A TECHNICAL REPORT ON

STUDENT INDUSTRIAL WORK EXPERENCE SCHEME (S.I.W.E.S)

HELD AT

ARCHALIKS VENTURES

BY

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PREFACE

The industrial training experience is organized to introduce student to the practical aspect of their chosen course of study in their profession.

This programme is of immense importance to engineer student because it will give them a foresight of what will be encounter in their various investment in future, it is the moral aspect, creativity, level of attitude to work, relationship with other student, industrial work experience take care of all these.

DEDICATION

This report is dedicated foremost to God Almighty for his favor, mercy and grace upon my life especially during my 4 month siwes programme at Archaliks Ventures

I would also like to dedicate this report to my Parent **(Mr. & Mrs. ABDULRASAQ)** and my siblings for their love and support and everyone else that contributed towards making my siwes training fun and successful one.

ACKNOWLEDGMENT

I will like to give my profound appreciation and gratitude goes to Almighty God for his special love mercy over me, also the strength, power and prosperity given to me throughout the period of this training.

I will also extent my greeting to my industrial based supervisor and host of all staff in Building department and for the help of training given to me during the course of my training God bless you all (Amen).

I pray for almighty God to give you long life in order for me to be beneficent to you in future. (Amen)

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CHAPTER ONE

1.0 INTRODUCTION

This report is a conscious attempt in partial fulfillment of the requirement for the award of the National diploma. The aim is to know good material to be used for any construction project and the normal scale for any Building Technology drawing.

It will tell us more about project execution and the material to be used, this will automatically make us to know whether to rely totally or partially on any executing project years ago, constructed building are easily and quickly goes out of existence (loose it standard) many structures collapse due to the fact that poor/bad materials used workmanship, earth movement of settlement of foundation.

The problems were said to have been caused by things, but the major cause of this problems is due to bad materials used and workmanship.

It has been discovered that this problems facing most of construction on project can be solve if our Engineers/constrictors can used quality not quantity of materials and supervised the workmanship very effective. It affords student of tertiary institutions the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are not available in the educational sector.

The industrial Training Fund (ITF) was set up under act No 47 of 1971 (as amended up to date) to promote and encourage the acquisition of the skills in industrial of the commerce with a view to generate a pool of indigenenous trained manpower sufficient to meet of the economy.

Participation of SIWES has become a mandatory precondition for the award of diploma and degree certificates in specific disciplines in most Institutions with the education policy of government operator. The ITF, the coordinating agencies (NUC, NCCE,NBTE). Employers of labour and the institutions

I. **Funding:** The Federal Government of Nigeria.
II. **Benefiaries:** Under graduate students of the following Agriculture, Engineering, Technology, and Environment Scheme. Education, Medical Science and pure and applied Science

1.1 DEFINITION OF SIWES

Students Industrial Work Experience Scheme (SIWES) can be defined as the practical experience of student in order to have quality control and satisfactory performance, when in the field. 'SIWES' can be interest in a particular subject which is connected with the people and activities involves in producing a particular. Thing (industrial) by involving in a hard physical work rather than office work (work) in order to gain knowledge and skill through the job undergo for a period of time (Experience) under a system of organizing things (scheme).

1.2 HISTORY OF SIWES

Student industrial work experience established by industrial Training Fund (ITF) in 1993 to solve the problem the lack of adequate practical skills preparatory for employment on Nigeria industries.

The scheme exposes student to industrial based skill necessary for a smooth transition from classroom to the word of work.

Duration: Four months for polytechnic colleges of education and six month engineering students of the University.

1.3 OBJECTIVE OF SIWES

1. To improve the technology development of the country.
2. To help students to put into practice what they have learnt theoretically in school.
3. The scheme exposes students to industrial based skill necessary for a smooth transition from the classroom to the world of work.
4. To exposes the students and broaden their knowledge on the practical aspect of the course they are pursing in their various schools
5. To promote and encourage the acquisition of skills in industries and commerce with a view to generate a poor of indigenous trained manpower, sufficient to meet the needs of the economy.
6. To help to solve the problem of lack of adequate practical skill preparatory for employment in industries by Nigeria graduates of tertiary institutions.

CHAPTER TWO

ARCHALIKS VENTURES

Archaliks Ventures was incorporated in Kwara, Nigeria, it's current status is unknown. Company's registered office address is No. E52, Emir's Road, Ilorin, Kwara State.

2.1 WORKS DEPARTMENT

The Works Department at Archaliks plays a crucial role in overseeing the planning, design, construction, and maintenance of the institution's physical infrastructure. This department is responsible for managing various projects related to buildings, roads, utilities, and other facilities on the campus.

