

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL

INSTALLATION OF AN OFFICE BLOCK

E / 1043

BY: VALIANDIS CHRISTOS

JUNE 1996

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Valiandis Christos

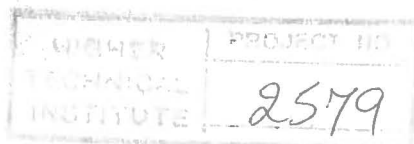
Project Report submitted to the department of electrical  
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## SUMMARY

This project deals with the design of the electrical installation of an office block consisting of three floors, ground floor and an underground floor.

First illumination calculations were carried out and then follows the electrical design.

Also a telephone distribution were carried out for the building.

Furthermore the cost of the electrical installation for the building was estimated , including labour.

Finally, the drawing indicating the position of control switches and the arrangements of the final circuits were made as well as the single line diagrams.



## INTRODUCTION

The aim of this project is the design of the electrical installation of an office block.

### The objectives of the project are the follows :

1. To design the complete electrical installation of an office block to include the following :
  - ( i ) Power
  - ( ii ) Lighting
  - ( iii ) Telephone distribution
2. To provide all necessary diagrams schedule of materials and costing including labour.

### Terms and conditions


1. Three-phase 415 Vrms 50Hz , T.t. earthing system.
2. Architectural drawing will be provided.
3. The IEE Wring Regulations 16th Edition are currently amended and the local EAC conditions of supply must be complied with.
4. The illumination design must be in accordance with CIBS code.
5. CYTA requirements to be taken into consideration.

First for the selection of lamps and luminaires , illumination calculations were carried out.

Then the design of lighting and socket outlet circuits were carried out . The calculations were done for some representative circuits.

Also the design of telephone distribution were carried out.

Finally, the estimation of the cost of the electrical installation was done , based on the recent prices of the materials in the local market. The labour costs including overheats and a reasonable profit were considered.



## NOTATIONS AND ABBREVIATIONS

M.D.B	-	Main Distribution Board
D.B	-	Distribution Board
R.C.C.B	-	Residual Current Circuit Breaker
M.C.B	-	Miniature Circuit Breaker
C.P.C	-	Circuit Protective Conductor
E.A.C	-	Electricity Authority of Cyprus
I.E.E	-	Institution of Electrical Engineers
L.P	-	Lighting Point
S/O	-	Socket Outlet
V.D	-	Voltage Drop
W/P	-	Water Pump
S.P	-	Single Phase
T.P	-	Three Phase
Cos $\Phi$	-	Power Factor
m	-	meter
mm	-	millimeter

CHAPTER 1

ILLUMINATION DESIGN

