



**A TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK
EXPERIENCE SCHEME (SIWES)**

AT

**PALMER MEMORIAL HOSPITAL
IKOT USEN, IBIONO IBOM
AKWA IBOM STATE**

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DEDICATION

This work is dedicated to the Almighty God and also to my beloved parents, Mr/Mrs.

Edet Akpan and Mr/Mrs. Anietie Ebong Ekpo

ACKNOWLEDGEMENTS

I acknowledge my manager, Mrs Eno Aniekan Umoh who gave me a chance to learn in her hospital, attachees and staff of Palmer memorial Hospital that gave me the opportunity to be their mist during my industrial training attachment. I also acknowledge my SIWES supervisor in school, Mr. A. E. Jonah.

We also wish to express our sincere gratitude to the Head of Department, Dr. Emmanuel Edet for piloting the affairs of the department.

ABSTRACT

The students industrial work experience scheme was established in 1973 by the Federal Government of Nigeria was aimed exposing student of higher institution to acquire industrial skill and practical experience gained during my four months of industrial attachment at Palmer Memorial Hospital Ikot Usen, Ibiono Ibom Local Government Area, Akwa Ibom State. This report highlights how patient are being managed and also the several test carried out for patient's such as pregnancy test, packed cell volume (PCV), widal (typhoid test), blood grouping test, hepatitis B test, genotype, malaria test, urinalysis test etc. I was opportune to work in different sections in the laboratory. These sections have exposed me to the precautions, rules and regulation of the laboratory, how to diagnose patient's and how the test are being analysed most importantly, it describe the activities and my experience gained during the period of the training.

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CHAPTER ONE: INTRODUCTION

1.1 Meaning of SIWES

The Student Industrial Work Experience Scheme (SIWES) is a training programme designed to prepare student of higher institution for post-graduation work situation as well as exposing student to work method and techniques in handling equipment and machinery that may not be available in their educational institutions.

It gives the student a first-hand opportunity to apply their knowledge in work situation thereby bridging the gap between theoretical aspect of education and practical. Consequently, this report summarized the 2023 SIWES training undergone at Palmer Memorial Hospital, from November 2023 to March 2024.

1.2 Scope

In 1973 SIWES was introduced to the Nigerian Polytechnic National Board for Technical Examination (NBTE). The purpose of NBTE was to enable student to know the practical aspect of study, it also help student to be exposed in both theoretical and practical aspect of it.

1.3 Aim and Objectives of SIWES

1. To prepared an avenue for student of tertiary institution to acquire industries skills and experience in their course of study.
2. To prepare students for industrial work situation they are likely to meet after graduation.

3. To expose student to work method and techniques in handling equipment and machineries that may not be available in their institutions.
4. To prepared student to withstand the pressures of the outside world.

CHAPTER TWO

BRIEF HISTORY OF THE CONSULTING FIRM

2.1 Establishment

Palmer Memorial Hospital is private hospital establishment on the 27th of April 1985.

2.2 Ownership

Palmer Memorial Hospital is own by Dr. Henry W. Palmer.

2.3 Location

Palmer Memorial Hospital is located at No. 15 Ikot Usen, Ibiono Ibom Local Government Area, Akwa Ibom State.

2.4 What they do:

The specialized on how to diagnose patients and how test are being analyzed.

2.5 Managers

Mrs. Eno Aniakan Umoh

2.6 Supervisors

Miss Emem Asanga

Miss Blessing Peter Eka

2.7 Sections

Phlebotomy section

Hematology section

Serology section

Microbiology section

CHAPTER THREE

3.1 Brief Summary of Work Carried out in the Organization

FASTING BLOOD SUGAR TEST

Aim: To determine the concentration of glucose in patient's blood.

Materials used: Blood sample, lancet, glucometer, Accu check strip

Procedure: After taking the blood sample from the patient, the test trip was inserted into the glucometer immediately there was an indicator showing that the glucometer is ready for analysis. A dropped of blood was placed in the portion of the strip. After 5 seconds, the result was displayed on the screen and it was recorded.

Interpretation of Result

Result always displayed on the screen in mg/dl, we then convert from mg/dl to mmol/L by dividing it by a constant number (18).