The Works Department at Archaliks typically consists of a team of engineers, architects, surveyors, technicians, and other professionals who work together to ensure that the institution's infrastructure meets the needs of students, staff, and visitors. They are responsible for maintaining a safe, functional, and aesthetically pleasing environment for the campus community.

Some of the key responsibilities of the Works Department at Archaliks **may include:**

1. Planning and designing new construction projects on campus.

2. Overseeing the maintenance and repair of existing buildings and facilities.

3. Managing infrastructure upgrades and renovations.

4. Ensuring compliance with building codes and regulations.

5. Collaborating with other departments and stakeholders on campus development projects.

The Works Department at Archaliks plays a vital role in supporting the overall mission of the institution by providing and maintaining quality infrastructure that enhances the teaching, learning, and research environment for students and staff.

CHAPTER THREE

3.0 REPORT ON ONE PARTICULAR UNIT OF BUILDING

The building construction of a Three (3) bedroom flat are to be analyzed, the first thing to be done has it's been written in the earliest page are

I. Planning and Design Stage
II. Setting Out
III. Site preparation and foundation
IV. Structural construction
V. Utilities and services installation
VI. Finishing works
VII. Final inspection and handover

1. Planning and Design Stage

This stage involves careful planning, securing approvals, and designing the structure to meet the owner's needs.

- Site Selection and Survey: Choose a suitable location, conduct a land survey, and ensure legal ownership.
- Architectural Design: Work with an architect to create detailed floor plans, elevations, and sections.
- Structural and Engineering Plans: Collaborate with structural, electrical, and mechanical engineers for safety and efficiency.
- Approvals and Permits: Obtain building permits from local authorities to ensure compliance with zoning laws and regulations.
- Budgeting and Cost Estimation: Develop a detailed budget, including materials, labor, and contingency funds.

2. Setting out

Setting out a building is the process of transferring designs proposals from paper or digital plans onto the physical site. It involves marking the exact positions of walls, foundations, and structural elements to ensure accurate construction according to the approved plans.

Key Aspects of Setting Out a Building

1. **Accuracy:** Ensures the correct placement of the structure within the plot.
2. **Reference Points:** Establishes baselines, gridlines, and benchmarks for construction.
3. **Compliance:** Aligns with building codes, regulations, and property boundaries.
4. **Structural Integrity:** Prevents misalignment, which could lead to structural issues.

3. Foundation

A **foundation** in a 3-bedroom flat is the structural base that transfers the load of the building safely to the ground. It ensures stability, prevents settlement, and provides support for the walls and columns of the structure.

Foundation Construction Process

1. **Site Preparation:** Clearing and marking the foundation layout.
2. **Excavation:** Digging trenches to required depths.
3. **Soil Treatment:** Applying chemicals to prevent termites and soil erosion.
4. **Reinforcement:** Placing steel bars for structural strength.
5. **Concrete Pouring:** Filling the trenches with concrete to form a solid base.
6. **Curing and Setting:** Allowing the concrete to harden before building starts.

4. Structural Construction

This phase involves building the core structure of the flat

- Column and Beam Construction: Erect reinforced concrete columns and beams for structural stability.
- Walling and Brickwork: Lay blocks or bricks to form external and internal walls.
- Lintel and Roofing Framework: Install lintel beams over doors and windows before constructing the roof frame.
- Roofing Installation: Use appropriate roofing materials such as metal sheets, tiles, or concrete slabs.

5. Utilities and Services Installation

Essential services like electrical, plumbing, and HVAC are installed.

- Electrical Wiring and Fixtures: Lay electrical conduits, wiring, sockets, and lighting fixtures.
- Plumbing System: Install water supply lines, drainage pipes, and sanitary fittings.
- HVAC and Ventilation: Fit air conditioning, heating systems, and proper ventilation units.

6. Finishing Works

This stage enhances aesthetics and usability.

- Plastering and Screeding: Apply cement plaster on walls and floors for a smooth finish.
- Painting and Decoration: Use suitable paints and wallpapers to enhance interior and exterior aesthetics.
- Flooring Installation: Install tiles, wood, or carpet flooring.
- Doors and Windows Fixing: Fit secure doors, windows, and locks.
- Kitchen and Bathroom Fittings: Install cabinets, countertops, sinks, toilets, and showers.

7. Final Inspection and Handover

A final review ensures the building is ready for occupancy.

- Quality Control and Inspection: Conduct checks on structure, safety, and compliance with standards.
- Cleaning and Finishing Touches: Clear debris and polish surfaces.
- Handover and Documentation: Provide the owner with necessary documents, including warranties and maintenance guides.

