STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME
(SIWES)

HELD AT

SHERIF ELECTRICAL AND ELECTRONICS

NIJA JUNCTION, ILORIN, KWARA STATE,NIGERIA

BY

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ND/23/EEE/FT/0025

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IN PARTIAL FULFILLMENT OF THE REQUIREMENT

FOR THE AWARD IN NATIONAL DIPLOMA

CERTIFICATE IN ELECTRICAL/ELECTRONICS ENGINEERING

AUGUST – NOVEMBER, 2024

REPORT OVERVIEW

This report provides a detailed account of the Student Industrial Work Experience Scheme (SIWES) conducted at Sherif Electrical and Electronics, Nija Junction, Ilorin. It highlights the objectives, tasks performed, skills acquired, challenges encountered, and recommendations for improvement. The training focused primarily on electronics repairs, circuit design, and some electrical installations, offering a practical bridge between theoretical knowledge and industrial application.

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CHAPTER ONE

INTRODUCTION

The Student Industrial Work Experience Scheme (SIWES) is a pivotal program initiated by the Federal Government of Nigeria to expose students in tertiary institutions to practical industrial environments, complementing their theoretical education. This report encapsulates my four-month industrial training at Sherif Electrical and Electronics, located at Nija Junction, Ilorin, from August to November 2024. As a student of Electrical/Electronics Engineering Technology at Kwara State Polytechnic, Ilorin, this experience provided me with hands-on exposure to electronics repairs, circuit troubleshooting, and electrical installations.

During the training, I engaged in activities such as repairing electronic devices (e.g., radios, televisions, and inverters), assembling circuits, and assisting with electrical wiring on-site. This report details my objectives, work experiences, challenges, and the invaluable lessons learned, demonstrating how SIWES has enhanced my technical competence and prepared me for a career in electrical/electronics engineering.

1.1 BACKGROUND

SIWES was established in 1973 by the Industrial Training Fund (ITF) to bridge the gap between classroom learning and real-world industrial practice. It mandates students in technical and science-related disciplines to undertake supervised industrial training as part of their academic curriculum. My placement at Sherif Electrical and Electronics offered me a unique opportunity to apply concepts learned in courses like Circuit Theory, Electronics, and Electrical Installation to practical scenarios, fostering a deeper understanding of my field.

1.2 OBJECTIVES

- To acquire practical skills in electronics repair, circuit design, and electrical installations.
- To understand the operational dynamics of a small-scale electrical/electronics firm.
- To develop troubleshooting techniques for faulty electronic devices and electrical systems.
- To enhance teamwork, communication, and problem-solving skills in a professional setting.

CHAPTER TWO

DESCRIPTION OF THE ESTABLISHMENT

2.1 LOCATION AND BRIEF HISTORY

Sherif Electrical and Electronics is located at Nija Junction, a bustling commercial hub in Ilorin, Kwara State, Nigeria. This strategic location ensures accessibility for customers seeking electronics repairs and electrical services. Established over a decade ago, the firm has grown from a modest repair shop into a reputable service provider known for its expertise in electronics troubleshooting and electrical installations. Under the leadership of Mr. Andrew Rotmi Olawale, the supervisor, the company caters to both individual clients and small businesses, offering services ranging from appliance repairs to on-site electrical wiring.

2.2 OBJECTIVES OF THE ESTABLISHMENT

- **Quality Service Delivery:** To provide reliable repairs and installations for electronics and electrical systems.
- **Customer Satisfaction:** To address client needs promptly and efficiently, ensuring long-term patronage.

- **Skill Development:** To train apprentices and interns in practical electrical/electronics techniques.
- **Business Growth:** To expand services and maintain a competitive edge in the local market.

2.3 ORGANIZATION STRUCTURE

Sherif Electrical and Electronics operates a simple, flat structure:

- **Supervisor (Mr. Andrew Rotmi Olawale):** Oversees all operations, assigns tasks, and ensures quality control.
- **Technicians:** Handle repairs, installations, and customer interactions.
- **Apprentices/Interns:** Assist technicians, learn skills, and perform basic tasks under supervision.

2.4 DEPARTMENTS AND THEIR FUNCTIONS

Though a small firm, the operations can be categorized into:

- **Electronics Repair Unit:** Focuses on troubleshooting and fixing devices like radios, TVs, and inverters.
- **Electrical Installation Unit:** Manages on-site wiring and electrical setups for homes and small businesses.

- **Customer Service:** Handles client inquiries, job scheduling, and feedback.

CHAPTER THREE

WORK EXPERIENCE AND ACTIVITIES

During my four-month training at Sherif Electrical and Electronics, I immersed myself in a variety of tasks centered on electronics and electrical fieldwork. My supervisor, Mr. Andrew Rotmi Olawale, provided guidance and encouraged hands-on participation, allowing me to develop practical skills aligned with my academic background. Below is a detailed account of my activities:

Key Roles and Responsibilities

- Assisted in diagnosing and repairing faulty electronic devices.
- Participated in assembling and testing electronic circuits.
- Supported electrical wiring and installations at client sites.
- Documented daily tasks and observations in my SIWES logbook.
- Interacted with customers to understand their needs and explain repair processes.

