

<b>COURSE CODE</b>	<b>TOTAL QUALITY MANAGEMENT</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>1152ME122</b>		<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>

### 1. Preamble

To provide comprehensive knowledge about the principles, practices, tools and techniques of Total quality management.

### 2. Pre-requisite:

NIL

### 3. Links to other courses

Project Work

### 4. Course Educational Objectives

Students undergoing this course are expected

- To understand the various principles, practices of TQM to achieve quality.
- To learn the various statistical approaches for Quality control.
- To understand the TQM tools for continuous process improvement.
- To learn the importance of ISO and Quality systems

### 5. Course Outcomes

The students would be benefitted with the following outcomes:

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's)
CO1	Understand the various principles of TQM to achieve quality.	K2
CO2	Learn the various statistical approaches for Quality control.	K2
CO3	Understand the TQM tools for continuous process improvement.	K2
CO4	Understand the TQM tools for QFD.	K2
CO5	Learn the importance of ISO and Quality systems	K2

(K2 – Understand)

### 6. Correlation of COs with Programme Outcomes

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	L				L	L	L	L	L		L	L	L	
CO2	L				L	L	L	L	L		L	L	L	
CO3	L	L	L	L	L	L	L	L	L			L	L	
CO4	L				L	L	L	L	L			L	L	
CO5	L				L	L	L	L	L			L	L	

H- High; M-Medium; L-Low

## 7. Course Content

### UNIT I INTRODUCTION

L-9

Introduction - Need for quality - Evolution of quality - Definition of quality - Dimensions of manufacturing and service quality - Basic concepts of TQM - Definition of TQM – TQM Framework - Contributions of Deming, Juran and Crosby – Barriers to TQM.

### UNIT II TQM PRINCIPLES

L-9

Leadership – Strategic quality planning, Quality statements - Customer focus – Customer orientation, Customer satisfaction, Customer complaints, Customer retention – Employee involvement – Motivation, Empowerment, Team and Teamwork, Recognition and Reward, Performance appraisal - Continuous process improvement – PDSA cycle, 5s, Kaizen – Supplier partnership – Partnering, Supplier selection, Supplier Rating.

### UNIT III TQM TOOLS & TECHNIQUES I

L-9

The seven traditional tools of quality – New management tools – Six-sigma: Concepts, methodology, applications to manufacturing, service sector including IT – Bench marking – Reason to bench mark, Bench marking process – FMEA – Stages, Types.

### UNIT IV TQM TOOLS & TECHNIQUES II

L-9

Quality circles – Quality Function Deployment (QFD) – Taguchi quality loss function – TPM – Concepts, improvement needs – Cost of Quality – Performance measures.

### UNIT V QUALITY SYSTEMS

L-9

Need for ISO 9000- ISO 9000-2000 Quality System – Elements, Documentation, Quality auditing- QS 9000 – ISO 14000 – Concepts, Requirements and Benefits – Case studies of TQM implementation in manufacturing and service sectors including IT.

**TOTAL: 45 PERIODS**

## 8. Text Book

1. Dale H. Besterfield, et al., "Total Quality Management", Pearson Education Asia, Third Edition, Indian Reprint (2006).

## 9. Reference Books

1. James R. Evans and William M. Lindsay, "The Management and Control of Quality", 6<sup>th</sup> Edition, South-Western (Thomson Learning), 2005.
2. Oakland, J.S. "TQM – Text with Cases", Butterworth – Heinemann Ltd., Oxford, 3rd Edition, 2003.
3. Suganthi, L and Anand Samuel, "Total Quality Management", Prentice Hall (India) Pvt. Ltd., 2006.
4. Janakiraman, B and Gopal, R.K, "Total Quality Management – Text and Cases", Prentice Hall (India) Pvt. Ltd., 2006.