A TECHNICAL REPORT
STUDENT INDUSTRIAL WORKING EXPERIENCE SCHEME
(SIWES)

Held at
NECHTRACO NIG. LTD.

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SUBMITTED TO

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DEDICATION

This Siwes work is purely dedicated to Almighty Allah and my beloved parents, Mr. and Mrs. Busari.

ACKNOWLEDGEMENTS

I am most grateful to Almighty Allah for giving me this opportunity and strength to complete this Siwes programme at this stage of my education career. I'm greatly indebted to my family, fiancé and friends for their contribution towards my programme.

I want to extend my gratitude to the owner of the company I did my Siwes, who took his time to correct all my errors and mistakes in this work.

Lastly, my gratitude also goes to myself for not letting all my efforts go unsuccessfully.

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CHAPTER ONE

1.1 INTRODUCTION TO SIWES

Students Industrial Work Experience Scheme (SIWES) is a Skills Training Program designed to prepare and expose Students of Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Colleges of Education for the Industrial Work situation they are likely to meet after graduation. The Scheme affords Students the opportunity of familiarizing and exposing themselves handling equipment and machinery that are usually not available in their institutions.

1.2 HISTORY OF SIWES

The Students' Industrial Work Experience Scheme (SIWES) was initiated in 1973 by the Federal Government of Nigeria under the Industrial Training Fund (ITF) to bridge the gap between theory and practice among products of our tertiary Institutions. It was designed to provide practical training that will expose and prepare students of Universities, Polytechnics, and Colleges of Education for work situation they are likely to meet after graduation.

Before the establishment of the scheme, there was a growing concern among the industrialists that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment in industries. Thus the employers were of the opinion that the theoretical education going on in higher institutions was not responsive to the needs of the employers of labour.

As a result of the increasing number of students' enrolment in higher institutions of learning, the administration of this function of funding the scheme became enormous, hence ITF withdrew from the scheme in 1978 and was taken over by the Federal Government and handed to National Universities commission (NUC), National Board for

Technical Education (NBTE) and National Commission for Colleges of Education (NCCE). In 1984, the Federal Government reverted back to ITF which took over the scheme officially in 1985 with funding provided by the Federal Government.

1.3 OBJECTIVES OF THE PROGRAMME

The specific objectives of SIWES are to:

- **Industry Exposure:** Provide students with firsthand experience in their chosen fields, helping them develop relevant skills and competencies.
- **Skill Development:** Familiarize students with industry tools, equipment, and processes, bridging the gap between classroom learning and practical applications.
- **Workplace Preparation:** Equip students with professionalism, teamwork, and communication skills essential for career growth.
- Understanding Industry Standards: Expose students to work ethics, industry regulations, and safety protocols to ensure compliance with best practices.
- **Enhancing Employment Opportunities:** Help students' transition smoothly into the labor market by making them job-ready with practical knowledge and skills.
- **Strengthening Institutional-Industry Collaboration:** Encourage organizations to mentor and train students, creating a competent and skilled workforce.
- **Technological Advancement:** Promote innovation and hands-on experience with emerging technologies, ensuring students stay up to date with industry advancements.

1.4 IMPORTANCE OF SIWES TO INDUSTRY AND STUDENTS

SIWES plays a crucial role in bridging the gap between academia and industry by ensuring that students gain hands-on experience before transitioning into the workforce. The program allows students to apply theoretical knowledge in real-world settings, improving their technical abilities and problem-solving skills. This exposure enables them to understand the challenges and expectations of the industry, fostering a more competent and job-ready workforce.

From an industry perspective, SIWES provides organizations with an opportunity to identify and train potential employees. Many companies use SIWES as a recruitment tool, assessing students' performance and skills before offering them full-time employment. This arrangement reduces hiring risks and ensures that organizations have access to well-trained professionals who are already familiar with industry practices.

Furthermore, SIWES enhances national development by equipping young professionals with practical expertise that contributes to economic growth. By producing skilled graduates, industries can improve efficiency, foster innovation, and strengthen the workforce. The collaboration between academic institutions and industries ensures a continuous supply of competent individuals who can adapt to the evolving demands of the job market.

CHAPTER TWO

2.1 BENEFIT DERIVED FROM SIWES TRAINING PROGRAMME

The experience gained during SIWES is invaluable as it enhances students' understanding of industry operations. The program provides an opportunity for students to acquire practical knowledge that cannot be fully obtained in the classroom. This exposure builds confidence and improves their ability to perform tasks efficiently in their chosen fields.

Additionally, SIWES fosters personal and professional growth by instilling work ethics, discipline, and problem-solving skills. Students learn to adapt to workplace challenges, follow safety guidelines, and work collaboratively with professionals. These experiences make them more prepared for employment after graduation.

