



**FACULTY OF ENGINEERING DEPARTMENT
OF COMPUTER ENGINEERING**

Diploma in Electrical Engineering

**A REPORT ON THE DESIGN AND CONSTRUCTION OF A
GENERATOR PARAMETER MONITORING SYSTEM**

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DURATION: TWO MONTHS

ACKNOWLEDGEMENT

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Last but not least, we extend our appreciation to our lecturers, supervisors, fellow students and everyone that sacrificed his/her time to make this project a success and for the team work we put in to compile everything required of us by the lecturers.

DECLARATION

I ISAAC WERE BU/UP/2020/2571, AJABI ROSE BU/UP/2020/2573

hereby declare that this project report is our original work except where explicit citation has been made and has never been published and/or submitted for any other degree award to any other university or institution of higher learning for any academic award.

Sign: .



Date: 11.01.2023

Sign:



Date: 11.01.2023

APPROVAL

This is to certify that the project report entitled “**GENERATOR PARAMETER MONITORING SYSTEM AT A REMOTE LOCATION**” has been done under my supervision

And is submitted to the board of examiners with my approval.

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A handwritten signature in blue ink, appearing to read 'Eric Katarwa Butime', is enclosed in a thin black rectangular border. The signature is stylized and written in a cursive-like font.

Sign: ...

Date: 11.01.2023

DEDICATION

This report is dedicated to **FLOYD OWORI** for the financial assistance rendered to us during the course of this project. May the almighty God bless you abundantly.

LIST OF ACRONYMS

GSM - Global System for Mobile communication

GPS – Global Positioning System

YOLO - You-Only-Look-Once

CNN - convolutional neural network

PPE – Personal Protective Equipment

IDE – Integrated Development Environment

GDP – Gross Domestic Product

OHS - Occupational Health and Safety

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

The industrial sector is extremely wide-ranging and heterogeneous. Consequently, the group of activities that it encompasses is very diverse, as are its energy needs. The Telecommunication Industry, the steel industry, mechanical industries, chemical industry, textile industry, production of consumer goods or food are just some of the areas that make up the industrial sector.

Although there are many unique features that each of these industries present, in general, the industrial sector is characterized by developing jobs with restricted access to the electricity grid or weak supply quality on some occasions (quarries, mining), requiring a prolonged use of the generator set for extended periods, when it is used as the main source of energy supply, requiring equipment prepared to provide a continuous supply of energy, to cut peak demand or as emergency power in the industrial sector and prepared for extended periods of use of the electric generator.

All electrical appliances have set conditions under which they function at optimum levels. Any fluctuations in these conditions can cause the appliances to run at a lower efficiency. Power generators are no exception to this. Therefore, Special care should be taken to ensure that all loads connected to the generators are protected by monitoring parameters such as fuel level, output current, temperature levels and more.