

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

**DESIGN OF THE ELECTRICAL
SERVICES OF A BLOCK OF OFFICES**

BY : IOANNOU YIANNAKIS

(E / 1130)

JUNE 1998

HIGHER TECHNICAL INSTITUTE	PROJECT NO 2865
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DESIGN OF THE ELECTRICAL SERVICES OF A BLOCK OF OFFICES

**BY : IOANNOU YIANNAKIS
(E / 1130)**

PROJECT REPORT

Submitted to the Electrical Engineering Department
of the Higher Technical Institute
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***DEDICATED TO MY FAMILY
ESPECIALLY
TO MY PARENTS
FOR HAVING OFFERED ME SO MUCH***

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Secondly I would like to thank all those who contributed, by their own way, to complete successfully this project.

SUMMARY

PROJECT TITLE : DESIGN OF THE ELECTRICAL SERVICES OF A BLOCK OF OFFICES.

SUBMITTED BY : IOANNOU YIANNAKIS.

The objectives of this project are:

To design the complete electrical services installation of a block of offices.

These electrical services are:

- a) Lighting
- b) Power
- c) Telephone installation

According to the objectives, the project was carried out and the best possible solution was given

Firstly the illumination design was investigated and assessed in accordance to the CIBS code and according to this assessment all the lighting points were marked on the drawings with their respective conduit networks.

In accordance to the IEE wiring regulations 16th edition, the lighting and power circuits were designed, the calculations were made, illustrated and tabulated.

Finally telephone distribution network was designed in accordance to the Cyprus Telecommunications Authority requirements.

TERMS AND CONDITONS

- 1) Three-phase, 415 Vrms, 50Hz, T.T earthing system.
- 2) Lighting and power design in accordance to the IEE wiring regulations 16th Edition, CIBS code and E.A.C requirements.
- 3) The telephone installation design in accordance to CYTA requirements.

ASSUMPTIONS

To ensure accurate measurements of conduit and cable run lengths, the practical routes needed to be known i.e. the mounting heights of the services and access points and rooms dimensions.

The following dimensions are measured from the floor.

- Ceiling height of offices = 3m
- Ceiling height of shops = 3m
- Ceiling height of mezzanine = 3m
- Mounting height of DB's = 1.85m
- Mounting height of s/o = 0.4m
- Mounting height of switches = 1.5m
- Mounting height of cookers = 1.1m
- Mounting height of w/h = 1.5m
- Mounting height of the wall lamps = 2m

- Grouping factor = 1
- Ambient temperature factor = 1
- Thermal insulation factor = 1
- External earth loop impedance = 1Ω
- Prospective fault current at the origin = 10.8KA and P.f = 0.86
- Method of installation: Enclosed in conduit