Another crucial benefit is the networking opportunities provided through SIWES. Students interact with industry experts, supervisors, and fellow trainees, which may lead to future job placements. Establishing these connections enhances career prospects and provides valuable mentorship for professional development.

2.2 INTRODUCTION TO DEVICES IN THE ORGANIZATION

Time-Light Electrical Services utilizes various tools and equipment to carry out its operations effectively. Some of the essential devices include wall clocks, lighting systems, circuit testers, and voltage regulators. These tools are necessary for the installation, repair, and maintenance of electrical products.

2.2.1 Wall Clocks

Wall clocks come in various designs, including digital and analog models. They are essential for time management in offices, homes, and public spaces. Proper installation and maintenance ensure their accuracy and durability.

2.2.2 Lighting Systems

Lighting systems include LED, incandescent, and fluorescent bulbs, each serving different purposes. LED bulbs are preferred for their energy efficiency and long lifespan. Understanding the functions and specifications of these devices is crucial for effective service delivery.

2.2.3 Electrical Testing Equipment

Other vital equipment used in the organization includes power stabilizers, electrical testers, and wiring tools. Power stabilizers help regulate voltage supply, preventing electrical appliances from damage due to power fluctuations. Electrical testers are used to measure voltage levels, ensuring safe and accurate installations. Wiring tools such as pliers, screwdrivers, and cable cutters aid in proper electrical connections and maintenance.

2.2.4 Safety Equipment

In addition, the organization makes use of safety equipment such as gloves, safety glasses, and insulated tools. These protective measures ensure that technicians work in a safe environment, reducing the risk of electrical hazards. Understanding the usage and maintenance of

these devices is essential for efficient service delivery and workplace safety.

2.2.5 Measuring Instruments

The organization also utilizes digital multimeters, which are essential for measuring electrical parameters such as voltage, current, and resistance. These devices help in diagnosing faults and ensuring that installations meet safety standards.

2.2.6 Soldering and Repair Tools

Another key device used in Time-Light Electrical Services is the soldering iron, which is used for joining electrical components. This tool is essential in fixing damaged circuits, wiring repairs, and assembling electronic components.

2.2.7 Power Tools

Moreover, the company employs the use of power drills for installing electrical fixtures. These drills ensure precision in mounting wall clocks, light bulbs, and electrical panels, making installations more secure and long-lasting.

2.2.8 Power Distribution and Protection

Lastly, extension cords and surge protectors are commonly used to manage power distribution efficiently. These tools help prevent electrical overloads and ensure that multiple devices can be operated safely from a single power source.

CHAPTER THREE

3.1 HOW TO INSTALL AND MAINTAIN WALL CLOCKS

The installation of wall clocks requires careful consideration of location, height, and stability. The first step is selecting an appropriate position where the clock is easily visible. It should be placed at an optimal height to avoid obstructions and enhance readability.

Once the location is determined, a hook or nail is installed to hold the clock securely. Digital clocks may require battery installation or direct power connection, depending on the model. Ensuring a firm mounting prevents the clock from falling and getting damaged.

Maintenance involves regularly checking the battery, cleaning the surface, and ensuring accurate time settings. If a clock starts lagging or stops working, replacing the battery or adjusting its settings is necessary to restore functionality.

3.2 LIGHT BULB TYPES AND THEIR APPLICATIONS

Light bulbs come in various types, each suited for specific environments and purposes. The most common include LED, incandescent, fluorescent, and halogen bulbs. LED bulbs are the most energy-efficient and long-lasting, making them ideal for homes, offices, and outdoor lighting.

Incandescent bulbs, though traditional, consume more power and have a shorter lifespan. They are often used in decorative lighting due to their warm glow. Fluorescent tubes are commonly found in commercial buildings, offering bright illumination and cost efficiency.

Halogen bulbs are used in spotlights and task lighting due to their high-intensity output. Understanding these types helps in selecting the appropriate lighting solution for different settings, balancing efficiency and aesthetics.

3.3 SAFETY MEASURES IN ELECTRICAL WORK

Working with electrical components requires strict adherence to safety protocols to prevent accidents. The first rule is always turning off power sources before performing any installation or repair. This eliminates the risk of electric shocks and damage to equipment.

Using insulated tools is essential when handling live wires. Protective gear, such as gloves and safety glasses, provides additional protection against potential hazards. Following manufacturer guidelines ensures proper installation and prevents malfunctions.

Regular inspections help identify faults early, reducing the chances of electrical failures. Keeping work areas dry and organized minimizes risks, promoting a safe working environment for technicians and clients

CHAPTER FOUR

4.1 MICROSOFT WORD FOR BUSINESS DOCUMENTATION

Microsoft Word is a fundamental tool for business documentation at Time-Light Electrical Services. It is used for preparing invoices, drafting reports, and maintaining client records. The ability to create well-structured documents enhances professionalism and efficiency in business operations.

