

**Unit IV: Software Testing, metrics and Quality Assurance
Hours****10 Lecture**

Testing types and techniques such as black box, white box, and gray box testing; Test-driven development, code coverage, cyclomatic complexity, testing techniques - boundary value analysis - equivalence class testing, path testing, and mutation testing. Unit, integration, system, regression testing, product and process quality standards (ISO9000, CMM), metrics understanding (process, product, project metrics), size metrics (LOC, Function Count, cost estimation techniques (static, single variable), Testing tools and standards such as Jira and Selenium, Junit.

**Unit V: Software Quality and Risk Management
Hours****10 Lecture**

McCall quality factors, ISO and CMM Model, Tools and Techniques for Quality Control, Modern Quality Management, Risk Management – importance, types, process and phases, qualitative and quantitative risk analysis, Risk Analysis and Assessment, Risk Strategies, Risk Monitoring and Control, Risk Response and Evaluation.