



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



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بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل

Ain Shams University
Faculty of Engineering
Department of Design and Production Engineering

**An Expert System For Flexible
Facilities Layout**

By

Eng. HATEM . A . MAHMOUDI
M. Sc. Ain Shams University, Egypt 1996
Design & Production Engineering

A THESIS

Submitted to the Faculty of Engineering
Ain Shams University
for the Degree of Doctor of Philosophy
Design & Production Engineering

Supervised by

Prof.Dr. M HAZEM . ABD-EL-LATIF
Dr. NAHED S . MOHAMED

Cairo 1999

BOS. 2

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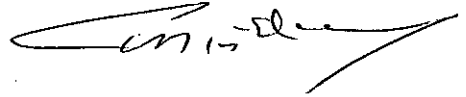
Submitted to the faculty of engineering Ain Shams university
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has been approved by

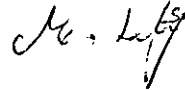
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Statement

This dissertation is submitted to the Faculty of Engineering, Ain Shams University, for the degree of Doctor of Philosophy in Mechanical Engineering (Design & Production).

The work included in this thesis was carried out by the author in the Department of Design and Production Engineering, Ain Shams University, from December 1996 to March 1999.

No part of this thesis has been submitted for a degree or a qualification at any other university or institution.

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Dedication

To

My Parents,

Wife, Hala son, Abboudeh

Brother, Rami Syster, Banan Muhammad

Hatem

ACRONYMS

| | |
|---------|---|
| A | Absolutely necessary |
| E | Especially important |
| I | Important |
| O | Ordinary closeness |
| U | Unimportant |
| X | Not desirable |
| TMHC | Total Materials Handling Cost |
| TCR | Total Closeness Rating |
| MAT | Modular Allocation Technique |
| PLANT | Plant Layout Analysis Evaluation Technique |
| CORELAP | COMputerized Relationship LAYout Planning |
| ALDEP | Automated Layout DESign Program |
| CRAFT | Computerized Relative Allocation Facilities Technique. |
| FADES | FACtory DESign |
| MHES | Materials Handling Equipment Selection |
| ES | Expert System |
| AS/RS | Automated Storage / Retrieval System |
| AI | Artificial Intelligence |
| AGV | Automated Guided Vehicles |

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