

THE FINAL YEAR PROJECT REPORT
ADVANCED DIPLOMA IN CIVIL ENGINEERING
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MARA INSTITUTE OF TECHNOLOGY
SHAH ALAM

**ESTIMATING FOR ROADWORKS
USING LOTUS 1-2-3**

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Acknowledgement

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PREFACE

There is no business skill of more importance to construction industry than estimating. Accurate estimates are necessary to the project owner, to the design team, and to construction team.

Computer has long been recognised as having great potential in the area of construction estimating. This project has a major objective to aid the reader in both the principle of roadworks estimating and its computer application using LOTUS 1-2-3 version 2.01 .

CHAPTER 1

COMPUTERS IN ESTIMATING

1.0 INTRODUCTION

An estimate involves calculating the cost of work on the basis of probabilities. The calculations for estimates are of two kinds, relating to the two primary parts of an estimate.

1. Measurement

2. Pricing

These two kinds of calculation are simple, and because they are simple they often are not given the attention they deserved. All measurements are approximate, and this fact should be remembered. The degree of approximation is variable, and the acceptable degree of accuracy depends on the purpose and methods of the measurement. In the second part of estimate, the pricing, the degree of approximation is even greater because of the difficulty in predicting all the probabilities of conditions such as labour productivity and site conditions. The ability to predict probabilities largely depends on the data available from past experience and the estimator's intuition, which is, perhaps, the mental use of data without mechanical means. Until recently many of the sophisticated tools, methods and analytical techniques and much of the research in the engineering profession have been done for the purpose of perfecting product or project design.