

Class: 5th / 6th Semester B.Tech. (Management Basket)

Course Type	Course Code	Name of Course	L	T	P	Credit
Basket	MSC 520	Quality Management	3	0	0	9

Course Objective
The field of quality management keeps advancing in both depth and breadth with the scope of application in manufacturing and services. Quality issues are now the concern of all organizations, including public and service sectors. The purpose of this course is to put quality management into perspective, and to highlight its critical importance, as well as to present in-depth ideas on different methodologies, tools and techniques proposed for product and process improvement.
Learning Outcomes
Upon successful completion of this course, students will: <ul style="list-style-type: none"> • To understand the importance of quality management in manufacturing as well as in service industries. • To get familiar with the various process and product quality improvement and using them with the help of some application software. • To understand the various Quality Management Systems adopted in many industries.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to Quality Management: Evolution, Concept of Product and Service Quality; Contributions of Juran, Deming, and Crosby; Quality Costs.	5	Understand the fundamental concept of Quality management and its importance
2	Process Quality Improvement Tools and techniques: Graphical and statistical techniques; Seven Quality Control tools; Hypothesis Testing; Regression; Control charts; Process capability analysis; Measurement system analysis.	14	Get familiar with the applications of various SQC tools and techniques
3	Acceptance sampling plan	4	Understand the concept of acceptance sampling and its applications
4	Design and Analysis of Experiment (DOE)	4	Understand how DOE can be used to address quality related problems
5	Product Quality Improvement: Quality Function Deployment; Introduction to Robust Design and Taguchi Method; Failure Mode & Effect Analysis;	6	To get familiar with the tools to improve product design

6	Quality System (QS) in organizations: Quality Auditing concepts: Introduction to ISO 9000 and 14000 standards; TQM; Six Sigma concepts; Lean and JIT Quality Philosophy;	6	To get familiar with the various Quality Management Systems practiced in organizations
	TOTAL	39	

Text Books:

1. Introduction to Statistical Quality Control, D. C. Montgomery, John Wiley & Sons.
2. Fundamentals of Quality Control and Improvement, Mitra A., PHI.

Reference Books:

1. The Management and Control of Quality, J Evans and W Linsay, Thomson.
2. Total Quality Management, Besterfield, D H et al., Pearson Education.
3. Design and Analysis of Experiments, D. C. Montgomery, John Wiley & Sons.
4. Quality Management (Oxford University Press) – Kanishka Bedi
5. Total Quality Management (Sage Publications) – Sunil Sharma