HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF AN AIR - CONDITIONING SYSTEM FOR AN OFFICE (COMMERCIAL) BUILDING

M/859

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Contents:

Abstract

This project describes the design of an air conditioning system for an office (commercial) building. Prior to the final design, and based on the client's requirements, we will consider four air conditioning systems before concluding to the ultimate one to be used in that specific building. The parameters on which will focus our selection are a) Ergonomy b) Economy c) Reliability and d) Flexibility.

The final design of the air conditioning system will include all the necessary calculations for the ventilation, the heating and cooling requirements of the building and the selection (sizing) of the equipment to be employed. The selection of the appropriate machinery will be based on specific manufactures' catalogues.

Further more we will curry out a cost analysis of the selected system and will study the associated cost savings that the system may offer to the end client. An emphasis on the operational cost will be given in accordance with the maintenance costs.

Finally we will study the possibilities of utilising night and free cooling in an attempt to reduce the running costs of the building without, however, affecting the performance of the air conditioning system.

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