

AIN SHAMS UNIVERSITY
FACULTY OF ENGINEERING

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Bib 9909912
**PLANNING AND SCHEDULING CONSTRUCTION
PROJECTS UNDER THE EFFECT OF SPECIAL
CONSTRAINTS**

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A THESIS

Submitted In Partial Fulfilment
For The Requirements Of The Degree Of
Master Of Science In Civil Engineering
(Structural Division)



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STATEMENT

This dissertation is submitted to Ain Shams University for the degree of MASTER OF SCIENCE in Civil Engineering.

The work included in this Thesis was carried out by the author in the Department of Civil Engineering (Structural Division), Ain Shams University, from November 1982 to August 1990.

No part of this Thesis has been submitted for a degree or a qualification at any other University or Institution.

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Abstract
of the M. Sc. Thesis submitted

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Title of Thesis : Planning and Scheduling Construction Projects under the
Effect of Special Constraints

Supervisor : Prof. Dr. ABDEL HADY H. HOSNY

Registration Date : 9 / 11 / 1990

Examination Date : 1 / 1 / 1990

Abstract

There are many planning and scheduling computer packages for construction projects, these packages deal with a single unit (non repetitive).

For the effective planning and scheduling of the projects with repetitive nature (e.g. housing, Pipe lines, Roads,) an assisting computerised package is required to overcome the problem of repetition and the large amount of data included therein.

The planning and scheduling tools have been reviewed with special concentration for the Line of Balance technique because this technique is developed specially for the projects with repetitive nature.

Bearing in mind the available facility in the Primavera Package (plan and control software) to communicate with other packages (the Lotus 1-2-3, word Processing & Data Base), a set of Lotus 1-2-3 macros have been developed, based on the principles of the Line of balance technique, to deal with the problem of activity repetition. These macros deal with the output files for a single unit which is produced by using Primavera software.

A case study for Marina El-Alamain Village with large numbers of repetitive units has been studied under special constraints to demonstrate the proposed technique.

Key words : Construction Management, Planning, Scheduling, Control, Critical Path Method, Bar Chart, Line Of Balance.

To My Parents and My Family

v

ACKNOWLEDGEMENT

The writer wishes to express his deepest gratitude and sincere appreciation to Prof. Dr. Abdel-Hady H. Hosny, Professor of Reinforced Concrete Structures, Ain Shams University, for his kind supervision, guidance, valuable suggestions, constant encouragement and generous support during the course of this work.

The writer is deeply indebted to Dr. Adel EL-Samadony ,Lecturer of Project Management, Helwan University, for his planning, guidance and valuable advice through this study.

The writer also wishes to express his deepest gratitude to his managers in the computer department, External Divisions of Arab Contractors, Eng.Selwan Nor-El-Din and Eng.Elham Shoukry for their constant help and cooperation during all phases of this study.

The writer can not forget the help and constant assistance given to him during the case study work by the colleagues in Marina El-Alamin Village Project, Alexandria Branch of Arab Contractors and also his colleagues in Computer Department, External Divisions of Arab Contractors which the writer is honoured to be one of its staff.

The helpful suggestions of others who have in a way or another contributed to the completion of this thesis are gratefully acknowledged.

Finally, the writer thanks his wife and children for giving him the chance and the time for this challenge. Thanks are due to his parents, sister and aunts for their encouragement, prayers and for guiding him to the right paths.

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