

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

**DESIGN OF THE ELECTRICAL SERVICES
OF A BUILDING**

E.1354

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JUNE 2004

**DESIGN OF THE ELECTRICAL SERVICES
OF A BUILDING**

**PROJECT SUBMITTED BY
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**TO THE DEPARTMENT OF ELECTRICAL
ENGINEERING OF THE HIGHER TECHNICAL
INSTITUTE
NICOSIA-CYPRUS**

**IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DIPLOMA OF**

**TECHNICIAN ENGINEER
IN
ELECTRICAL ENGINEERING**

JUNE 2004

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HIGHER TECHNICAL INSTITUTE	PROJECT NO 3510
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*Dedicated specially
to my parents for all their support
also to my rest of family,
my sweetheart
and to all my real
friends.*

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ACKNOWLEDGMENTS

I would like to express my thanks to my project supervisor, Mr C. Chrisafiades senior lecturer of the Electrical Engineering Department of H.T.I. for his valuable guidance and assistance for the completion of this project.

Also I would like to thanks all the engineers helped me in providing the necessary information as specifications, technical data, price lists of the equipments used , and to all the lectures of HTI who helped me and gave me valuable knowledge to complete the electrical engineering course .

SUMMARY

The purpose of this project is to examine and study the design of the electrical services of a building. The whole design must be carried out with care and responsibility as it is directly involved with the safety of people, livestock and property.

The whole design must be carried out in accordance to the IEE wiring regulations 16th edition, EAC and CYTA regulations.

The design of the electrical services of the building is explained in detail to the various chapters of this project. The main body of the project is divided in 13 chapters in order to simplify the study of the project.

At the end of the project appendices are included giving specifications for the devices and equipments used.

And at the end detail architectural drawings are provided showing the locations of the equipment used.

INTRODUCTION

This project examines the electrical services of a building.

The following designs are consisted.

- Illumination design
- Lighting Circuit Design
- Socket Outlet Circuits Design
- Fixed Electrical Appliances
- Air Condition Design
- Storage Heater Design
- Telecommunication Design
- Lightning Protection Design
- Fire Alarm System Design
- Inspection and Testing
- Telecommunication Design
- Distribution boards and phase balancing

When the design is completed the cost of the materials and the labour cost will be evaluated .

Terms and Conditions

- Supply : Three phase 415 V rms , TT earthing system
- Z_e : External earth fault loop impedance = 0.5Ω
- C_a : Ambient Temperature 30°
- General Purpose PVC Copper
- Method 3 Cables in Conduit
- The whole design is based on 16th edition of IEE regulations , CIBS code for illumination design , EAC conditions of supply and CYTA requirements.

Also we must consider , after the electrical installation is completed , inspection and testing in accordance to the regulations 712 and 713 of IEE wiring regulations 16th edition .