

**TOTAL QUALITY MANAGEMENT**

<b>Course Code</b>	19ME2801B	<b>Year</b>	IV	<b>Semester</b>	II
<b>Course Category:</b>	Inter Disciplinary Elective	<b>Branch</b>	ME	<b>Course Type</b>	Theory
<b>Credits:</b>	3	<b>L – T – P</b>	3 – 0 – 0	<b>Prerequisites:</b>	Nil
<b>Continuous Evaluation:</b>	30	<b>Semester End Evaluation:</b>	70	<b>Total Marks:</b>	100

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

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

<b>Syllabus</b>		
<b>Unit No</b>	<b>Contents</b>	<b>Mapped CO</b>
<b>Unit-I</b>	<b>Introduction:</b> 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. <b>Characteristics of TQM:</b> TQM Enablers, Approaches, relevance, Barriers to TQM Implementation	<b>CO1</b>
<b>Unit-II</b>	<b>Quality costs:</b> Cost classification, Basic cost of quality. Applications and Importance of quality cost. <b>Quality leadership:</b> Quality of leadership, Quality of successful leader, leadership for TQM, Deming Philosophy, Contributions of Gurus of TQM	<b>CO2</b>
<b>Unit-III</b>	<b>Customer Focus:</b> 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.	<b>CO2</b>

	<b>Continuous Quality Improvement</b> - 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	
<b>Unit-IV</b>	<b>TQM Tools:</b> 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.	<b>CO3</b>
<b>Unit-V</b>	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.	<b>CO4</b>

### 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/>