UNIVERSITI TEKNOLOGI MARA
KAMPUS BUKIT MERTAJAM
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FINAL REPORT OF DIPLOMA PROJECT

FACULTY OF ELECTRICAL ENGINEERING

(EMERGENCY LIGHTNING UNIT)

ZAMZAHARI ISHAK

MUHAMMAD IZAT EMIR AMINULLAH

ACKNOWLEDGEMENT

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Their contribution is very meaningful to us . Without their help it is hard to us to finish this paper work project . Hopefully all of us get right guidance a religion and blessing from Allah .

This acknowledgement dedicated to :

1. Tuan Haji Mohd Noor B. Tajuddin
   (Supervisor)
   Lecturer in faculty Engineering
   UiTM Penang .

2. Our family and all of our friends .

" Thank You Very Much And May Allah Bless All of You "

ZAMZAHARI ISHAK

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ABSTRACT .

Project 2 (KEU 380) is one of the subject that compulsory for the student in their final year of diploma in Electrical Engineering. This subject has 3 credit hours and each group must have two students. We are going to present this project at the end of the semester. In this project the student need to do the hardware circuit using printed circuit board (PCB) and folio , which in this must have details about project that we chose such as objective, explaination about the main component, simulation result,Gant chart and others.

The purpose of doing this project is to produce the students who have ability to create something new with their creativity and high skills.It also make students use all their knowledge, capability, creativity and skills to create and solve the trouble that occur in their project. It trains students for their preparation to deliver a creative ideas and good interpersonal image to future employee. Besides, student can learn how to work on the printed circuit board (PCB) on their own. They must know how to identify error and a troubleshoot when the circuit did not function. Through this project the student must explain about main component that involved in the circuit such as IC, transistor and others.

Here , students can improve their understanding regarding function of component in circuit .In the other hand, student not only have to understand the objective when built this circuit but they also must know the circuit operation and its function.

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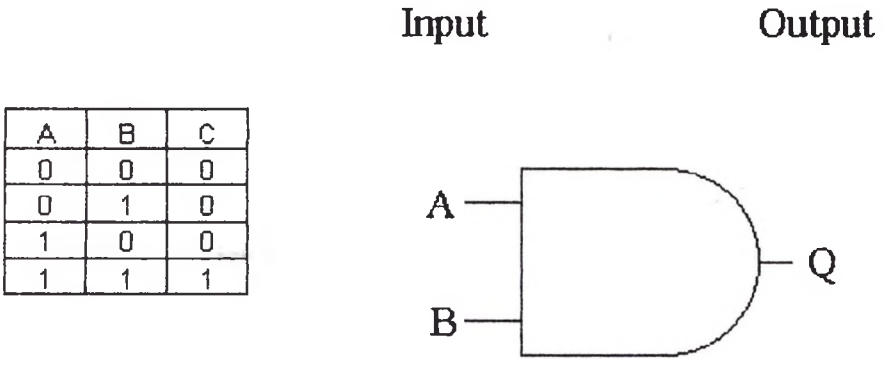
INTRODUCTION .

The Emergency Lightning Unit has two sensing circuit , one of which monitors the main voltage , while the other monitors the ambient light level . The sensing circuit are connected to trigger short period monostable timers , one for each of the above two conditions .

The outputs from the monostable are connected to the inputs of a two input AND gate , and as may be seen from the Truth Table in Fig.1 the output is only (logic 1) when both inputs are also high . Thus , from the above it may be seen that the output may only be high very briefly if both the power and light fail at practically the same instant time .

The brief output from the AND gate is then used to trigger a bistable latching circuit , which once trigged remains latched until it receives a turn – off signal . The circuit therefore only switches on the emergency light if a power failure is accompainied by simultaneous reduction in light level as would occur in an occupied room at night when the power fails .

The circuit also has facilities which permit manual operation of the light as may be required when returning home in the evening after the power has already failed earlies in the day .



A	B	C
0	0	0
0	1	0
1	0	0
1	1	1

Fig.1 : An AND gate symbol and truth table .