



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Vocation (B.Voc)

Semester: III

Branch: Production Technology

Subject Name: Total Quality Management

Subject Code: 21130302

Type of course: Under Graduate

Prerequisite: None.

Rationale: Total Quality Management (TQM) is a philosophy in which the core focus is meeting the customers' needs and ensuring their satisfaction. Quality in all levels of the organization and reduction of waste are the key components. Implementing Total Quality Management must start at the top. Upper level executives must not only embrace the concepts of TQM, it must also be actively involved in promoting the customers' needs first.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
			ESE (E)	PA(M)	ESE (V)	PA (I)		
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Content	Teaching Hrs.	Module Weightage
1	Basic concepts of Quality: Introduction to Quality, Definitions of quality, Dimensions of Quality, Quality Planning, Concept and definition of quality cost, Optimum cost of performance, Deming Philosophy	4	10%
2	Total Quality Management: Introduction to TQM, Definitions of TQM, Concepts and Characteristics of TQM, Pillars of TQM, Benefits and obstacles of TQM, Principles of TQM, Continuous Process Improvement Approaches: Juran trilogy, PDCA Cycle, 5 –‘S’, Kaizen	12	30%
3	Statistical Process Control: Introduction and objectives of SPC, SPC tools: Flow diagram, Histogram, Cause and effect diagram, Pereto diagram, Scatter diagram, Control charts for variables and attributes, Check sheet. TQM Tools: Concept of bench marking, Reason to bench marking, Bench marking process	12	30%
4	Just in time (JIT) Introduction to JIT, Three elements of JIT, JIT Manufacturing JIT benefits, JIT Limitations, Kanban.	6	15%
5	Total Productive maintenance (TPM) Introduction to TPM, Concept of Total Productive Maintenance, Benefits of TPM, How to implement TPM,	6	15%
	Total	40	



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Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	20	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes:

Sr. No.	CO Statement	Marks % Weightage
CO-1	To understand Quality concepts.	10
CO-2	To understand TQM	30
CO-3	To understand Quality control tools.	30
CO-4	To understand JIT philosophy.	15
CO-5	To understand TPM.	15

References Books:

1. Total Quality Management, G. Murugesan.
2. Statistical Quality Control By M. Mahajan
3. Total Quality Management, Arora ,Kataria
4. Quality Management by Kanishka Bedi

List of Open Source Software/learning website:

- 1) www.nptel.ac.in