One of the primary features of Microsoft Word is its text formatting capabilities. Employees use bold, italics, and bullet points to structure documents for clarity. Templates and pre-designed formats help maintain consistency in official communications.

Additionally, the software supports collaborative editing, allowing multiple users to work on a single document. This feature is particularly useful for creating proposals and reports that require input from different departments

CORE APPLICATIONS IN MICROSOFT OFFICE:

1. **Word:** A word processor used for creating, editing, and formatting documents.
2. **Excel:** A spreadsheet program used for data analysis, calculations, and creating charts.
3. **PowerPoint:** presentation software for creating slideshows and visual presentations.
4. **Outlook:** An email client with integrated calendar, contact, and task management.
5. **Access:** A database management system (available in some versions).

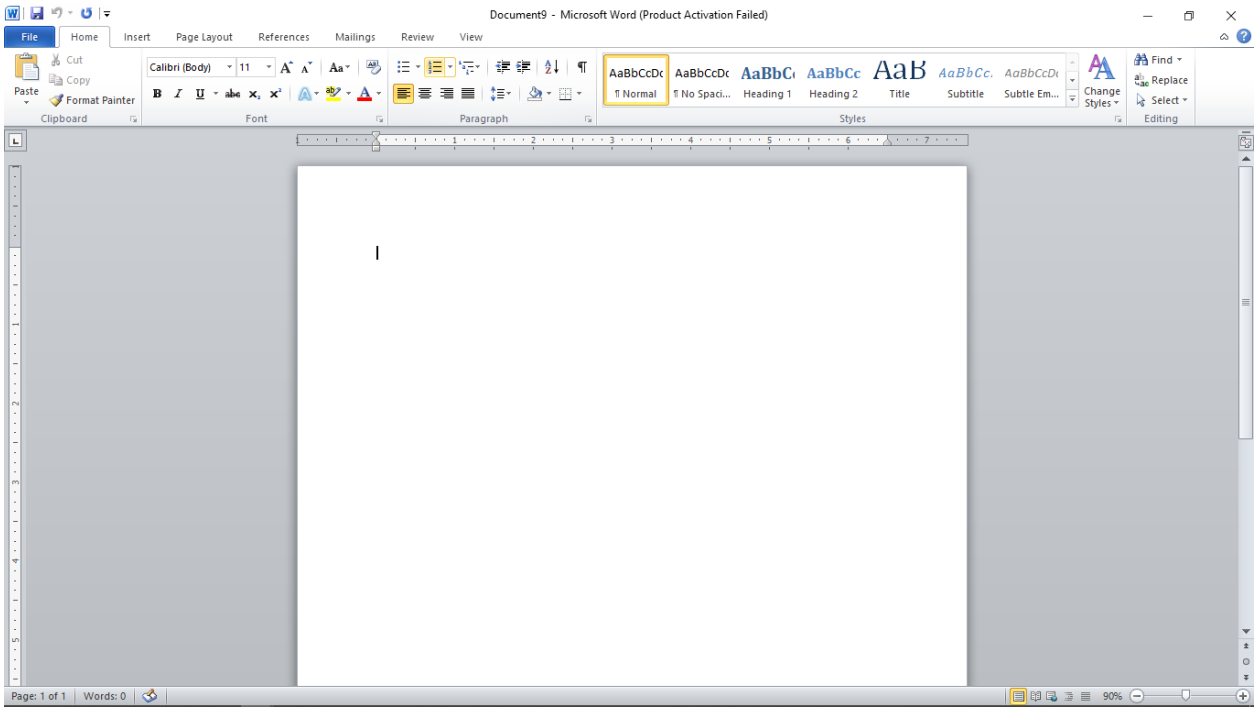
HOW TO OPEN MICROSOFT WORD

On Windows:

1. **Using the Start Menu:**
   - Click the Start button (Windows logo) in the bottom-left corner of the screen.
   - Type Microsoft Word in the search bar.
   - Click on the Microsoft Word app from the search results.

2. **Using Desktop Shortcut:**
   - If you have a shortcut icon for Microsoft Word on your desktop, double-click the icon to open it.
3. **Using the Taskbar:**
   - If Word is pinned to the taskbar, click the Word icon to launch it.

WHAT MS WORD WORKING PAGE LOOK LIKE



1. Title Bar

- Located at the top of the window.
- Displays the name of the current document and the application (e.g., "Document1 - Microsoft Word").
- Contains the Minimize, Maximize/Restore, and Close buttons.

