**Test Plan**

**Project Name**: OrangeHRM Automation Testing Suite  
**Project Description**: Automation of key modules in the OrangeHRM application to ensure system reliability and functionality through regression, smoke, and sanity testing.

**Tester Availability**: 1 Tester, 4 hours per day  
**Target Test Platforms**: Windows OS, Chrome, and Edge browsers

**1. Test Objectives**

* Validate the functionality and reliability of critical OrangeHRM modules, including User Accounts, Employee Management (PIM), Leave, Time & Attendance, Admin, Performance, and Reports.
* Execute smoke, sanity, and regression test cases to maintain software quality during continuous deployment.
* Ensure cross-browser compatibility on Chrome and Edge.

**2. Scope of Testing**

**Modules to be Tested:**

* **User Accounts**: Registration, login, role management, and profile management.
* **Employee Management (PIM)**: Employee creation, updating information, search functionality, and document upload.
* **Leave Management**: Leave application, entitlements, and reporting.
* **Time and Attendance**: Clock-in/clock-out, timesheets, and attendance reports.
* **Admin Module**: User management, job titles, pay grades, and organization structure.
* **Performance Module**: Goal & KPI management, performance reviews.
* **Reports**: Custom report generation and data validation.

**Test Types:**

* **Smoke Testing**: Verify that key functionalities (login, access to main modules) work as expected after new releases.
* **Sanity Testing**: Validate specific module functionalities to confirm they work as expected after minor changes or fixes.
* **Regression Testing**: Re-run all automation tests to ensure recent code changes do not affect existing functionalities.

**3. Test Approach**

1. **Automation Framework**:
   * Develop an automation framework using Selenium with Java and Cucumber.
   * Implement reusable functions for common actions (e.g., login, navigation).
   * Use modular test scripts to facilitate maintenance and scalability.
2. **Testing Schedule**:
   * Prioritize smoke and sanity tests for early stages of new releases.
   * Schedule regression testing to run regularly, ideally before major deployments.
3. **Browser Compatibility**:
   * Ensure tests run on both Chrome and Edge.
   * Identify any browser-specific issues and report them separately.

**4. Test Execution Plan**

**Weekly Time Allocation (4 hours/day):**

| **Day** | **Test Type** | **Module** | **Test Cases** | **Expected Duration** |
| --- | --- | --- | --- | --- |
| Week 1, Day 1-2 | Smoke | User Accounts | Login, Registration, Role Management | 8 hours |
| Week 1, Day 3-4 | Smoke | Employee Management (PIM) | Employee Creation, Search, Document Upload | 8 hours |
| Week 2, Day 1-2 | Smoke | Leave Management | Apply Leave, Approve/Reject Leave, Leave Reports | 8 hours |
| Week 2, Day 3-4 | Smoke | Time and Attendance | Clock In/Out, Timesheets, Attendance Reports | 8 hours |
| Week 3 | Sanity | All Modules | High-priority tests for recent changes or fixes | 20 hours |
| Week 4 | Regression | All Modules | Full suite of regression test cases | 20 hours |

Repeat the cycle in subsequent weeks with adaptations for new features or updates.

**5. Test Environment**

* **Operating System**: Windows
* **Browsers**: Chrome (latest), Edge (latest)
* **Tools and Frameworks**: Selenium WebDriver, Cucumber, TestNG, JUnit (for reporting)

**6. Entry and Exit Criteria**

**Entry Criteria:**

* Development team provides stable build for testing.
* Test data is ready.
* Test environment is set up and accessible.

**Exit Criteria:**

* All high-priority test cases executed with a pass rate of at least 95%.
* Critical bugs are logged, fixed, and re-tested.
* Test report generated and shared with the team.

**7. Defect Management**

* Use a defect-tracking tool (e.g., Jira) to log and track issues.
* Log all defects with detailed descriptions, steps to reproduce, and screenshots (if applicable).
* Categorize defects by priority and severity for efficient resolution.

**8. Risk Management**

* **Risk**: Limited testing hours per day.
  + **Mitigation**: Focus on automation and prioritize critical and high-impact tests.
* **Risk**: Potential browser-specific issues.
  + **Mitigation**: Regular cross-browser testing and close monitoring for browser-specific discrepancies.

**9. Deliverables**

* **Test Plan Document**: This document outlining the testing strategy, scope, and execution.
* **Automation Scripts**: Selenium and Cucumber scripts for each module.
* **Test Execution Report**: Summary of test results, including pass/fail rates and defect logs.
* **Defect Log**: Detailed defect reports for any issues found.

**10. Testing Schedule Summary**

Testing will be spread over a four-week cycle, with daily testing focused on specific modules or test types. Regression testing will be conducted weekly to ensure overall stability, and smoke tests will be executed after any deployment to validate critical functionalities.