**Requirement Gathering and Analysis Phase**

**Solution Requirements (Functional & Non-functional)**

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| Date | 16 April 2025 |
| Team ID | SWTID1745000177 |
| Project Name | ShopEZ: E-commerce Application |
| Maximum Marks | 4 marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration via Form, Google, or Facebook |
| FR-2 | User Authentication | Login, Logout, Session Handling |
| FR-3 | Product Discovery | Browse Categories, Search, Filter, Sort |
| FR-4 | Personalized Recommendations | View Recommended Products Based on History & Preferences |
| FR-5 | |  | | --- | |  |  |  | | --- | | Shopping Cart | | |  | | --- | |  |  |  | | --- | | Add/Remove Items, Quantity Update | |
| FR-6 | Seamless Checkout | Address Input, Payment Gateway Integration, Order Placement |
| FR-7 | Order Confirmation | Instant Confirmation via Email & Dashboard |
| FR-8 | Seller Dashboard | Product Listings, Order Management, Inventory Updates |
| FR-9 | Business Analytics | Sales Trends, Top Products, Customer Insights |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | Usability | Clean and user-friendly interface for buyers and sellers, intuitive navigation, mobile responsive |
| NFR-2 | Security | Secure transactions with HTTPS, OAuth2, JWT, and encrypted payment processes |
| NFR-3 | Reliability | Order and payment processes must complete without error, implement error recovery mechanisms |
| NFR-4 | Performance | Pages should load under 2 seconds, use caching (Redis), and optimized queries |
| NFR-5 | Availability | 99.9% uptime guaranteed using cloud-based infrastructure with auto-scaling and failover systems |
| NFR-6 | Scalability | Able to handle increasing traffic and user load through microservices and horizontal scaling |