MARA UNIVERSITY of TECHNOLOGY

DIGI TEACHER

ASSAING FOR : MISS WAN SALHA SAIDON

PREPARED BY :

1 ~ INANG NOOR LIANA BT IBRAHIM

99015049 / EE III / 06

2 ~ KHAIRUL INTAN SHAHNAZ BT M. KHALID

99105242 / EE III / 06

DUE DATE : 13 SEPTEMBER 2002

ABSTRACT

Digi teacher teaching aid is a very useful as teaching aid for the students of digital electronics. This report summarized the result and application of the " Digi Teacher" study. Digi teacher application focuses on the certain outputs that can be obtained from certain inputs, after being through NOR gates and INVERTER (ICs). Study of ICs such as 7402 quadruple 2-inputs NOR-gates, 7404 Hex Inverter and LED was made and evaluated. It can be improved by using rotary switch and three 7400 quad 2-input NAND gates ICs for better and easy handling for beginners.

Name: Inang Noor Liana Bt Ibrahim.

99015049

Khairul Intan Shahnaz Bt M. Khalid.

99105242

Title: Digi Teacher.

ACKNOWLEDGEMENT

With the name of Allah s.w.t the most gracious and most merciful, and to our prophet Muhammad saw and his family. Thanks to Allah s.w.t for giving us a opportunity to complete this project successfully.

We would like to express our deep sense of gratitude and appreciation to our project advisor Cik Wan Salha Binti Saidon and to all of our lecturer for their help, guidance and patience during the period of completing this project. Also thanks to our parents for giving us moral support as well as financial income to do our report and not to forget our friend that also contributes their help.

We are grateful to all of them of we will never forget what they have done to us. Only Allah s.w.t could pay back their kindness and we will appreciate it until the rest of our life. May Allah Bless you all forever and ever. Amin...

OBJECTIVES

- **Able to analysis the project/problem**
- **Able to suggest a suitable solution**
- **Able to discuss in a group**
- **Able to write the final report**
- **Able to design the circuit in the PCB**
- **Able to understand the function of each component in the circuit**
- **Able present the project**

INTRODUCTION

The unit was developed as teaching aid, which can test all the gates of digital electronics. Digital electronic is simply a collection of switching circuits combined in such a way as to allow certain outputs with certain inputs. These are called gates as they allow only certain functions to pass through.

OR, AND, XOR and NOT (inverter) are some popular gates. These are also gates called NOR (meaning NOT OR), NAND (meaning NOT AND) and XNOR (meaning NOT XOR) where the outputs are inverted equivalents of OR, AND, XOR function respectively. The latter gates will be frequently used in circuits preference to their universal equivalent, in order to save the number of gates used. A NAND or NOR gates can be used to derived the functions of the other gates. In the circuit NOR and Inverter gates are used to derived the functions of the other gates. In this circuit NOR and INVERTER gates are used to minimize the number of ICs. The circuit is quite simple as in Figure 1.