Functional Analysis: Online Shopping System

1. Overview

The Online Shopping System enables customers to browse and purchase products through an internet-based platform. It also provides administrative functions for managing products, orders, and users.

2. Users

1. **Customer/User**
   o Browses products
   o Registers and logs in
   o Adds items to cart
   o Places orders
   o Views order history
   o Makes payments
2. **Administrator**
   o Manages product inventory
   o Manages user accounts
   o Views sales reports
   o Handles order processing

3. Functional Requirements

3.1 User Registration and Login

- Users can sign up with personal details (name, email, and password).
- Users can log in with their credentials.
- Password recovery/reset feature is available.

3.2 Product Browsing

- Users can view products by category, price, brand, etc.
- Users can search products by name or keyword.
- Product details include image, description, price, and availability.

3.3 Shopping Cart

- Users can add products to a cart.
- Users can update quantities or remove items.
- Cart total is automatically calculated.

3.4 Order Placement

- Users proceed to checkout from the cart.
- Enter shipping and billing details.
- Choose a payment method (COD, online payment, etc.).
- Confirm order and receive order summary.

3.5 Payment Processing

- Integration with secure payment gateways (e.g., Razorpay, PayPal, UPI).
- Users receive payment confirmation.
- Failed payments show error messages and retry options.

3.6 Order Management

- Users can view order history.
- Users can track the status of orders (pending, shipped, delivered).
- Admin can update order status and manage delivery.

3.7 User Profile Management

- Users can update personal information and change passwords.
- Users can manage shipping addresses.

3.8 Product Management (Admin)

- Add/edit/delete products with name, price, image, stock, etc.
- View current stock levels and out-of-stock alerts.

3.9 User Management (Admin)

- View registered users.
- Block or delete user accounts (if required).

3.10 Reporting and Analytics (Admin)

- View total sales, orders, and user statistics.
- Filter reports by date, product category, etc.

4. Additional Features (Optional)

- **Wishlist:** Users can save products for later.
- **Reviews and Ratings:** Customers can rate and review products.
- **Coupons/Discounts:** Admin can create and manage promotional codes.

5. System Interfaces

- **Web Interface:** Responsive design for desktops and mobiles.
- **Database Interface:** Backend database to store users, products, and orders.
- **Payment Gateway API:** For secure online transactions.

6. Assumptions

- System supports only authenticated users for purchase.
- The system handles basic e-commerce features, not logistics.