SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

West Godavari district, A.P. 534280

Department of Robotics

LESSON PLAN

Course Code	Course Title	Semester	Branch	Conduct Periods /Week	A.Y	Date of commencement of Semester
20ME7E02	Total Quality Management	VII	ROBOTICS	6	2024-25	09 -06-2025

COURSE OUTCOMES

1	Discuss the concept of Total Quality Management and discriminate product and service quality. [K2]
2	Analyze various principles of Total Quality Management that are practically applicable. [K3]
3	Illustrate different Statistical Quality Control Methods. [K3]
4	Distinguish various tools and Techniques of Total Quality Management and Recognize the importance of six sigma in Quality Management. [K3]
5	Evaluate the various ISO standards that are used for testing the quality of a product in present scenario. [K3]

UNIT	Out Comes/ Blooms Level	Topics No.	Topics/Activity	Text Book /Reference	Conduct Hour	Delivery Method
I	CO1:Realize the need& concept of Total Quality Management and discriminate product and service quality. [K2]	**1. Introduction: Basic Concepts**				Classroom learning, PPT,
		1.1	Need for quality	T_1& T_2	1	
		1.2	Evolution and definition of quality	T_1&T_2	1	
		1.3	Dimension of product	T_1& R_{11}	1	
		1.4	quality service	T_1& R_1	1	
		1.5	Basic concepts of TQM	T_1& R_1	1	
		1.6	TQM Framework	T_1& R_1	1	
		1.7	Contributions of Deming	T_2& R_2	2	
		1.8	Contributions of Deming -Deming principles	T_2& R_2	1	
		1.9	Barriers to TQM	T_2& R_2	1	
				Total	**10**	
II	CO2: Analyze various principle of Total Quality Management [K3]	**2. TQM PRINCIPLES**				Classroom learning, videos&PPT, Flipped classroom, Quiz
		2.1	Leadership	T_1&T_2	1	
		2.2	Strategic quality planning	T_1& R_1	1	
		2.3	Quality Councils	T_1& R_1	1	
		2.4	Employee involvement, Motivation	T_1& R_1	1	
		2.5	Empowerment, Team and Teamwork	T_1& R_1	1	
		2.6	Quality circles, Recognition and Rewards	T_1& R_1	1	
		2.7	Performance appraisal	T_1& R_1	1	
		2.8	Continuous process improvement	T_1& R_1	1	

		2.9	PDCA cycle, 5S, Kaizen	T_1& R_1	1	
		2.10	Importance of Customer satisfaction and loyalty, Creating satisfied customers	T_1& R_1	1	
		2.11	Understanding the customer needs, Process Vs Customer	T_1& R_1	1	
		2.12	Internal customer conflict, quality focus	T_1& R_1	1	
		2.13	Customer Satisfaction	T_1& R_1	1	
				Total	**13**	
	CO3: Illustrate different Statistical Quality Control Methods. [K3]	**3. STATASTICAL PROCESS CONTROL**				
		3.1	Significance of statistical process control	T_2& R_2	1	Classroom learning, PPT, Group discussion
		3.2	Construction of control charts for variables and attributes	T_2& R_2	2	
		3.3	Process capability	T_1 & T_2	1	
		3.4	Significance and measurement	T_1 & T_2	1	
		3.5	Concepts of process capability	T_1 & T_2	1	
		3.6	Business process Improvement Principles, applications	T_1 & T_2	1	
		3.7	Business process Improvement applications	T_1 & T_2	1	
		3.8	Reengineering process,	T_1 & T_2	1	
		3.9	Benefits and limitations	T_1 & T_2	1	
				Total	**10**	
IV	**CO4:** Distinguish various tools and Techniques of Total Quality Management and Recognize the importance of six sigma in Quality Management . [K3]	**4. TQM TOOLS AND TECHNIQUES**				
		4.1	Seven traditional tools of quality	T_1 & T_2	2	Classroom learning, PPT, Group discussion Case study, Quiz
		4.2	New management tools	T_1 & T_2	1	
		4.3	Six sigma –concepts, methodology, applications to manufacturing	T_1 & T_2	1	
		4.4	Service sector- IT	T_2& R_1	1	
		4.5	Benchmarking, Reason to benchmark, Benchmarking process	T_1& R_1	1	
		4.6	FMEA stages and types	T_1& R_1	1	
		4.7	Control charts	T_1 & T_2	1	
		4.8	Process Capability	T_1 & T_2	1	
		4.9	Quality Function deployment, Taguchi quality loss function	T_1 & T_2	1	
		4.10	Total Productive Maintenance	T_1 & T_2	1	
		4.11	Terotechnology –improvement needs	T_1 & T_2	1	
		4.12	Performance measures	T_1 & T_2	1	
	C.B.S		Sustainable TQM		1	
				Total	**14**	

V	**CO5**: Evaluate the various ISO standards that are used for testing the quality of a product in present scenario. [K3]	**5. QUALITY SYSTEMS**				
		5.1	Need for ISO 9000	T_1 & T_2, R_2	2	Classroom learning, PPT, Case study,
		5.2	ISO 9001-2008 Quality System	T_1 & T_2, R_2	2	
		5.3	Elements of ISO	T_1 & T_2, R_2	1	
		5.4	Documentation	T_1 & T_2, R_2	1	
		5.5	Quality Auditing	T_1 & T_2, R_2	1	
		5.6	QS 9000	T_1 & T_2, R_2	1	
		5.7	ISO 14000 concepts	T_1 & T_2, R_2	2	
		5.8	ISO Requirements and Benefits	T_1 & T_2, R_2	1	
		5.9	TQM Implementation in manufacturing and service sectors	T_1 & T_2	1	
	CBS		Digital TQM		1	
				Total	**13**	
				Cumulative Proposed Periods	**60**	

Where : **C.B.S** = Content Beyond the Syllabus

Text Books:

S.No	Authors, Book Title, Edition, Publisher, Year of Publication
T1	Besterfield Dale H., Besterfield Carol,, Besterfield Glen H., Besterfield Mary, UrdhwareshеHemant, UrdhwareshеRashmi, Total Quality Management (TQM), 5th Edition, Pearson Publication, 2018
T2	Dr. GunmalaSuri and Dr. Puja Chhabra Sharma, Total Quality Management, 1st Edition, Wiley India- - 2013.

Reference Books:

S.No.	Authors, Book Title, Edition, Publisher, Year of Publication
R1	Poornima M. Charantimath, Total Quality Management, 3rd Edition, Pearson Education, 2017.
R2	SubburajRamasamy, Total Quality Management, 1st Edition, McGraw Hill, 2009.

S.NO.	Details	Name	Signature
i.	Faculty	Mr.V.Rambabu	5/6/25
ii.	Course Coordinator Faculty	Mr.V.Rambabu	5/6/25
iii.	Module Coordinator	Mr.S.Surendar	
iv.	Program Coordinator	Dr. Francis Luther King	

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