

Standard Operating Procedure (SOP): Functional Testing to Ensure Operational Performance

This SOP describes the process for **functional testing to ensure operational performance**, detailing the steps to verify that systems, components, or software operate according to specified requirements. It includes test planning, execution of test cases, result documentation, identification and resolution of defects, and validation of performance metrics to guarantee reliability and efficiency in real-world conditions.

1. Purpose

To outline standardized procedures for conducting functional testing to confirm systems/components/software meet specified operational performance requirements.

2. Scope

This SOP applies to all functional testing activities for new and existing systems, components, and software releases within the organization.

3. Responsibilities

- **Test Lead:** Oversees test planning, resource allocation, and reporting.
- **Testers/QA Engineers:** Execute test cases, document results, and report defects.
- **Developers:** Address and resolve defects identified during testing.
- **Project Manager:** Ensures overall process adherence and timely completion of testing phase.

4. Procedure

1. **Test Planning**
 - Identify scope, objectives, and requirements for functional testing.
 - Develop detailed test plan including test objectives, approach, resources, schedule, and deliverables.
2. **Test Design**
 - Create detailed test cases and test scripts based on requirements and design specifications.
 - Prepare test data and set up the test environment.
3. **Test Execution**
 - Execute test cases and scripts systematically, recording actual outcomes.
 - Document any deviations from expected results, including evidence (logs, screenshots, data).
4. **Defect Management**
 - Log identified defects in the defect tracking system with relevant details.
 - Collaborate with development teams for defect triage, resolution, re-testing, and closure.
5. **Performance Validation**
 - Measure system/software performance against defined operational metrics (e.g., response time, throughput, resource utilization).
 - Document results to confirm compliance with performance requirements.
6. **Test Reporting & Review**
 - Compile and review test results, defects identified, and their resolutions.
 - Prepare and distribute the final test summary report to stakeholders.

5. Documentation

- Test Plan
- Test Cases & Scripts
- Test Execution Records
- Defect Logs
- Test Summary Report

6. References

- Software/Systems Requirement Specifications
- Applicable regulatory or industry standards
- Organizational Quality Manual

7. Revision History

Version	Date	Description of Change	Author
1.0	2024-06-28	Initial SOP Release	QA Department