

EE6602

QUALITY AND RELIABILITY ENGINEERING

Acad Unit: 3
Prerequisite: Nil
Effective: Acad Year 1999-2000
Last update: 15 Aug 2001

OBJECTIVE

This course aims to provide a comprehensive coverage of theory and practices on methods of achieving high quality and reliability in products and processes that are necessary for business, engineering or other types of organizations in order to stay competitive in a market economy.

DESIRED OUTCOME

Students are expected to acquire working knowledge and essential techniques of quality management, statistics for reliability, quality and reliability planning, failure mode and effect analysis, statistical process control, design of experiments and reliability testing.

OTHER RELEVANT INFORMATION

An introductory course in reliability and quality is desirable although not prerequisite. A basic course at undergraduate level in engineering statistics or equivalent is required.

CONTENT

Quality management and planning. Statistical process control. Design of experiments. Reliability planning & statistical framework. Burn-in, failure mode and effect analysis (FMEA), and accelerated testing.

ASSESSMENT SCHEME

Continuous Assessment 20 %
Final Examination 80%

TEXTBOOK

1. Wayne Nelson, "accelerated Testing, statistical models, test plans, and data analyses", John Wiley, 1990

REFERENCES

1. D.C. Montgomery, "Design and Analysis of Experiments", John Wiley, 4th Edition, 1997
2. D.C. Montgomery, "Introduction to Statistical Quality Control", John Wiley, 3rd Edition, 1997