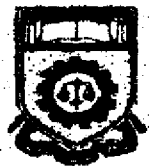


SCHEDULING OF BATCH PROCESS PLANT

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ABSTRACT

Batch processing is widely used in many industries. This is because, nowadays industries produce higher quality products in small quantities, thus to justify the economic cost of continuous production equipment. For that reason, this research is done based on the development of scheduling, involving algorithm and hardware.

The control algorithm approach for batch process plant is used as Dijkstra's algorithm. For analysis purposes, the computer can accept this environment. The application of Visual basic 6.0 software is introduced to run the system.

The graphical presentation and simulations will give some ideas to user how the system works. Three LEDs (light emitting diode) were chosen as the right hardware to represent the actual events of process in real life. The LED's indicators can be represented as a plant, dc motor or else, which is control by the algorithm.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The competitive pressure in batch processing plant production and difficulties in planning and control had called for an improved design of batch plants that provide an incentive for the application of computer aided methods.

Batch process requires sequential, continues and supervisory control function which may be formed in a facilities. By distributing throughout the system, increased reliability and flexibility can be achieved. However, most supervisory tasks in batch process control still require human operators. Indeed, the increasing complexity due to distributed control and sophisticated instrument places an additional burden on the operators.

This project looks at the system that enhanced computer control in order to improved the batch process industries. This system covers scheduling, planning, and performance enhancement of batch based on graph theory. The use of intelligent technology, such as simulation, mathematical algorithms, linear programming and its variations, and expert system, can reduce the time required to make decisions [1].

Although precise overall operations are difficult to concentrate on applications of the optimization technique, by a great deal of scheduling and coordination, this can be achieved. Beside that, a proper strategy and planning is needed to meet market demands, allocate constrained resources, to feed downstream units efficiency, to minimize inventory and to allow the performance of preventive maintenance.