

Lecture Plan for Total Quality Management

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Institute: Ambala College of Engineering and Applied Research

Discipline: Automation & Robotics /Mechanical

Semester: 8th

Duration: 15 Weeks (JAN 2026–MAY 2026)

Work Load: L-3, T-0, P-0

Lecture Plan (Theory)

Week	Lecture No.	Topics
1st	1	Introduction and philosophies of quality management
	2	Need for quality, evolution of quality, definitions of quality
	3	Dimensions of product and service quality
2nd	4	Basic concepts of TQM, TQM framework
	5	Benefits, awareness and obstacles of TQM
	6	Quality, vision, mission and policy statements
3rd	7	Contributions of Deming, Juran and Crosby
	8	Barriers to TQM, quality statements, customer focus, customer orientation,
	9	Customer satisfaction, customer complaints
4th	10	Customer retention, costs of quality
	11	Principles of quality management
	12	Leadership, strategic quality planning
5th	13	Quality councils, employee involvement, motivation
	14	Empowerment, team and teamwork
	15	Quality circles recognition and reward
6th	16	Performance appraisal, continuous process improvement
	17	PDCA cycle
	18	5S
7th	19	Kaizen
	20	Supplier partnership, partnering, supplier selection, supplier rating.
	21	Process capability Meaning, significance and measurement
8th	22	Six sigma concepts of process capability
	23	Numerical problems on six sigma

Week	Lecture No.	Topics
	24	Numerical problems on process capability
9th	25	Tools and techniques for quality management
	26	Quality functions development (QFD), benefits
	27	Voice of customer, information organization
10th	28	House of quality (HOQ), building a HOQ
	29	QFD process
	30	Failure mode effect analysis (FMEA)
11th	31	Requirements of reliability, failure rate
	32	FMEA stages, design, process and documentation
	33	Seven old (statistical) tools
12th	34	Seven new management tools
	35	Bench marking and POKAYOKE.
	36	Numerical on old (statistical) tools
13th	37	Need for ISO: 9000,
	38	ISO: 9001-2008 quality system, elements
	39	Documentation, quality auditing
14th	40	QS: 9000, ISO: 14000, concepts
	41	Requirements and benefits
	42	TQM implementation in manufacturing
15th	43	TQM implementation in service sectors
	44	quality audits
	45	TQM culture.

(Hitesh Vohra)

Assistant Professor

A&R