III YEAR SEM-II B.Tech CSE	ELECTIVE	L	T	P	C
Code: CS4503	Software Testing	2	2	0	4

Unit I

INTRODUCTION TO SOFTWARE TESTING: testing as an engineering activity, testing as a process, testing axioms, basic definitions, software testing principles, tester's role in a software development organization.

UNIT II

INTRODUCTION TO SOFTWARE DEFECTS:origin of defects, costs of defects, defect classes, defect repository and test design, defect examples, developer/tester support for developing a defect repository, defect prevention techniques.

Unit III

TEST CASE DESIGN: test case design strategies, black box approach to test design, random testing, requirements based testing, boundary value analysis, equivalence class partitioning, state-based testing, cause-effect graph, compatibility testing, user documentation testing, domain testing, using white box approach to test design, test adequacy criteria, static testing vs. structural testing, code functional testing, coverage and control-flow graph, covering-code logic, paths, code-complexity testing, evaluating test-adequacy criteria.

Unit IV

LEVELS OF TESTING: need of levels of testing, unit testing, unit test planning, designing the unit tests, the test harness, running the unit tests and recording results, integration tests, designing integration tests, integration test planning, scenario testing, defect bash elimination system testing, acceptance testing, performance testing, regression testing, ad-hoc testing, alpha-beta tests, testing Object Oriented systems-usability and accessibility testing, configuration testing, compatibility testing, testing the documentation, website testing.

Unit V

TEST MANAGEMENT: People and organizational issues in testing, organization structure for testing teams, testing services, test planning, test plan components, test plan attachments, locating test items, test management, test process, reporting test results, the role of three groups in test planning and policy development-introducing test specialist, skills needed by test specialist, building a testing group.

Unit VI

TEST AUTOMATION: software test automation, skills needed for automation, scope of automation, design and architecture for automation, requirements for a test tool, challenges in automation, test metrics and measurements, project progress and productivity metrics.

Text Books:

1.Srinivasan Desikan and gopalaswamy ramesh, "Software testing-principles and practices", Pearson Education, 2006

2. Ron Patton, "Software testing", Second Edition, Sams Publishing, Pearson education, 2007

References:

1.Ilene Burnstein, "Practical software testing", Springer International Edition, 2003

2. Edward Kit, "Software testing in real world- improving the process", Pearson Education, 1995

3. Boris Beizer, "Software testing techniques", Second Edition,

4. Aditya P.Mathur, "Foundations of software testing-fundamental algorithms and techniques", Pearson Education, 2008