Test Plan for Amazon E-Commerce Website

1. Objective

To ensure Amazon's e-commerce site functions reliably across various devices, browsers, and geographic regions with high performance, security, and usability—supporting millions of users globally.

2. Scope

In Scope:

- User registration, login/logout, and account settings
- Product search, filter, sort, and details page
- Shopping cart, checkout flow, and payment gateways
- Order history, returns, and customer support
- Admin panel for inventory and order management

Out of Scope:

- Internal tools not exposed to end-users (e.g., internal HR portals)
- Non-production environments or staging services

3. Test Types

Test Type	Description
Functional Testing	Verifies features work as intended (Selenium automated suites + manual).
Regression Testing	Ensures new updates don't break existing functionality (pytest integration).
Usability Testing	Evaluates user experience and navigation intuitiveness.

Test Type	Description
Performance Testing	Load testing with tools like JMeter or Locust.
Security Testing	Vulnerability scanning via ZAP, Burp Suite, and SonarQube.
Compatibility Testing	Ensures cross-browser and cross-device consistency.
Database Testing	Validates PostgreSQL queries, backups, and data integrity.

4. Test Strategy

- **Hybrid Frameworks** using Selenium with POM, DDT, and KDT approaches

- **Test Data Management** via external Excel sheets or JSON configs

- **Environment Setup:** Staging, QA, and Production mirroring with Docker or cloud environments

- **Version Control:** GitHub/GitLab CI pipelines for test execution tracking

- **Defect Tracking:** Jira integrated with test logs and screenshots

5. Test Metrics

- Test Case Pass Rate

- Bug Severity Distribution

- Automation Coverage %

- Time to Resolution (TTR)

- Page Load Time (Performance)

6. Test Schedule

Phase	Timeline
Test Planning	Day 1–3
Test Case Design	Day 4–10
Environment Setup	Day 11–14
Manual Testing	Day 15–22
Automation Execution	Day 23–28
Performance + Security	Day 29–34
Reporting & Closure	Day 35–37

7. Risks & Mitigation

Risk	Mitigation Strategy
High traffic may cause performance lags	Early load testing with scaled environments
Broken payment gateway integration	Staging integration testing + sandbox transactions
Localization issues in UI	Multi-region testing with simulated geolocation

8. Exit Criteria

- All high/critical priority test cases passed
- 95% automation coverage for the regression suite
- All critical bugs resolved or documented with workarounds
- Performance metrics within acceptable thresholds