Course NO: MCA-5EL4
Course Title: Quality Assurance & Testing

Unit – I

Introduction to Testing: Verification and Validation; Software Testing for Conventional & Object Oriented Architectures; Testing Completion criteria; Strategic Issues; Test Strategies for Conventional & Object Oriented Software; Validation Testing; System Testing.

Unit – II

Testing Tactics: Basis Path Testing; Control Structure testing; Black Box Testing; White Box Testing; Object Oriented Testing Methods(Test Case design Implications of OO concepts, Fault based Testing, Test Cases, Scenario Based Testing); Testing specialized Environments, Architectures, and applications(Testing GUIs, Testing Client Server Architectures, Testing Documentation); Testing Patterns.

Unit – III

Introduction to Software Quality: Establishment of a software quality programme, Software Quality Assurance Planning-An overview, Software Quality Assurance Plan-Purpose and Scope, Standard,Practices,Conventions and Metrics, Tools, Techniques and Methadologies,Risk management: Concept, Reactive vs. Proactive Risk strategies, Software risks, Risk identification (Assessing Overall Project Risk, Risk Components and drivers.

Unit – IV
Quality Management: Quality Concepts (Quality, Quality Control, Quality assurance, Cost of quality),Software Quality assurance, Software reviews, Formal Technical Reviews, Formal approaches to Software quality assurance, Software Reliability, (Measures of Reliability and Availability, Software Safety), ISO 9000 Quality standards.

Suggested Readings:
1. **ROGER S. PRESSMAN -** Software Engineering - A Practitioner's Approach, Sixth edition, TMH.
2. **PankajJalote -** An Integrated approach to Software Engineering, 3Rd edition, NarosaPublication.
3. **SommerVille**   Software Engineering- ",Pearson Education
4. **SCHAUM'S Outlines**, TMH.
5. LOUISE TAMERS – Introducing Software Testing – Pearson
6. Gopalaswamy,"Software Testing", Pearson Education