

Course code	Course Name	L-T-P - Credits	Year of Introduction
IE488	TOTAL QUALITY MANAGEMENT	3-0-0-3	2016
Prerequisite : Nil			
Course Objectives:			
<ul style="list-style-type: none"> • To impart knowledge on principles and practices of TQM to achieve quality. • To enable use of TQM tools for continuous quality improvement. • To provide ideas on implementation of quality standards. • To introduce the latest TQM tools and techniques. 			
Syllabus:			
Introduction to quality, Contributions of quality Gurus, Quality control tools, Cost of Quality, Taguchi loss function, Basic concepts of TQM, Principles of Total Quality Management, Total quality control, Quality assurance, Vendor rating, Quality improvement programmes, Quality planning, Quality function deployment, Six sigma approach, Failure mode & effect analysis, TPM, BPR , Quality standards.			
Expected outcome.			
The students will be able to			
<ul style="list-style-type: none"> i. Understand the principles and practices of TQM. ii. Use various TQM tools for continuous quality improvement. iii. Implement quality standards. iv. Become aware of the latest TQM tools and techniques. 			
References:			
<ol style="list-style-type: none"> 1. Sharma D D, <i>Total Quality Management</i>, Sultan Chand & Sons, 2014 2. R.P. Mohanty & R R Lakhi, <i>Total Quality Management</i>, Jaico Pub, New Delhi, 1994 3. Poornima M.Charantimath , <i>Total Quality Management</i>, Pearson Education, 2011. 4. Lon Roberts , <i>Process Re-Engineering</i> , Tata McGraw Hill, New Delhi, 1994 5. Mohamed Zairi , <i>TQM for Engineers</i> , Gulf Pub. Co., 2nd Edition, New Delhi. 			
Course Plan			
Module	Contents	Hours	End Sem. Exam Marks
I	Introduction-Need for quality, Definition of quality, Major contributions of Deming, Juran and Crosby to Quality Management, Quality control tools, Cost of Quality, Taguchi loss function.	7	15%
II	Basic concepts of Total Quality Management - Evolution of TQM, TQM framework, Barriers to TQM, Principles of Total Quality Management- Quality statements, Customer focus, Customer orientation,	7	15%

	Customer satisfaction, Customer complaints, Customer retention, Total quality control, total waste elimination, total employee involvement.		
FIRST INTERNAL EXAMINATION			
III	Quality assurance- Total quality assurance, Management principles in quality assurance, Objectives of quality assurance system, Hierarchical planning for Quality Assurance, Vendor rating, Quality improvement: elements, programmes – KAIZEN, PDCA cycle, 5S, Quality circles.	7	15%
IV	Quality planning- SWOT analysis, Strategic planning, strategic grid, organizational culture, Total Quality Culture, Quality function deployment- QFD concept, the voice of customer, developing a QFD matrix, QFD process.	7	15%
SECOND INTERNAL EXAMINATION			
V	Six sigma approach- Methodology, Training, application to various industrial situations, Failure mode & effect analysis- Concepts, Types & Applications in TQM.	7	20%
VI	TPM- Concepts, Improvement needs, Performance measures, BPR, Quality standards – Need of standardization, ISO 9000 series, ISO 14000 series, Other contemporary standards.	7	20%
END SEMESTER EXAM			

Question Paper Pattern:

Examination duration: 3 hours

Maximum Marks: 100

Part A (Modules I and II):

Candidates have to answer any 2 questions from a choice of 3 questions. Each full question carries a total of 15 marks and can have a maximum of 4 sub questions (a, b, c, d). No two full questions shall be exclusively from a single module. All three questions shall preferably have components from both modules. Marks for each question/sub question shall be clearly specified. Total percentage of marks for the two modules put together as specified in the curriculum shall be adhered to for all combinations of any two questions.

Part B (Modules III and IV): (Same as for part A marks)

Part C (Modules V and VI): (Same as for part A, except that each full question carries 20 marks)

Note: If use of tables and charts are permitted for the university examination for this course, proper direction of the same should be provided on the facing sheet of the question paper.