

**TECHNICAL REPORT ON STUDENT INDUSTRIAL TRAINING WORK  
EXPERIENCES SCHEME [SIWES]**

**UNDERTAKEN AT:**

**JOL-MARKS CO is located at:**

**74, Gaa Akanbi Road, Ilorin**

**PRESENTED**

**BY**

**NURUDEEN MUHAMMED JAMIU**

**ND/23/SGL/FT/0010**

**SUBMITTED TO THE DEPARTMENT OF SURVEYING**

**AND GEO- INFORMATICS**

**FACULTY OF ENVIRONMENTAL STUDIES, KWARA STATE  
POLYTECHNIC, ILORIN KWARA STATE.**

**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR**

**THE AWARD OF ORDINARY**

**NATIONAL DIPLOMA (OND) IN SURVEYING AND GEO-  
INFORMATICS.**

**MARCH, 2025**

## **CERTIFICATION**

I, **NURUDEEN MUHAMMED JAMIU** with Matric number **ND/23/SGI/FT/0010** hereby certify that the information contained in this SIWES report were obtained as a result of my experiences during my 4 month SIWES programme at **JOL-MARKS CO** in accordance with survey rule and regulations and departmental instructions. I therefore submit the report as a partial fulfillment of the requirements for the student work experience scheme requirements for **KWARA STATE POLYTECHNIC ILORIN , KWARA STATE** , student work experience scheme.

## **DEDICATION**

**I dedicated this to Almighty God and my humble parents**

**MR AND MRS NURUDEEN**

## **CHAPTER ONE**

### **1.0 STUDENT'S INDUSTRIAL WORKSHOP EXPERIENCE SCHEME (SIWES)**

#### **1.1 INTRODUCTION**

At the early stages of the development of education in Nigeria, there was a problem of the gap between theory and practical skills of students. Therefore, a need arose; the need to give students the opportunity to get real life work experience. It was created to give the students experience in addition to theoretical learning. The SIWES is a preliminary scheme of the Student Industrial Work Experience Scheme (SIWES). The program is working with such disciplines as engineering, medical science, natural science, technology, agriculture, education, environmental, applied science. It is very compulsory especially for those specializing in engineeri The Students Industrial Work Experience Scheme (SIWES) is a unit under the Rector . It was established in 2016. The Students Industrial Work Experience Scheme (SIWES) is a skills training programme designed to expose and prepare students of universities and other tertiary institutions for the Industrial Work situation they are likely to meet after graduation.

The Students Industrial Work Experience Scheme (SIWES), is the accepted training programme, which is part of the approved Minimum Academic Standard in the various degree programs for all Nigerian Universities. The scheme is aimed at bridging the existing gap between theory and practice of Sciences, Agriculture, Medical Sciences (including Nursing), Engineering and Technology, Management, Information and Communication Technology, and other professional educational programs in the Nigerian tertiary institutions. It is aimed at exposing students to machines and equipment, professional work methods, and ways of safeguarding the work areas and workers in industries, offices, laboratories, hospitals, and other organizations. It is a cooperative industrial internship program that involves institutions of higher learning, industries, the Federal Government of Nigeria, the Industrial Training Fund (ITF), and the Nigerian Universities Commission (NUC).

**1.1.2 HISTORY OF SIWES** SIWES was founded in 1973 by ITF (Industrial Training Funds) to address the problem of tertiary institution graduates' lack of appropriate skills for employment in Nigerian

industries. The Students' Industrial Work Experience Scheme (SIWES) was founded to be a skill training programme to help expose and prepare students of universities, Polytechnics and colleges of education for the industrial work situation to be met after graduation. This system facilitates the transfer from the classroom to the workplace and aids in the application of knowledge. The program allows students to become acquainted with and exposed to the experience required in handling and operating equipment and machinery that are typically not available at their schools.

Prior to the establishment of this scheme, there was a rising concern and trend among industrialists that graduates from higher education institutions lacked appropriate practical experience for employment. Students who entered Nigerian universities to study science and technology were not previously trained in the practical aspects of their chosen fields. As a result of their lack of work experience, they had difficulty finding work. As a result, employers believed that theoretical education in higher education was unresponsive to the needs of labor employers. Thousands of Nigerians faced this difficulty till 1973. The fund's main motivation for establishing and designing the scheme in 1973/74 was launched against this context. The ITF (Industrial Training Fund) organization decided to aid all

interested Nigerian students and created the SIWES program. The federal government officially approved and presented it in 1974. During its early years, the scheme was entirely supported by the ITF, but as the financial commitment became too much for the fund, it withdrew in 1978. The National Universities Commission (NUC) and the National Board for Technical Education (NBTE) were given control of the scheme by the federal government in 1979. The federal government handed over supervision and implementation of the scheme to ITF in November 1984. It was taken over by the Industrial Training Fund (ITF) in July 1985, with the federal government bearing entire responsibility for funding.

