

# **GE8077 Total Quality Management (Regulation 2017)**

- **Subject Code:** GE8077
- **Subject Title:** Total Quality Management
- **Applicability:** Final year undergraduate engineering students across departments
- **Lecture-Tutorial-Practical (L–T–P) & Credits:** 3–0–0, 3 credits

## ***UNIT I – INTRODUCTION (9 HOURS)***

Need for quality, evolution, definitions, dimensions of quality (product & service) - Basic TQM concepts and framework - Barriers to TQM - Customer focus: orientation, satisfaction, complaints, retention

## ***UNIT II – TQM PRINCIPLES (9 HOURS)***

Leadership and quality statements - Strategic quality planning, quality councils - Employee involvement: motivation, empowerment, teams, recognition & reward, appraisal - Continuous improvement: PDCA (Plan–Do–Check–Act), Supplier partnerships: selection, rating, collaboration

## ***UNIT III – TQM TOOLS & TECHNIQUES I (9 HOURS)***

The seven basic quality tools (cause-effect, check sheets, histograms, etc.) - Modern tools: **Six Sigma** (concepts, methodology, application in manufacturing and services including IT) - Benchmarking: rationale and process - FMEA (Failure Mode and Effects Analysis): stages and types

## ***UNIT IV – TQM TOOLS & TECHNIQUES II (9 HOURS)***

Quality circles - Cost of Quality - QFD (Quality Function Deployment) - Taguchi quality loss function - TPM (Total Productive Maintenance): concepts and performance measures

## ***UNIT V – QUALITY MANAGEMENT SYSTEMS (9 HOURS)***

ISO 9000 series standards: introduction, benefits, and requirements - Sector-specific standards: AS 9100, TS 16949, TL 9000 - System implementation: documentation, internal audits, certification process

## ***OBJECTIVES & STRUCTURE***

The primary aim is to instill an understanding of quality management principles—tools, techniques, systems architecture—and their practical applications across products, services, and global industries. Curriculum is designed as **3 hours of lectures per week**, totaling **45 hours** over the semester (9 hours per Unit)