2. Ribbon or Menu Bar

- The main toolbar divided into tabs (e.g., Home, Insert, Design).
- Each tab contains groups of tools and commands organized by functionality (e.g., Font, Paragraph, Styles).

3. Quick Access Toolbar

- Located above or below the Ribbon (at the top-left corner).
- Provides quick access to commonly used commands like Save, Undo, and Redo.
- Can be customized to include additional tools.

4. Status Bar

- Found at the bottom of the Word window.
- Displays useful information such as:
- Page number and total pages.
- Word count.
- Current view mode (e.g., Print Layout, Draft).
- Zoom slider.

5. Scroll Bars

- Vertical Scroll Bar: Located on the right side of the document area, used to navigate up and down through the document.
- Horizontal Scroll Bar: Found at the bottom of the document area (if needed), used to scroll left and right.

6. Ruler

- Visible at the top and left of the document area (if enabled).
- Helps adjust margins, indents, and tab stops.

HOW TO CREATE A NEW DOCUMENT ON MS WORD

Create a New Document:

- Click on the File tab in the top-left corner.
- Select New from the menu.

TO SAVE A DOCUMENT

Method 1: Save for the First Time

1. **Click on the File Tab:**
   - Go to the top-left corner of the screen and click File.
2. **Select Save or Save As:**
   - If this is your first time saving the document, click Save As.
3. **Choose the Save Location:**
   - Select where you want to save the document:
   - This PC (local storage)
   - Browse to a specific folder.
4. **Name Your File:**
   - In the File Name field, type a name for your document.
5. **Choose the File Format:**
   - Use the dropdown menu to choose a format (e.g., .docx, .pdf, etc.).
6. **Save:**
   - Click the Save button.

Method 2: Quick Save (For an Already Saved Document)

1. **Use the Save Button:**
   - Click the Save icon (floppy disk) in the top-left corner of the Word window.

2. **Keyboard Shortcut:**
    - Press Ctrl + S (Windows) or Command + S (Mac) to save changes quickly.

TO OPEN AN EXISTING DOCUMENT

Method 1: Using the File Menu

1. **Go to the File Menu:**
    - Click on File in the top-left corner.

2. **Select Open:**
    - From the menu, click Open.
3. **Choose the Location:**
    - Select where your file is saved:
    - Recent: Shows recently opened files.
    - This PC: For files saved on your computer.
    - Browse: To navigate to a specific folder.
4. **Select the Document:**
    - Navigate to the folder where your file is saved, then click the file name to select it.
5. **Click Open:**
    - Your document will open in Word.

BASIC DOCUMENT COMMANDS:

Create New Document: "Ctrl + N"

Open Existing Document: "Ctrl + O"

Save Document: "Ctrl + S"

Print Document: "Ctrl + P"

Cut: "Ctrl + X"

Copy: "Ctrl + C"

Paste: "Ctrl + V"

Undo: “Ctrl + Z”

Redo: “Ctrl + Y”

Bold: “Ctrl + B”

Italic: “Ctrl + I”

Underline: “Ctrl + U”

Align Left: “Ctrl + L”

Align Center: “Ctrl + E”

Align Right: “Ctrl + R”

Justify: “Ctrl + J”

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

Having passed through the SIWES training, have been able to discover and explore different things about the microbial world; therefore, its usefulness cannot be over – emphasized. The interesting part of this is that the field of microbiology has gotten answer to most of the infection and disease affecting the world. For the few infections that has not been diagnosed, precautionary measures that can be taken against it has been discovered. The only section left is for people should come out of their ignorance and go for medical check – up instead of relying on self – medication and visiting unqualified practitioners, if people could visit hospitals or health – centers frequently and follow the treatments given to them, mortality rate will drastically be reduced and the health status of the nation will be promoted.

More importantly I have been able to see the various prospects available in the field and also the various challenges that call for quick attention. Indeed, the industrial training program has been impactful; it was never a waste of time and energy.

5.2 RECOMMENDATIONS

The effort of the industrial training fund (ITF) was recommended for bringing up this programme known as student industrial work scheme (SIWES). This has paved way for self practice of the theoretical works that have been taught during lectures.

- **Enhanced Practical Training**: Institutions should increase hands-on training sessions before students embark on SIWES. This will prepare them better for industry work.

- **Safety Workshops**: Regular safety workshops should be conducted to reinforce proper handling of electrical components and adherence to safety protocols.
- **Extended Internship Duration**: A longer SIWES duration would allow students to gain deeper insights into industry operations and refine their technical skills further.
- **Improved Industry Collaboration**: Stronger partnerships between academic institutions and industries should be encouraged to facilitate better student placements and industry-oriented training programs.
- **Technology Integration**: More emphasis should be placed on learning advanced technologies in electrical services to keep up with industry trends and innovations