GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Bachelor of Vocation (B.Voc), 2nd Semester
Branch: Automobile Servicing/Production-Technology/Refrigeration and Air Conditioning
Subject Name: Total Quality Management
Subject Code: 1120102

With effective from academic year 2018-19

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
				Theory Marks			Practical Marks			
L	T	P	C	ESE (E)	PA (M)		PA(V)		PA (I)	
					PA	ALA	ESE	OEP		
03	00	00	03	50	00	00	00	00	00	50

L- Lectures; P- Practical; OJT- On Job Training; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Course Content:

Sr. No.	Topic	No. of Hours	% Weightage
01	**Introduction, Basic concepts of total quality management** Introduction to Quality, Dimensions of Quality, Quality Planning, Concept and definition of quality cost, Determinants of Quality, Optimum cost of performance, Principles of TQM, Pillars of TQM, Introduction to leadership and Leadership roles, Quality council and Quality statement, Strategic Planning Process, Deming philosophy	3	10
02	**Continuous process improvement** Input /output process Model, Juran trilogy, PDCA Cycle, 5 – 'S' Housekeeping principle, Kaizen Seven tools of Quality (Q-7 tools), Check Sheet, Histogram, Cause and effect diagram, Pereto diagram, Stratification analysis, Scatter diagram, Control charts, Control chart for variables & process capability, Control chart for attributes	7	30
03	**Management planning tools & Bench marking** Affinity diagram, Relationship diagram, Tree diagram, Matrix diagram, Matrix data analysis, Arrow Diagram, Process decision programme chart (PDPC), Concept of bench marking, Reason to bench marking, Bench marking process, Types of bench marking, Benefits of bench marking	5	30
04	**Just in time (JIT)** JIT philosophy, Three elements of JIT, Principles of JIT Manufacturing, JIT Manufacturing building blocks, JIT benefits, Kanban& 2 Bin Systems	6	15

Sr. No.	Topic	No. of Hours	% Weightage
05	**Total productive maintenance (TPM)** Concept of Total Productive Maintenance, Types of maintenance, OEE (Overall Equipment Efficiency), Stages in TPM implementation, Pillars of TPM, Difficulties faced in TPM implementation.	3	15

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
10	**15**	**10**	**10**	**5**	**5**

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

Course Outcome:

After learning the course the students should be able to:

1. Understand QM
2. Evaluate Q.S. & B.E.models.
3. Understand TQM & Its various Tools.
4. Implement SQC.
5. Understand basics of IPR.

References:

1. Quality Management by Kanishka Bedi
2. Intellectual Property Rights, Prbuddha Ganguli, TMH
3. Probability and Reliability with Statistics, Trivedi, PHI
4. Statistical Quality Control By M. Mahajan
5. TQM in Service Sector, R.P.Mohanty and R.R.Lakhe
6. Total Quality Management, Arora ,Kataria
7. Total Quality Management, Subburaj, TMH

List of Open Source Software/learning website:

1. www.nptel.ac.in/