and meet customer needs.

**Core Competencies**

* Product Lifecycle Management
* Agile Methodology (Scrum & Kanban)
* Backlog Prioritization & Grooming
* Requirement Gathering & Analysis
* Stakeholder Engagement & Communication
* Cross-functional Team Leadership
* Product Roadmap Creation & Maintenance
* User Story Development & Acceptance Criteria
* Sprint Planning & Execution
* Market & Competitor Research
* A/B Testing & Metrics Analysis
* Project Management Tools (Jira, Confluence, Trello)

**Professional Experience**

**Product Owner**

*XYZ Technologies Pvt. Ltd.*  
*Jan 2021 – Present*

* Lead the development and delivery of product features from concept to launch, working closely with stakeholders to define product vision, goals, and success metrics.
* Manage product backlog, ensuring that user stories are well-defined, prioritized, and ready for sprint execution.
* Collaborate with cross-functional teams, including development, design, and QA, to ensure that products are delivered on time and meet quality standards.
* Facilitate sprint ceremonies, including sprint planning, daily stand-ups, sprint reviews, and retrospectives, ensuring smooth execution of the Scrum process.
* Gather and analyze customer feedback, market trends, and product performance to drive product enhancements and ensure alignment with user needs.
* Successfully delivered several features that improved user engagement and customer satisfaction, driving a 20% increase in retention rates.

**Junior Product Owner**

*ABC Solutions*  
*Aug 2019 – Dec 2020*

* Assisted in the development of user stories, acceptance criteria, and sprint planning for new product features.
* Supported senior product owners in maintaining the product backlog, ensuring all requirements were met and features were delivered on schedule.
* Coordinated with the design and development teams to ensure product features were implemented according to specifications.
* Participated in daily stand-ups and sprint reviews, identifying and addressing any challenges or obstacles.
* Engaged with stakeholders to gather requirements, provide updates, and ensure product alignment with business goals.
* Helped launch a major product update that improved usability and performance, resulting in a 10% increase in customer satisfaction.

**Education**

**Bachelor of Science in Computer Science**  
*XYZ University*  
*Graduated: May 2019*

**Certifications**

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

**Skills**

* **Agile Tools:** Jira, Confluence, Trello
* **Product Management:** Roadmap Planning, Backlog Management, Stakeholder Communication
* **Methodologies:** Scrum, Kanban
* **Communication:** Excellent written and verbal skills
* **Problem-Solving:** Strong analytical and decision-making abilities
* **User-Centered Design:** Collaboration with design teams to create intuitive interfaces

**Projects**

**Product X Enhancement**

* Managed the enhancement of Product X, introducing new features based on user feedback, which resulted in a 15% increase in user retention.
* Led cross-functional teams to ensure alignment between technical requirements and business objectives.

**Mobile App Development**

* Coordinated the development of a mobile app to increase customer engagement.
* Ensured timely delivery by managing the product backlog and collaborating closely with the engineering and design teams.

**Languages**

* English (Fluent)
* Hindi (Fluent)
* Marathi (Native)