BC 305 SOFTWARE TESTING METHODOLOGIES

Course Description and Objectives:
To describe principles and strategies for generating system test cases. To understand the essential characteristics of tools used for test automation.

Course Outcomes: After Completion of the subject student should able to
- Understand various test processes and continuous quality improvement
- Understand methods of test generation from requirements
- Apply software testing techniques in commercial environments

UNIT-1 Introduction
Purpose of testing, Dichotomies, model for testing, consequences of bugs, taxonomy of bugs Flow graphs and Path testing : Basics concepts of path testing, predicates, path predicates and achievable paths, path sensitizing, path instrumentation, application of path testing.

UNIT-2 Transaction Flow Testing
Transaction flows, transaction flow testing techniques. Dataflow testing:-Basics of dataflow testing, strategies in dataflow testing, application of dataflow testing.
Domain Testing:-domains and paths, Nice & ugly domains, domain testing, domains and interfaces testing, domain and interface testing, domains and testability.

UNIT-3 Paths, Path products and Regular expressions
Path products & path expression, reduction procedure, applications, regular expressions & flow anomaly detection.

UNIT-4 Logic Based Testing
Overview, decision tables, path expressions, kv charts, specifications.
State, State Graphs and Transition testing : State graphs, good & bad state graphs, state testing, Testability tips.

UNIT-5 Graph Matrices and Application
Motivational overview, matrix of graph, relations, power of a matrix, node reduction algorithm, building tools. Usage of JMeter and Winrunner tools for functional / Regression testing (Ref Text book2).

TEXT BOOKS :
1. Boris Beizer, "Software Testing techniques", 2nd ed., Dreamtech, 2006.
2. Dr.K.V.K.K.Prasad, "Software Testing Tool", 1st ed., Dreamtech. 2008.(Unit - 5)

REFERENCES BOOKS :
1. Brian Marick, "The craft of software testing", 2nd ed., Pearson Education, 2007.
2. Edward Kit, "Software Testing in the RealWorld ", 2nd ed., Pearson Educaton, 2008.