

TOTAL QUALITY MANAGEMENT

Course Code	19ME2801A	Year	IV	Semester	II
Course Category:	Inter Disciplinary Elective-III	Branch	CSE	Course Type	Theory
Credits:	3	L – T – P	3 – 0 – 0	Prerequisites:	Nil
Continuous Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Develop an understanding on quality management philosophies and frameworks	L2
CO2	Acquire knowledge of quality costs and leadership	L2
CO3	Illustrate concepts of customer focus, continuous quality improvement and supplier partnership	L2
CO4	Explain TQM tools to improve management processes.	L2
CO5	Determine the set of indicators to evaluate performance excellence of an organization	L2

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H: High, M: Medium, L: Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2				2	3		3	3	1	2	1	3	2
CO2	2				2	3		3	3	1	2	1	3	2
CO3	2				2	3		3	3	1	2	1	3	2
CO4	2				2	3		3	3	1	2	1	3	2
CO5	2				2	3		3	3	1	2	1	3	2

Syllabus		
Unit No	Contents	Mapped CO
Unit-I	Introduction: Definition of Quality, Factors effecting quality, Quality management, Quality Dimensions, four phases of quality, Total Quality, Salient features of Total Quality Management (TQM)-definition of TQM, Elements of TQM, Principles of TQM, Pillars of TQM, Traditional Approach and TQM Approach. Characteristics of TQM: TQM Enablers, Approaches, relevance, Barriers to TQM Implementation	CO1
Unit-II	Quality costs: Cost classification, Basic cost of quality. Applications and Importance of quality cost. Quality leadership: Quality of leadership, Quality of successful leader, leadership for TQM, Deming Philosophy, Contributions of Gurus of TQM	CO2
Unit-III	Customer Focus: Customer Complaints and suggestions, panels, Customer satisfaction, Customer Perception of Quality, Customer driven quality circles, Customer focus and activities, needs and expectations, Organizations action from the customer point of view.	CO2

	Continuous Quality Improvement - Juran Trilogy, PDCA Cycle, Kaizen-kaizen suggestion's, program introduction at work place, principles of kaizen. Supplier Partnership - Partnering, sourcing, Supplier Selection, Supplier Rating, Relationship Development	
Unit-IV	TQM Tools: Benchmarking - Reasons to Benchmark, Benchmarking Process, Quality Function Deployment (QFD) - House of Quality, QFD Process, Benefits. Taguchi Quality Loss Function. Total Productive Maintenance (TPM) - Concept, Improvement Needs, FMEA - Stages of FMEA, the seven tools of quality, Process Capability-Concept, Methods of calculating process capability, Process capability index, Concept of six sigma.	CO3
Unit-V	Need for ISO 9000 - ISO 9001-2008 Quality System - Elements, documentation Quality Auditing – QS 9000 - ISO 14000 - Concepts, Requirements and Benefits – TQM, Implementation in manufacturing and service sectors.	CO4

Learning Resource

Text books:

1. Dale H.Besterfiled, "Total Quality Management", Pearson Education, Delhi, 2006.
2. K. C. Arora, "Total Quality Management", Kataria & sons., New Delhi, 2005.

Reference books

1. Subburaj Ramasamy, "Total Quality Management", Tata McGraw Hill Publishing Company Ltd., New Delhi, 2005.
2. Narayana V and Sreenivasan N.S., Quality Management - Concepts and Tasks, New Age International, Delhi, 1996.

e- Resources & other digital material

1. <https://nptel.ac.in/courses/110/105/110105039/>
2. <https://nptel.ac.in/courses/110/104/110104085/>
3. <https://nptel.ac.in/courses/110/104/110104080/#>
4. <https://nptel.ac.in/noc/courses/noc17/SEM2/noc17-mg18/>