Fundamental test process

1) Planning and Control:

Test planning has following major tasks:

i. To determine the scope and risks and identify the objectives of testing.
ii. To determine the test approach.
iii. To implement the test policy and/or the test strategy.
iv. To determine the required test resources like people, test environments, PCs, etc.
v. To schedule test analysis and design tasks, test implementation, execution and evaluation.
vi. To determine the Exit criteria we need to set criteria such as Coverage criteria.

Test control has the following major tasks:
i. To measure and analyze the results of reviews and testing.
ii. To monitor and document progress, test coverage and exit criteria.
iii. To provide information on testing.
iv. To initiate corrective actions.
v. To make decisions.

2) Analysis and Design:
i.   To review the test basis.
ii. To identify test conditions.
iii. To design the tests.
iv. To evaluate testability of the requirements and system.
v. To design the test environment set-up and identify and required infrastructure and tools.

3) Implementation and Execution:
i. To develop and prioritize our test cases by using techniques and create **test data** for those tests.
ii. To create test suites from the test cases for efficient test execution.
iii. To implement and verify the environment.

Test execution

i. To execute test suites and individual test cases following the test procedures.
ii. To re-execute the tests that previously failed in order to confirm a fix. This is known as confirmation testing or re-testing.
iii. To log the outcome of the test execution and record the identities and versions of the software under tests. The test log is used for the audit trial.
iv. To Compare actual results with expected results.
v. Where there are differences between actual and expected results, it report discrepancies as Incidents.

4)   Evaluating Exit criteria and Reporting:

Exit criteria come into picture, when:
– Maximum test cases are executed with certain pass percentage.
– Bug rate falls below certain level.
– When achieved the deadlines.

Evaluating exit criteria has the following major tasks:
i. To check the test logs against the exit criteria specified in test planning.
ii. To assess if more test are needed or if the exit criteria specified should be changed.
iii. To write a test summary report for stakeholders.

5)   Test Closure activities:

The testing can be closed for the other reasons also like:

- When all the information has been gathered which are needed for the testing.
- When a project is cancelled.
- When some target is achieved.
- When a maintenance release or update is done.

Test closure activities have the following major tasks:
i. To check which planned deliverables are actually delivered and to ensure that all incident reports have been resolved.
ii. To finalize and archive testware such as scripts, test environments, etc. for later reuse.
iii. To handover the testware to the maintenance organization. They will give support to the software.
iv To evaluate how the testing went and learn lessons for future releases and projects.