HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING
DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES OF MULTI - STOREY BUILDING

PIYIOTIS MARIOS

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DESIGN OF ELECTRICAL SERVICES OF A MULTI-STOREY BUILDING

BY

MARIOS PIYIOTIS

In partial fulfillment of the requirements
for the diploma of Technician Engineer
in the Electrical Engineering
Department of the

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DETICATED TO MY FAMILY AND ALL MY GOOD FRIENDS

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INTRODUCTION

This project has to do with the design of the Electrical Services of a multi-storey building. The objectives of this project is:

To design the complete electrical installation of a multi-storey building which includes:

1. Lighting
2. Power
3. Telecommunications
4. Lightning Protection
5. Fire alarm system

The whole installation is carried out in accordance to the following requirements:

a) the 16th edition of the IEE wiring regulations
b) EAC conditions of supply
c) CYTA regulations

ASSUMPTIONS

1. Supply voltage: 240V – 415V, 50Hz, TT earthing system

2. Wiring method: PVC enclosed in conduit (method 3)

3. Earth conduit carries one circuit only so grouping factor Cg=1

4. Ambient temperature is assumed 30C so ambient temperature factor Ca=1

5. Thermal insulation is not used so insulation factor Ci=1

6. External earth fault loop impedance = 1Ω

7. Height of first floor = 3 m

8. Height of distribution boards from the floor = 1.5m

9. Height of switches from the floor = 1.5m

10. Height of socket outlets from the floor = 0.3m

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