Test Plan

**1. Introduction**

* **Purpose**: This test plan outlines the testing strategy for the eCommerce Web Application, ensuring that all functionalities work as expected before deployment.
* **Scope**: Testing covers user authentication, product catalog, shopping cart, checkout, and payment processing. Non-functional aspects like performance and security will also be evaluated.
* **References**: Requirements Document (REQ-ECOM-001), Design Specification (DS-ECOM-002).
* **Definitions and Acronyms**: UAT - User Acceptance Testing, API - Application Programming Interface.

**2. Test Items**

* eCommerce Web Application, including frontend and backend components.
* Test environment: Windows 11, Chrome v120, Postman for API testing, JMeter for performance testing.

**3. Features to be Tested**

* User registration, login, and account management.
* Product browsing and filtering.
* Adding/removing items from the shopping cart.
* Order placement and payment processing (credit card, PayPal, and Stripe).
* Order history and email notifications.

**4. Features Not to be Tested**

* Integration with third-party delivery services (out of scope for this phase).
* Mobile app (covered in a separate test plan).

**5. Test Approach**

* Functional testing using manual test cases.
* API testing with Postman.
* Automated UI regression testing with Playwright.
* Performance testing with JMeter.

**6. Entry and Exit Criteria**

* **Entry Criteria**: Development completion, test environment readiness, test data availability.
* **Exit Criteria**: 95% of test cases passed, no critical defects remaining, stakeholder approval.

**7. Test Deliverables**

* Test cases and scripts.
* Defect reports (JIRA tracking).
* Test execution reports.
* Final test summary report.

**8. Test Environment**

* Windows 11, macOS Ventura.
* Browsers: Chrome v120, Edge v115, Safari v17.
* Database: MySQL 8.0.
* Cloud-hosted test environment.

**9. Test Schedule**

* Test case design: Jan 10 - Jan 15.
* Test execution: Jan 16 - Jan 30.
* Regression testing: Jan 31 - Feb 5.
* UAT: Feb 6 - Feb 10.

**10. Roles and Responsibilities**

* **QA Lead**: Sarah - Oversees test execution and reporting.
* **Testers**: Alex, Maria - Execute test cases and log defects.
* **Developers**: Review and fix defects.
* **Project Manager**: Approves release readiness.

**11. Risk Management**

* Delay in test environment setup → Mitigation: Use cloud-based environments.
* High number of defects in checkout → Mitigation: Prioritize testing critical paths.

**12. Defect Management**

* Defects logged in JIRA.
* Severity levels: Critical, High, Medium, Low.
* Fix turnaround: Critical - 24h, High - 48h.

**13. Approval**

* **Reviewed by**: QA Lead, Project Manager.
* **Approved by**: Stakeholders from development and product teams.