SEMESTER S6

QUALITY MANAGEMENT

Course Code	**OEIET612**	**CIE Marks**	40
Teaching Hours/Week (L: T:P: R)	3:0:0:0	**ESE Marks**	60
Credits	3	**Exam Hours**	2 Hrs. 30 Min.
Prerequisites (if any)	None	**Course Type**	Theory

Course Objectives:

1. To enable the students to understand the fundamentals of quality management and its importance in organisations.
2. To apply quality management principles to real world scenarios.

SYLLABUS

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Module No.	Syllabus Description	Contact Hours
1	**Introduction to Quality Management**: definitions of the terms - quality, quality planning, quality control, quality assurance, quality management. Total Quality Management (TQM) - overview on TQM, TQM axioms, consequences of total quality, barriers to TQM, Deming approach to TQM, Juran's quality trilogy, Crosby's fourteen steps for quality improvement.	9
2	**Strategic quality management**: cost of quality, customer satisfaction, quality function deployment (QFD), integrating quality into strategic management, quality and the management cycle, obstacles to achieving successful strategic quality management, supplier selection, concepts of 5S, six sigma and Kaizen. Lean principles.	9
3	**Human dimensions of TQM:** top management commitment, leadership for TQM, change management, resources for quality activities, training for quality, employee involvement, motivation, empowerment, team work, self managing teams, role of the quality director.	9

4	**Supporting tools, activities and techniques in TQM projects**: affinity diagram, brainstorming, cause and effect analysis, process flow chart, check sheets, scatter diagram, Pareto chart, histogram, control charts, process capability, Taguchi's robust design, total productive maintenance, failure mode and effect analysis. Quality systems: ISO 9000 family of standards, ISO 14000 standards, quality auditing - types and benefits.	**9**

Course Assessment Method
(CIE: 40 marks, ESE: 60 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Assignment/ Microproject	Internal Examination-1 (Written)	Internal Examination- 2 (Written)	Total
5	**15**	**10**	**10**	**40**

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End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
• 2 Questions from each module. • Total of 8 Questions, each carrying 3 marks **(8x3 =24 marks)**	• Each question carries 9 marks. • Two questions will be given from each module, out of which 1 question should be answered. • Each question can have a maximum of 3 sub divisions. **(4x9 = 36 marks)**	**60**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Explain the fundamentals of quality management and its importance in organizations.	**K2**
CO2	Explain the strategic management principles and its implementation.	**K2**
CO3	Demonstrate the various human dimensions of TQM.	**K2**
CO4	Apply quality improvement tools and techniques in industries.	**K3**

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

CO-PO Mapping Table (Mapping of Course Outcomes to Program Outcomes)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	-	-	-	-	-	-	-	-	2
CO2	2	2	2	-	-	-	-	-	-	-	-	2
CO3	2	2	2	-	-	-	-	-	-	-	-	2
CO4	3	3	3	-	-	-	-	-	-	-	-	2

Note: *1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), -: No Correlation*

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Text Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Total Quality Management	Besterfield Dale H, et al.	Pearson Education	5th Edition, 2018
2	Total Quality Management	Subburaj Ramasamy	McGraw Hill Education	4th Edition, 2017

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Total Quality Management	K.C. Arora	S K Kataria and Sons	4th Edition, 2016
2	Juran on "Leadership for Quality" An Executive Handbook	Juran J. M.	The Free Press	1st Edition, 1989
3	Managing for Total Quality - From Deming to Taguchi and SPC	Logothetics N.	Prentice Hall Ltd	1st Edition, 1993
4	Quality Planning and Analysis - From Product Development through Use	Juran J. M., Gryna F. M.	Tata McGraw Hill	3rd Edition, 2004

Video Links (NPTEL, SWAYAM…)	
Link ID	https://archive.nptel.ac.in/courses/110/104/110104080/

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