

## آية قرآنية

ز

**{ وَقُلْ اَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ  
وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ اِلَى  
عَالِمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ  
تَعْمَلُونَ }**

صدق الله العظيم  
(التوبة : 105)

## Dedication

To : my mother and my father

# Acknowledgement

I would like to thank, all the staff of Electrical Engineering department in Sudan University of Science and Technology. I am also thankful to NEC [National Electricity Corporation].

I express my gratitude to my supervisor ***Ustaz Abdalla Salih*** who suggested the Topic I am so grateful to him for his great efforts and valuable comments and suggestions throughout the stage of the research.

## **ABSTRACT**

Electricity is the main source of energy; it is the backbone of any infrastructure development projects.

Since the demand for Electricity is very high in Sudan compared with the capacity installed and power generated so the power conservation is a must, and the losses reduction should be worked on.

In this research a digital circuit was designed to control the switching off and ON the street lights lamps to save the disposed power of 519kwh during the day "this is calculated from some samples of street lights lamps that light during the day time".

## مستخلص

تنبع أهمية الطاقة الكهربائية من كونها المصدر الرئيسي لأي تنمية أي أنها تلعب الدور الرئيسي لنمو أي قطاع ويقاس تقدم الشعوب بمقدار المنتج من الطاقة ومدى الاستفادة منه. ولما كان الطلب على الطاقة الكهربائية في السودان كبيراً مقارنة مع المنتج، كان لابد من المحافظة على كمية الطاقة المولدة وتقليل المفاقد الكهربائية.

في هذا البحث تم تصميم دائرة رقمية للتحكم في وصل وقطع التيار عن اللمبات خلال الليل والنهار بالتتالي. وقد تلاحظ أن من عينات الإنارة للطرق المختارة أن القدرة المبددة خلال النهار 519kw.

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