

Course Code	Course Title	L	T	P	C
OLMCA604	Software Quality Assurance and Reliability	3	1	0	4
Pre-requisite	NIL	Syllabus version			
		1.0			
Course Objectives:					
1. To introduce the importance of Quality of Software Products					
2. To elicit, analyze, prioritize, and manage both functional and quality requirements					
3. To plan for Software quality assurance and Reliability					
Course Outcomes:					
1. To understand the significance of software quality assurance in software projects.					
2. To understand and know how to manage software quality in software organizations.					
3. To understand and apply software quality assurance metrics in software projects.					
4. To implement software quality programs in software projects					
5. To understand and apply software standardization in software projects.					
Module:1 Fundamentals of Software quality Assurance					
The Role of SQA- Software Quality Assurance Plan-Software Quality Assurance considerations-Need of Software Quality Assurance -SQA People					
Module:2 Managing Software Quality					
Quality Management-Software Configuration Management-Managing Software organizations-Managing Software quality –Defect Prevention					
Module:3 SQA Metrics					
Software Quality-Total Quality Management (TQM)-Quality Metrics-Software Quality metric Analysis					
Module:4 Software Quality Program					
Software quality program Concepts-Establishment of a software quality program-Software Quality Assurance planning-purpose and scope of Software Quality Program					
Module:5 SQA Standardization					
Software standards-ISO 9000 Quality system standards-Capability Maturity model and the Role of SQA in software development maturity- Six Sigma Concepts					
Module:6 Reliability Concepts					
Reliability Definition-Quality and Reliability-Reliability Functions-Reliability Mathematics-Measures of Reliability					
Module:7 The Reliability Engineering Process					
Defining the product-Testing the acquired software-Learning reliability concepts-s/w and h/w reliability					
	Total Lecture hours:			120 hours	
Text Book(s)					
1.	Mordechai Ben-Menachem / Garry S Marliss, "Software Quality", Vikas Publishing House, Pvt. Ltd., New Delhi, 2014.				

Reference Books			
1.	Solis Tech," Quality Assurance: Software Quality Assurance made easy", Kindle Edition,2016		
Mode of Evaluation: Quiz / Assignment / Mid-Term, FAT			
Recommended by Board of Studies		01-11-2023	
Approved by Academic Council		No. 72	Date: 13-12-2023