

HIGHER TECHNICAL INSTITUTE
MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

**REORGANIZATION OF THE HTI
QUALITY CONTROL LAB**

by

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SUMMARY

The HTI Mechanical Engineering Department in its effort to keep up with modern ways of teaching and based on the principle of continuous improvement, decided that the Quality Control Laboratory work should be reviewed.

The existing experiments included a lot of unnecessary theory which made the study of them difficult; also the use of the computer software on quality control could not had been applied for the verification their results, simply because it was only recently acquired by HTI.

Solution to these problems was decided to be given through this final year project, which would include also a study on Statistical Process Control. The objectives of this project are the following:

- To prepare a study on the subject of “Statistical Process Control” (SPC), its specific techniques and areas of application.
- To review HTI Quality Control Laboratory work on:
 - 1) Basic statistics
 - 2) Control by attributes
 - 3) Control by variables
- To apply and customize “SQC plus” software for the verification of the results on the above reviewed exercises.

Therefore, an effort was made so that the new experiments would be simple, containing only the basic theory and allowing for the use of a computer software.

The project is divided in 8 sections containing the following:

Chapter 1: Study on SPC

Chapter 2: Four new experiments solved

Chapter 3: Instructions as to how the trainee should use the computer to verify the results of each experiment and the results obtained with the aid of the computer software

Chapter 4: Comments and conclusions about the project

Appendix A: Terms used and their definitions

Appendix B: References

Appendix C: Four experiments and four control charts

Appendix D: One computer diskette containing one file and one job process for each experiment