### **1.1.3 OBJECTIVES OF SIWES♣**

Provide an avenue for students in Institutions of higher learning to acquire industrial skills and experience in their respective courses of study.♣ Prepare students for the Industrial Work situation they are likely to experience after graduation.♣ Expose students to work methods and techniques of handling equipment and machinery that may not be available in their Institutions.♣ Make the transition from school to the world of work easier; and enhance students' networks for later job placements.

♣ Provide students with an opportunity to apply their knowledge to real work situations, thereby bridging the gap between theory and practice; and♣ Enlist and strengthen Employers' involvement in the entire educational process; thereby preparing the students for employment in Industry and Commerce

## **CHAPTER TWO**

**\*HISTORY OF JOL-MARKS CO . JOL-MARKS COMPANY is a survey company established and registered with C.A.C. in Sept. 2007 saddled with responsibility to carry out the business of Surveying & Geoinformatics as professional practice. The company stated her operation office in 11, Muritala Mohammed Way, Ilorin as her Registered office. After the completion Post Office Over Head bridge, the company moved to 74, Gaa Akanbi Road, Ilorin, in 2009 due to lack of no available packing space for the our Clients again.**

**The Company is headed by a Registered Surveyor and Consultant, Surv. J. O. OPALEYE (Mnis) and has since involved in many survey contracts jobs including: Digital Mapping, Engineering Surveying, Cadastral Surveying, with many competent Staff ranging from Surveyors, Survey Assistants, Chainmen, Labourers, e.t.c.**

**We are equally assisting in Training some SIWES Students from various Universities and Polytechnics in Nigeria to-date. Some of our Equipments includes: DGPS, Total Station, Handheld GPS, Levels, Digital Theodolites, etc.**

## **CHAPTER THREE**

### **2.1. Introduction to survey Instruments**

A survey instrument is a tool used to collect data from respondents in a structured and systematic way. It consists of a set of questions or prompts designed to gather information, opinions, or behaviors on a particular subject of interest. The survey instrument can take many forms, such as questionnaires, interview guides, or online forms, depending on the context and purpose of the research.

#### **2.1.1 Types of Surveys:**

**Descriptive Surveys:** Aim to describe characteristics or behaviors of a population.

**Analytical Surveys:** Used to investigate relationships between variables.

A well-designed survey instrument ensures that the data collected is reliable, valid, and representative of the target population, contributing to the overall success of a research study.

### 2.1.1 survey instrument

1. Total Station: This is an electronic/optical instrument used for measuring angles and distances. It integrates an electronic theodolite with an electronic distance measuring (EDM) device. A modern surveying instrument that integrates an electronic theodolite with an electronic distance meter.



**2. Theodolite:** A precision instrument for measuring angles in horizontal and vertical planes. It is commonly used in triangulation and leveling work. A theodolite uses a movable telescope to measure angles in both the horizontal and vertical planes.



**3. Level (Spirit Level or Dumpy Level):** Used to determine the height of points and to measure relative elevations. A theodolite can also be used as a leveling instrument.



**4. GPS (Global Positioning System):** Satellite-based technology that provides accurate location data for surveying over large areas. High-accuracy GPS receivers are used for geodetic surveying.

**5. Tape Measure (Surveyor's Tape):** A flexible measurement tool used for measuring horizontal distances between points.





## CHAPTER FOUR

### **3.0 CADASTRAL SURVEY**

**3.1 CADASTRAL SURVEYING :** is the sub-field of cadastre and surveying that specialises in the establishment and re-establishment of real property boundaries. It involves the physical delineation of property boundaries and determination of dimensions, areas and certain rights associated with properties.

