

## TOTAL QUALITY MANAGEMENT

<b>Course Code</b>	19ME2801A	<b>Year</b>	IV	<b>Semester</b>	II
<b>Course Category</b>	Inter Disciplinary Elective-III	<b>Branch</b>	Common to all	<b>Course Type</b>	Theory
<b>Credits</b>	3	<b>L-T-P</b>	3-0-0	<b>Prerequisites</b>	--
<b>Continuous Internal Evaluation:</b>	30	<b>Semester End Evaluation:</b>	70	<b>Total Marks:</b>	100

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Course Outcomes		
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

## Mapping of course outcomes with Program outcomes (CO/ PO/PSO Matrix)

Note: 1- Weak correlation 2-Medium correlation 3-Strong correlation

\* - Average value indicates course correlation strength with mapped PO

COs	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
Average* (Rounded to nearest integer)	2				2	3		3	3	1	2	1	3	2

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Syllabus		
Unit No.	Contents	Mapped CO
I	<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	CO1
II	<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	CO2

III	<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>Continuous Quality Improvement</b> - Juran Trilogy, PDCA Cycle, Kaizen-kaizen suggestions, program introduction at work place, principles of kaizen. Supplier Partnership -Partnering, sourcing, Supplier Selection, Supplier Rating, Relationship Development	CO2
IV	<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.	CO3
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

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### Learning Resource

#### Text books:

3. Dale H.Besterfield, "Total Quality Management", Pearson Education, Delhi, 2006.
4. K. C. Arora, "Total Quality Management", Kataria & sons. New Delhi, 2005.

#### Reference books

4. Subburaj Ramasamy, "Total Quality Management", Tata McGraw Hill Publishing Company Ltd., New Delhi, 2005.
5. 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/>

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