

SEMESTER 2

PR 652 QUALITY AND RELIABILITY ENGINEERING

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COURSE OUTCOMES:

1. Summarize the fundamentals and significance of Quality
2. Develop control charts for variables and attributes
3. Implement kaizen techniques for improved production environment

Basics of quality – Process capability analysis – Quality Gurus and their philosophies

Quality standards – ISO 9000 series and 14000 series

Design of experiments – ANOVA analysis – Reliability – MTBF – MTTR- Markov models for reliability Acceptance sampling by variables and attributes – ASN – ATI – AOQL - IS2500 plans – MIL STD 105E

Control charts for variables and attributes - Taguchi methods, cases

Concurrent engineering Quality function deployment – FMEA – Quality circles - Total quality management –Kaizen

References

1. Douglas, C. Montgomery, “Introduction to Statistical Quality Control”, 2nd Edition, John Wiley & Sons, 2001.
2. Smith, D.J. “Reliability Maintainability and Risk; Practical methods for engineers”, Butterworth-Heinemann, New Delhi, 2001
3. Grant, E.L. and Leavenworth, R.S., “Statistical Quality Control”, TMH, 2000.