Syllabus

**Introduction**

Software program and its objective, Software development techniques, software Matrices, top-down verses bottom-up approach, modular and structures programming. A brief introduction about object oriented approach.

**Importance of Software Testing**

Software testing and its importance, software development life cycle verses software testing life cycle, Deliverables, version and error control, Verification and Validation

**Testing Techniques and Strategy**

Unit testing, Integration testing, System testing, Acceptance testing White-Box testing: Flow Graph notation, Cyclomatic Complexity, Graph matrices, control structure and loop testing. Black-Box testing: Equivalence partitioning, Boundary Value Analysis

**Building Test Cases and Plans**

Format of test cases, Du, dc and other data paths, Test data selection, branch coverage, statement coverage, pre-condition and post-condition, Test schedule and check pointing, suitable exercises for creating test cases for each type of Testing techniques.

**Quality Assurance and Standards**

Basic software quality parameters and its metrics, Software Configuration Change and types of errors, Quality management models: ISO, CMM

**Debugging Technique and Tools**

Integrated development environment, debugging, tracing, data inspection, exception errors, code and data redundancy, Junit and Selenium tool.