

Semester	III	Specialization	Information Technology
Course Code	310IT	Type	Subject - Elective
Course Title	Software Quality Assurance & CMM Levels		

### Course Objectives:

1	To understand concepts and methodology related to Software Quality Assurance
2	To Know software Quality standards specifies by regulatory authorities
3	To develop capability to design Quality Testing processes in software development environment

### Syllabus:

Unit Number	Contents	Number of Sessions
1	<p><b>Software quality</b> - Definition</p> <p>Software errors, software faults and software failures</p> <p>Software quality assurance – definition and objectives</p> <p>Software quality assurance vs. software quality control</p> <p>The objectives of SQA activities</p>	5+1
2	<p><b>Pre-project SQA Components</b></p> <p>Contract Review</p> <p>Development and Quality Plan</p>	5+1
3	<p><b>SQA components in Project life cycleactivities assessment.</b></p> <p>Verification and Validation</p> <p>Various types of Reviews</p> <p>Inspections</p> <p>Walkthrough</p> <p>Software testing</p> <p>Impact of CASE Tools</p>	5+1
4	<p><b>Software Quality Factors</b></p> <p>Mccall's Quality Model</p> <p>Product, Process quality metrics</p>	5+1

5	<b>Standardization</b> ISO 9001 and ISO 9000-3 SEI-CMM IEEE 1012 standard ISO/IEC 12207 standard.	5+1
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Learning Resources:		
1	Text Books	Handbook of Software Quality Assurance Software Quality Assurance: Principles and Practices by Nina Godbole
2	Reference Books	Software Quality Assurance from theory to implementation – Danial Galin Software Project management - Edwin Bennatan Project Management Body of Knowledge – PMI
3	Supplementary Reading Material	Software Engineering Roger S. Pressman, TMH, 7 <sup>th</sup> Edition.
4	Websites	<a href="http://www.softwarecertifications.org">www.softwarecertifications.org</a> <a href="http://www.softwareqatest.com">www.softwareqatest.com</a>
5	Journals	Software Quality Journal