

## UNIT - 8

**Manufacturing Support System:** Process Planning, Computer Aided Process Planning, Concurrent Engineering & Design for Manufacturing, Advanced Manufacturing Planning, Just-in Time Production System, Basic concepts of lean and Agile manufacturing.

**08 Hours**

### TEXT BOOKS:

1. **Automation, Production Systems and Computer Integrated Manufacturing**, M. P. Groover, Pearson education. Third Edition, 2008
2. **Principles of CIM**, Vajpayee, PHI.

### REFERENCE BOOKS:

1. **Anatomy of Automation**, Amber G.H & P. S. Amber, Prentice Hall.
2. **Performance Modeling of Automated Manufacturing Systems**, Viswanandham, PHI
3. **Computer Based Industrial Control**, Krishna Kant, EEE-PHI

## TOTAL QUALITY MANAGEMENT

<b>Subject Code</b>	<b>: 10ME758</b>	<b>IA Marks</b>	<b>: 25</b>
<b>Hours/Week</b>	<b>: 04</b>	<b>Exam Hours</b>	<b>: 03</b>
<b>Total Hours</b>	<b>: 52</b>	<b>Exam Marks</b>	<b>: 100</b>

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## PART – A

### UNIT - 1

**Principles and Practice:** Definition, basic approach, gurus of TQM, TQM Framework, awareness, defining quality, historical review, obstacles, benefits of TQM.

**06 Hours**

## **UNIT - 2**

**Leadership:** Definition, characteristics of quality leaders, leadership concept, characteristics of effective people, ethics, the Deming philosophy, role of TQM leaders, implementation, core values, concepts and framework, strategic planning communication, decision making,

**06 Hours**

## **UNIT - 3**

### **Customer Satisfaction and Customer Involvement:**

**Customer Satisfaction :** customer and customer perception of quality, feedback, using customer complaints, service quality, translating needs into requirements, customer retention, Case studies.

**Employee Involvement –** Motivation, employee surveys, empowerment, teams, suggestion system, recognition and reward, gain sharing, performance appraisal, unions and employee involvement, case studies.

**07 Hours**

## **UNIT - 4**

**Continuous Process Improvement:** process, the Juran trilogy, improvement strategies, types of problems, the PDCA Cycle, problem-solving methods, Kaizen, reengineering, six sigma, case studies.

**Tools and Techniques:** Benchmarking, information technology, quality management systems, environmental management system, quality function deployment, quality by design, failure mode and effect analysis, product liability, total productive maintenance.

**07 Hours**

## **PART – B**

## **UNIT - 5**

**Quality Management Tools :** Why-Why, forced field analysis, nominal group technique, affinity diagram, interrelationship digraph, tree diagram, matrix diagram, prioritization matrices, process decision program chart, activity network diagram.

**07 hours**

#### **UNIT - 6**

**Statistical Process Control :** Pareto diagram, process flow diagram, cause-and-effect diagram, check sheets, histograms, statistical fundamentals, Control charts, state of control, out of control process, control charts for variables, control charts for attributes, scatter diagrams, case studies.

**06 Hours**

#### **UNIT - 7**

**Building and Sustaining Performance Excellence in Organizations :** Making the commitment to total quality, organizational culture and total quality, change management, sustaining the quality organization, self-assessment processes, implementing ISO 9000, Bald ridge, and six sigma, a view toward the future.

**07 Hours**

#### **UNIT - 8**

**Design for Six Sigma:** Tools for concept development, tools for design development, tools for design optimization, tools for design verification, problems.

**06 Hours**

#### **TEXT BOOKS:**

1. **Total Quality Management:** Dale H. Bester field, Publisher - Pearson Education India, ISBN: 8129702606, Edition 03/e Paperback (Special Indian Edition)
2. **Total Quality Management for Engineers:** M. Zairi, ISBN: 1855730243, Publisher: Wood head Publishing

#### **REFERENCE BOOKS:**

1. **A New American TQM, four revolutions in management,** Shoji Shiba, Alan Graham, David Walden, Productivity press, Oregon, 1990
2. **100 Methods for Total Quality Management:** Gopal K. Kanji and Mike Asher, ISBN: 0803977476, Publisher: Sage Publications, Inc.; Edition – 1
3. **Organisational Excellence through TQM,** H. Lal, New age pub, 2008