

**MTM COLLEGE OF ARTS, SCIENCE AND COMMERCE,  
VELIYANCODE  
(Affiliated to University of Calicut)**

**DEPARTMENT OF COMPUTER SCIENCE**

**SYLLABUS**

**MTMST - SOFTWARE TESTING**

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Number of Contact Hours: 30 hrs

Course Evaluation: Internal – **20** Marks + External exam – **80** Marks

**Objectives**

- To evaluate the work products such as requirements, design, user stories, and code.
- To identify all defects in a software product.
- To validate if the test object is complete and works as per the expectation of the users and the stakeholders.

**Outcome**

- Gain a clear understanding of software basics and the Software Development Life Cycle
- Develop practical skills in testing at various levels and types, ensuring both functional and non-functional quality.

**Module 1 (4 hours)**

What is a Software?, Software Development Life Cycle : SDLC and SDLC Phases, Requirements and Analysis, Design, Development, Testing, Deployment, Operation and Maintenance.

**Module 2 (6 hours)**

**6 Hrs** Introduction of Software Testing : What is Software testing, What is Quality, Importance of testing, Tools used for Testing, Manual and Automation Testing, Principles of Software Testing.

**Module 3 (8 hours)**

Software Test Levels : Unit testing, Component integration testing, System testing, System integration testing, Acceptance testing. Software Test Types - Functional Testing : Functionality Testing, Security Testing, Non-Functional Testing : Performance Testing, Usability Testing, Configuration Testing, Reliability Testing, Recovery Testing, Localization Testing, Structural Testing, Change Related Testing

**Module(8 hours)**

Software Test Design Techniques - Static Techniques, Dynamic Techniques : White box Test design techniques, Black box Test design techniques, Experience-based Techniques.

**Module 5 (4 hours)**

Software Testing Life cycle : Test planning, Test design, Test Execution, Test closure.

Software Quality Standards : ISO, IEEE, CMM/CMI.

Software Test Documents : Test Policy, Test Strategy, Test Plan, Test Scenario, Test Case, Test Data, Defect Report, Test Summary Report.

**References:**

1. *The Art of Software Testing, 3rd Edition* - Glenford J. Myers, Corey Sandler, Tom Badgett.
2. *Software Testing: A Craftsman's Approach, Fourth Edition* - Paul C. Jorgensen
3. *Software Testing Techniques*, 2nd edition - Boris Beizer
4. *A Practitioner's Guide to Software Test Design* - Lee Copeland