

MODELLING OF BATCH PROCESS PLANT

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ABSTRACT

This project looks up mostly on modelling of batch process plant by means of developing a software program for mathematical and graphical modellings. Basically, the program is a menu-driven graphical tool for simulating and drawing simple translated Petri Net models. The tool is developed by means of programming using Turbo Pascal Version 6. It is a software program for IBM-PC that supports the graphics mode as good as any other programming languages like C++. Importantly, this tool is able to simulate the modelling of batch process plant that to be generated with graphical presentation and simple analysis results based on simple idea in batch process plant. A user-friendly screen menu that has also been included is supposed to provide an easy-to-follow steps for user to operate the tool.

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CHAPTER 1

1. INTRODUCTION

1.1 INTRODUCTION TO THE PROBLEM

The competitive pressures in batch processing plant production and difficulties in planning and control all call for improved design of batch plants and provide an incentive for the application of computer-aided methods[4].

Batch processing requires **sequential, continuous, and supervisory** control to effectively control total plant production. Although these control functions may be performed in a control facility, increase reliability and flexibility can be achieved by distributing the control responsibility throughout the system. However, most supervisory tasks in batch process control still require a human operator. Indeed, the increasing complexity that is made possible by distributed control and sophisticated instruments places an additional burden on the operators[4].

Process industry in our time has experiencing plenty of changes in its technology to improve the productions especially in chemical and food industries by reducing the plant operating costs as well as by improving the production efficiency. This includes reducing the makespan (time taken) required in producing a product.

On the other hand, continuous process is the most process system that practically used for years. The advent of modern continuous processing has significantly minimising the expenditure of two main resources; they are man power and time. However, in recent years there is an interest of using batch process due to its high flexibility in producing multiple products in a single plant through sharing of