CHAPTER FOUR

4.0 Images Showing Practical Work and Steps on Site

Image 2: showing compaction of soil by manual compacting machine

Image 2: showing DPC

Image 3: showing block forming after DPC

Image 4: showing block work in superstructure

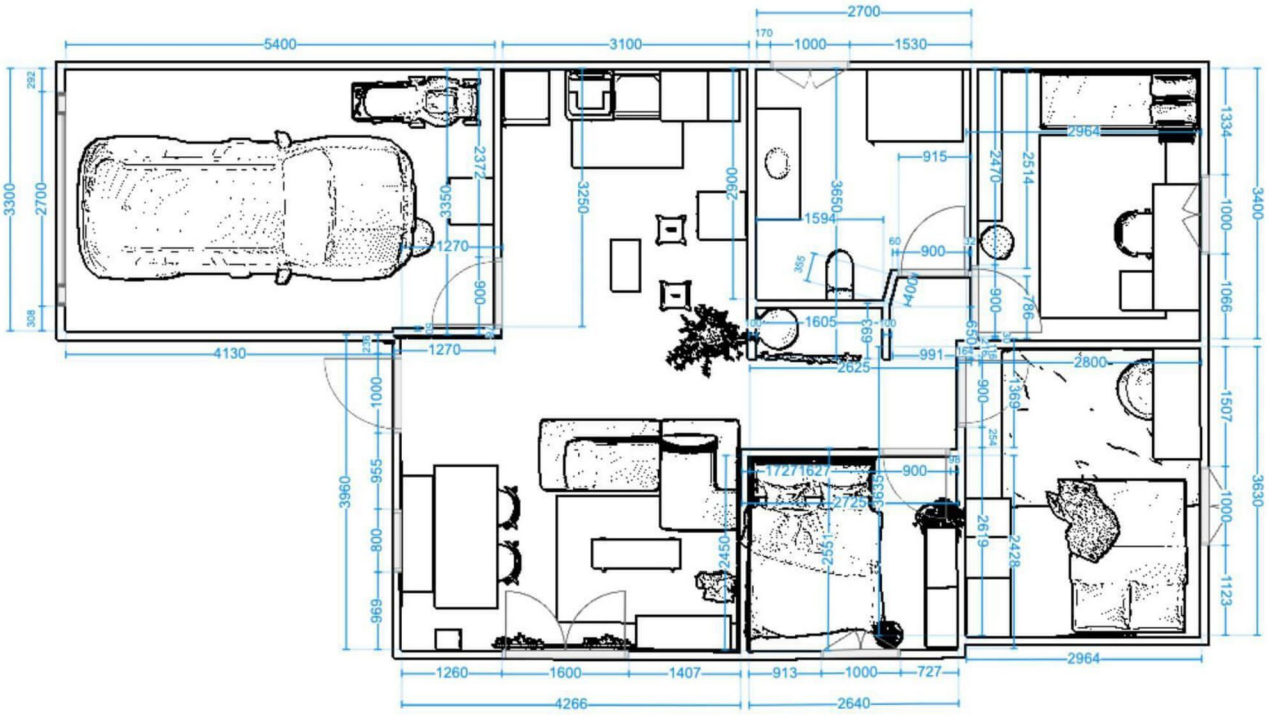

Image 7: showing floor plan of the building

4.1 Impression about the organization

Impression about the industrial training base on four months programs (siwes) was the acceptance of my siwes letter in their organization and also for provision of a construction site to enlighten and show all siwes student the practical work style of a professional builder on a construction site.

4.2 Personal relationship with the organization

The personal relationship with the company in highly correlating, because company accepts the training of the siwes students as their personal assignment, by showing us different technique in building construction.

The welfare and care giving to us in company was highly impressive because the company attached each and every one of the siwes student to different supervisor in which we are free to ask question about every unclear aspect during field work on site

CHAPTER FIVE

5.0 CONCLUSION

This program has brought improvement to my field of study. The experience gained through this program is majorly based on substructure and superstructure works on a Three Bedroom Flat, this program has inspired me to have technical knowledge and practical aspect of what I have learnt in school.

I hereby forward my appreciation to the Rector and Director of the Institute, HOD of my Department, and Professional Lectures in my department including my colleague in training, friends and every member of my family for their support both moral and financial.

My prayer to you all is for God in his infinity mercy bless you and reward every of your endeavor abundantly.

5.1 RECOMMENDATION

As a result of difficulties experience during the Four months SIWES program, I will like to recommend the following changes;

The Industrial Training Fund should make monthly allowance available for students, so as to put end to financial difficulties that may arise as a result of transportation problems.

The Institution must confirm that each student partake in the Industrial Training program, by making sure that they pay every student a visit before the end of the program.

The Institution and Industrial Training Fund should help the student to get the place of attachment, so that the program will commence as planned.

Students on SIWES program should be posted or deployed to the Organizations, Department or Firms that are relevant to their Course of study, so that the sole aim of SIWES can be achieved