Daily and Weekly Tasks

- **Electronics Repairs:** Diagnosed issues in devices such as radios, televisions, amplifiers, and inverters using multimeters and soldering tools. Repaired faulty components like capacitors, resistors, and transistors.
- **Circuit Assembly:** Designed and assembled simple circuits (e.g., power supply units and amplifiers) on breadboards and PCBs (Printed Circuit Boards).
- **Electrical Installations:** Assisted in wiring residential buildings, installing switches, sockets, and circuit breakers.
- **Testing and Troubleshooting:** Conducted continuity tests on circuits and used oscilloscopes to analyze signal outputs.
- **Maintenance:** Cleaned and maintained workshop tools and equipment weekly.

3.1 INSTRUMENTS AND EQUIPMENT USED

- **Multimeter:** Measured voltage, current, and resistance in circuits.
- **Oscilloscope:** Analyzed waveforms and signal integrity in electronic devices.
- **Soldering Iron and Desoldering Pump:** Used for component replacement on PCBs.

- **Breadboard and PCB:** Platforms for prototyping and assembling circuits.
- **Wire Strippers and Pliers:** Essential for electrical wiring and component handling.
- **Insulation Tester (Megger):** Checked insulation resistance in electrical installations.
- **Personal Protective Equipment (PPE):** Safety gloves, goggles, and boots for fieldwork.

CHAPTER FOUR

PRACTICAL KNOWLEDGE GAINED

The SIWES training at Sherif Electrical and Electronics enriched my technical expertise and professional skills. Below are the key areas of knowledge I acquired:

- **Electronics Troubleshooting:** Learned to identify faults in devices by interpreting circuit diagrams and testing components systematically.

- **Circuit Design and Assembly:** Gained proficiency in building functional circuits, soldering components, and verifying their performance.
- **Electrical Installation Techniques:** Understood wiring standards, safety protocols, and the use of protective devices like circuit breakers.
- **Tool Mastery:** Became adept at using diagnostic tools (multimeter, oscilloscope) and hand tools (soldering iron, pliers).
- **Problem-Solving:** Developed analytical skills to resolve technical issues efficiently, such as fixing intermittent faults in electronics.
- **Teamwork and Communication:** Collaborated with technicians and communicated repair processes to clients effectively.
- **Safety Awareness:** Emphasized the importance of PPE and adhering to safety guidelines during repairs and installations.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 SUMMARY OF ACTIVITIES

My SIWES training at Sherif Electrical and Electronics was a transformative experience that blended electronics and electrical engineering in a practical setting. From August to November 2024, I engaged in repairing electronic appliances, assembling circuits, and assisting with electrical installations. Daily tasks included diagnosing faults in devices like inverters and TVs, soldering components, and wiring residential setups under Mr. Andrew Rotmi Olawale, supervision. Weekly, I tested circuits, maintained tools, and documented my progress, aligning my activities with my logbook entries. This hands-on exposure bridged my theoretical knowledge with real-world applications, enhancing my confidence and competence.

5.2 CHALLENGES ENCOUNTERED

- **Limited Tools:** The workshop occasionally lacked advanced diagnostic equipment, slowing down complex repairs.

- **Power Interruptions:** Frequent outages disrupted testing and soldering tasks.
- **Weather Conditions:** Outdoor electrical installations were challenging during heavy rains or intense heat.
- **Component Sourcing:** Delays in obtaining rare electronic parts affected repair timelines.
- **Customer Expectations:** Some clients demanded quick fixes for intricate faults, requiring patience and clear communication.

How I Overcame Them:

- Used alternative troubleshooting methods (e.g., manual testing) when tools were unavailable.
- Scheduled critical tasks during stable power periods and relied on backup inverters.
- Wore appropriate PPE and worked in teams to manage weather-related difficulties.
- Collaborated with my supervisor to source parts locally or improvise with available substitutes.
- Explained technical constraints to clients, fostering understanding and trust.

5.3 SUGGESTIONS FOR IMPROVEMENT

- **Enhanced Equipment Availability:** The firm should invest in additional tools like digital oscilloscopes and spare parts to streamline repairs.
- **Backup Power Solutions:** Installing a robust generator or solar system could mitigate power disruptions.
- **Weather-Protective Measures:** Providing portable shelters for fieldwork would improve safety and efficiency.
- **Training Workshops:** Regular sessions on emerging technologies (e.g., IoT in electronics) would benefit interns and staff.
- **Customer Education:** Awareness campaigns on device maintenance could reduce repair frequency and client frustrations.

5.4 CONCLUSION

The SIWES training at Sherif Electrical and Electronics was an eye-opening journey that solidified my passion for electrical/electronics engineering. By repairing devices, assembling circuits, and installing electrical systems, I gained practical skills that complemented my academic foundation. The challenges I faced—ranging from tool shortages to environmental constraints—taught me resilience, adaptability, and the value of improvisation in engineering practice.

This experience has equipped me with the technical expertise, teamwork abilities, and professional demeanor needed to excel in my future career.

5.5 RECOMMENDATIONS

- **For Sherif Electrical and Electronics:** Expand tool inventory and offer periodic training to keep staff and interns updated on industry trends.
- **For Future Interns:** Approach SIWES with curiosity and initiative, asking questions and seeking hands-on tasks.
- **For Kwara State Polytechnic:** Strengthen partnerships with local firms like Sherif Electrical and Electronics to secure more training slots and provide pre-SIWES orientation for students.