**3.1.1 Common Methods of cadastral surveying for fixing boundaries including traversing, triangulation, trilateration, photogrammetry, global positioning system, plane table method and general boundaries.**

#### **3.1.3 Aims of cadastral surveying**

**The primary aim of cadastral surveying is to accurately establish and define the boundaries of real property, including dimensions and areas, to legally document land ownership and facilitate property transactions by clearly delineating property lines between landowners, all while adhering to legal principles and respecting neighboring titles.**

#### **3.1.4 Uses of cadastral surveying**

**Cadastral surveying is primarily used to establish and accurately define the boundaries of real property, including determining their dimensions, area,**

**and associated legal rights, making it crucial for land registration, property transactions, land taxation, and overall land management practices; essentially providing a clear picture of land ownership and legal status within a region.**

### **3.1.5 objective of cadastral surveying**

To determine the relative position of any objects or points on the earth.

To determine the distance and angles between various objects.

To prepare a map or plan to represent an area on a horizontal plane.

Involves determining existing and creating new property boundaries.

### **3.1.6 scope of cadastral surveying**

**Cadastral surveying encompasses the precise determination and mapping of property boundaries, including their dimensions and areas, to establish legal ownership and facilitate land transaction.**

### **3.1.7 procedure of cadastral surveying**

A cadastral survey procedure involves: thoroughly reviewing existing documentation related to the land, locating all existing boundary markers and natural features, physically marking property boundaries on the ground using survey instruments, recording detailed measurements and data, and finally creating a cadastral map with precise property boundaries and legal descriptions to facilitate land ownership registration.

**SYSTEM OF CADASTRAL SURVEYING:** is a set of record and maps that describe the ownership, boundaries, values and use of land parcels within a jurisdiction. A parcel is a unit of land that can be owned, leased, or transferred by a person or entity.

**CADASTRAL SCALE:** it provides a ready means of precise description and identification of particular pieces of land and it acts as a continuous record of right in land.

## **IMPORTANCE OF CADASTRAL SURVEYING**

Cadastral surveying is crucial for effective land management as it provides precise information about property boundaries, ownership, and legal rights, enabling accurate land registration, property valuation, land taxation, and dispute resolution, ultimately facilitating smooth land transactions and minimizing land conflicts.

Key points about the importance of cadastral surveying:

- \* **Clear Property Boundaries:** Accurately defines the exact boundaries of each land parcel, preventing disputes between landowners and ensuring clarity regarding property ownership.
- \* **Land Registration:** Serves as the foundation for land registration systems, allowing for legal documentation of property titles and rights.
- \* **Property Valuation:** Provides essential data for accurate property valuation, crucial for real estate transactions, taxation, and mortgage lending.
- \* **Land Taxation:** Enables efficient collection of land taxes based on property size and location.

**Urban Planning:** Supports urban planning by providing detailed information about land parcels, aiding in zoning regulations and development projects.

**Dispute Resolution:** Helps resolve land disputes by providing clear evidence of property boundaries and ownership rights.

**Economic Development:** Promotes economic growth by facilitating secure land transactions, attracting investment, and enabling efficient land use.

**Environmental Management:** Can be used to identify sensitive ecological areas and support sustainable land use practices.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATION**

#### **CONCLUSION**

In conclusion, the period of our internship was intriguing, educating and tasking, from the working hours to the actual work carried out during the internship programme. It has desire to experience the field life. I had a feel of the real work experience and also had developed me in many areas especially my social, technical skills and increased my the opportunity to try out the practical aspect of the theoretical work I had been taught in the classroom till that point. Of the many important things I gained is the knowledge to write concise and detailed reports on any course of work/study.

#### **4.1.2CHALLENGES FACED**

During my SIWES, I encountered several challenges, including time effectively to meet

construction deadlines, working in adverse weather conditions, and ensuring that safety measures were strictly followed at all times. These challenges provided valuable learning opportunities in problem solving teamwork.

#### **4.1.3SUMMARY OF BENEFIT TO POPULACE**

academic work such as report writing and academic writing that will help the coming

To use my knowledge whenever I am engaged on site work and also in theoretical engineering students.

#### **4.1.5FUTURE USES**

To competently match both the practical and theoretical knowledge and apply them in future need for them.

#### **4.2. RECOMMENDATIONS**

The following will be recommend after I have successfully participated in 4 months

SIWES program:

i.Regular seminar and workshop should be organized where student could be exposed to textbooks that student can fall on when they are going for industrial training exercise as

ii.Organizations that accept student for the SWIES programme should provide conducive

iii.As a matter of urgency, Tertiary institution should encourage scholars to write relevant well as writing report for SWIES programme in particular,and safe environment for students to learning in the course of training,the most effective method in industrial training procedures.