**Lab Practical #06:**

Practice using a requirements management tool to document and categorize requirements.

**Practical Assignment #06:**

* **Create a Work Breakdown Structure (WBS):** Divide the project into smaller, more manageable components.
* **Implement it in Excel:** Utilize Gantt Chart as the project management software for tracking and managing the project.

### Description:

**Part 1: Work Breakdown Structure (WBS)**

**Goal:** Break down your web application project into smaller, manageable tasks (hierarchical format: Level 1 →Level 2 → Level 3)

**1. Project Initiation**

* 1.1 Requirement Gathering (Client needs, user expectations)
* 1.2 Stakeholder Meetings (Logistics team, customers, admins)
* 1.3 Feasibility Study (Cost, timeline, technology)
* 1.4 Approval & Sign-off

**2. UI/UX Design**

* 2.1 User Research (Courier staff, customers, admins)
* 2.2 Wireframing
  + Dashboard (Admin/Courier)
  + Order Tracking
  + Customer Portal
  + Reporting
* 2.3 Prototype (Figma/Adobe XD)
* 2.4 User Feedback & Iteration
* 2.5 Final UI Kit

**3. Frontend Development (Web/Mobile App)**

* 3.1 Project Setup (React/Flutter)
* 3.2 Authentication Module (Login, Roles: Admin/Courier/Customer)
* 3.3 Order Placement & Tracking
* 3.4 Dashboard (Real-time Updates)
* 3.5 Payment Integration
* 3.6 Notification System (SMS/Email)
* 3.7 UI Integration with APIs

**4. Backend Development**

* 4.1 Database Design
  + Users (Admin, Courier, Customer)
  + Orders (Parcels, Status, Location)
  + Payments
* 4.2 Authentication APIs
* 4.3 Order Management APIs (Create, Update, Track)
* 4.4 Location Tracking APIs (GPS/Map Integration)
* 4.5 Reporting APIs (Analytics, Delivery Times)
* 4.6 Testing & Optimization

**5. Integration & Testing**

* 5.1 API Integration (Frontend-Backend)
* 5.2 Unit Testing
* 5.3 UI Testing (Cross-browser/device)
* 5.4 Bug Fixes
* 5.5 Beta Testing (Pilot with select users)

**6. Deployment**

* 6.1 Cloud Setup (AWS/Azure/Google Cloud)
* 6.2 CI/CD Pipeline (GitHub Actions/Jenkins)
* 6.3 Production Release
* 6.4 Post-launch Monitoring (Uptime, logs)

**7. Maintenance & Support**

* 7.1 Bug Reports
* 7.2 System Updates
* 7.3 Performance Monitoring
* 7.4 Feature Enhancements (e.g., AI Route Optimization)

