

Quality Management

Course Objectives

This course deals with primary tools and methods used to monitor and control quality in organizations and the ways in which quality can be improved. It comprises of historical development of quality management, the seven basic tools for quality improvement, and management strategies for implementing world class quality improvement strategies. Emphasis is also given to control chart analysis and process capability study.

Syllabus

Quality-Total Quality –Quality Costs-Benchmarking- QFD-FMEA- quality tools-Acceptance sampling plans-process capability-benchmarking-Six Sigma-DPMO, SIPOC and DMAIC Methodology-Quality systems-ISO 9000 and ISO 14000

Expected Outcome

On successful completion of the course, the student should be able to identify concepts of quality management and improvement. It is envisaged at developing an understanding of the role of technology, managers, employees, and customers in developing a quality-based workplace. It is aimed at developing abilities to apply tools and techniques of Total Quality Improvement including, statistical process control, control charts, and quality function deployment techniques. It also builds the ability to utilize data gathering and analysis tools in process control and six sigma, benchmark organizations in Quality Management and helps understand the ethical issues in quality of services and products.

References

- 1 David L. Goetsch and Stanley B. Davis Quality Management for Organizational Excellence: Introduction to Total Quality, Seventh Edition, Pearson Education, Inc.
- 2.Eugene Grant, Statistical Process Control, Mc Graw Hill
3. Juran, J.M. & Gryna, F.M. : Quality Planning and Analysis, Mc Graw Hill
4. Joel E. Ross, Susan Perry, Total Quality Management: Text, Cases, and Readings, Third Edition, CRC Press
5. Charantimath, P.M., Total Quality Management, Pearson
6. Arthi Venkataraman(2000) Journey Towards Zerodefects: Challenges,Best Practices And Testing Models(Wipro), Bangalore
7. Crosby, Philip B(1979) Quality Is Free, Newyork, Mcgraw-Hill Books, Fourth Edition
8. Subburaj Rama Swamy, Total Quality Management, TataMcgraw Hill, NewDelhi,
9. Joseph A. De Feo, William Barnard(2010), Juran Institute's Six Sigma Breakthrough And Beyond: Quality Performance Breakthrough Methods, Newyork, Mcgraw Hill Books

10. Juran, Joseph M., Ed. (1995), A History Of Managing For Quality: The Evolution, Trends, And Future Directions Of Managing For Quality, Milwaukee, Wisconsin

11. Gupta, N S & B. Velamathi(2007), Total Quality Management, McGraw Hill Publications

COURSE PLAN

I Quality, Total quality, Rationale for total quality, key elements of total quality, quality circles, quality gurus. Concept of Costs of Quality, TQM strategies, Customer satisfaction, Employees participation- Quality function deployment, Failure mode Effect Analysis.

2 Check Sheet, Histogram, Pareto Chart, Cause and Effect diagram, Scatter diagram, Control chart, Graph, Affinity diagram, Tree diagram, Matrix diagram, Process decision program chart, Arrow diagram, Kaizen practice.

First Internal Examination

3 Acceptance Sampling, single sampling, double sampling plans, Process capability studies, Benchmarking, Rationale of benchmarking, Approach and process, Prerequisites of benchmarking, Benefits of benchmarking, Obstacles to successful benchmarking, perpetual benchmarking

Second Internal Examination

4 Six Sigma-Origin, Goals of six Sigma, Root cause Analysis, need for six sigma, levels of sigma, Role of Six Sigma green belts, Black belts, Master black belts, Champions in Six sigma implementation ,cost of quality at various levels of sigma, Competitive level- concept of world class, Six Sigma Methodology- DMAIC Approach, SIPOC concept, Voice of Customer, Calculation of DPMO and sigma, concept of sigma rating, Six sigma in Service sector-Successful implementation of six sigma in global companies

5 Quality Systems, Quality management principles, ISO 9001, ISO 14000, Future of quality system audit, Audit objectives, types of quality audit, Quality Auditor, Audit performance.

Final Exam