**Part 1: Test Planning**

Test Strategy Document:

1. **Objectives of testing:**
   * Ensure the functionality of key features.
   * Validate system integration and data flow.
   * Assess performance, usability, and security.
2. **Scope of testing:**
   * Cover end-to-end testing for major user flows.
   * Focus on key functionalities like user registration, product search, cart management, and order processing.
3. **Testing levels:**
   * Unit testing for individual components.
   * Integration testing for the collaboration of different modules.
   * System testing for the complete e-commerce system.
   * Acceptance testing to ensure the system meets business requirements.
4. **Testing types:**
   * Functional testing.
   * Usability testing.
   * Performance testing.
   * Security testing.
5. **Entry and exit criteria:**
   * Entry criteria: Complete development, environment set up, and availability of test data.
   * Exit criteria: A predefined percentage of passed test cases, meeting performance criteria, and resolving critical defects.
6. **Test environment and tools:**
   * Environment: A dedicated testing environment mirroring production.
   * Tools: Selenium for web automation, JUnit/TestNG for unit testing, JIRA for defect tracking.
7. **Risk analysis:**
   * Identify potential risks such as third-party service dependencies, data security, and scalability issues.

Test Plan:

1. **Test deliverables:**
   * Test cases, test scripts, and automation code.
   * Test summary reports.
2. **Test schedule:**
   * Breakdown of testing activities over time, aligning with the development schedule.
3. **Test resources:**
   * Define roles and responsibilities for testers and developers.
   * Specify the hardware and software resources required.
4. **Test data and environment setup:**
   * Detail how test data will be generated or obtained.
   * Specify the configuration of the test environment.
5. **Test execution and reporting:**
   * Describe the process of test execution.
   * Specify how defects will be tracked and reported.