Fasting Test Result

The result of fasting test with respect to glucose level in the body are as follows:

- **Normal:** 3.9 to 5.4 mmol/L (70 to 99 mg/dl)
- **Prediabetes:** 5.5 to 6.9 mmol/L (100 to 125 mg/dl)
- **Diagnosis of Diabetes:** 7.0 mmol/L (126 mg/dl or above)

PACKED CELL VOLUME (PCV)

Aim: To determine the percentage of red blood cell in the human body

Materials: Capillary tube, EDTA (ethylene-diaminetetraacetic acid) bottle, sealant, syringe, cotton wool, 70% alcohol.

Procedure: After collecting the sample, empty the sample in an EDTA bottle and then use a capillary tube to pick the sample and seal with a sealant before spinned in a centrifuge machine for 5 minutes.

Result:

- Normal value for men is 40 – 54%

- For women is 37 – 47%
- During pregnancy in women 33-38%

BLOOD GROUPING TEST

Aim: To examine blood cells for their A or B antigens and serum and for its anti-A, anti-B and anti-AB contents.

Materials: White tile, blood, syringe, pipette, cotton wool, dry and wet swab, A, B and D anti-sera.

Procedure:

1. Clean the finger tip to be pierced with 70% alcohol (usually ring or middle finger).
2. With the help of sterile lancet pierce the finger-tip and place one drop of blood in each of the cavities of the tile.
3. Add one drop of anti-sera into each cavity.
4. Observed agglutination in the form of the red granules within 30 seconds.
5. Anti RhD takes slightly longer time to agglutination compared to anti A and anti B

Interpretation of the Result

- If agglutination is observed when blood mixed with anti A reagent, then the individual is said to have blood group A.
- If agglutination is observed when blood is mixed with anti B reagent, then the individual is said to have blood group B.
- If agglutination is observed when blood is mixed with anti A and anti B reagent then the individual is said to have blood group AB.
- If no agglutination is observed when blood is mixed with anti A and anti B reagent then the individual is said to have blood group O.

N/B: Blood group O is a universal donor, while AB is a universal recipient.

MALARIA PARASITE

Aim: To determine the presence of malaria parasite in blood

Material: Lancet, glass slide, field stain A and B, microscope.

Procedure: The ring finger was massaged and then clean with 70% of alcohol and pierced, one drop of blood was placed on a slide and then stir well to lysed the RBC. The slide stained with blood is dried (either air dry or incubator) and then stained with field stain A for two minutes then rinse with water and counterstain with field stain B for one second and rise.

Species of Malaria Parasite

- (1) *Plasmodium falciparum*
- (2) *Plasmodium knowlesi*
- (3) *Plasmodium malariae*
- (4) *Plasmodium vivax*
- (5) *Plasmodium ovale*

Characteristics of Malaria Parasite

- (1) Red chromatin dot
- (2) Blue cytoplasm

Different shapes of Malaria Parasite

- (1) Ring shape
- (2) Ear phone shape
- (3) Banana shape
- (4) Comma shape

URINALYSIS TEST

Aim: To detect a wide range of disorders such as urinary tract infection in urine

Materials: Gloves, urinalysis test strip, urine sample bottle.

Procedure: Collect fresh urine specimen in clean dry container. Mix well immediately before testing and entire in routine record book and give a line number too. Open the cover and remove one strip from strip bottle and replace cap

immediately. Completely immerse reagent areas of strip in fresh urine and remove immediately to avoid dissolving out the reagent. Hold the strip in a horizontal to prevent possible mixing of chemicals from adjacent reagent or containing the hands with urine, hold the strip close to colour blocks and match carefully. Read result after 10 seconds for all recipient areas.

Combi 9: The nine parameters in combi 9 are;

- (1) Blood
- (2) Urobilinogen
- (3) Bilirubin
- (4) Protein
- (5) Nitrite
- (6) Ketone
- (7) Ascorbic acid
- (8) Glucose
- (9) pH

PREGNANCY TEST

Aim: It is used to determine the human chorionic gonadotropin (HCG) in blood of an individual. The presence of HCG is detected in pregnancy tests.

Materials Used: Pregnancy test strip, syringe, centrifuge machine, EDTA bottle.

Procedure (For serum)

- (1) Venous blood collected and spined with a centrifuge machine
- (2) The removed the strip from sealed foil pouch
- (3) Peeled off the test card and then placed the strip
- (4) Add two drops of plasma or serum into the specimen pad of test strip and then checked the result

In summary, during our period of attachment at Palmer Memorial Hospital as SIWES Cataloguing some information materials for the laboratory technician, attending to patient, confirming and examining their request form, entering their details into the register telling them concerning their test they are to undergo and directing them to where the test is to be carried out.

CHAPTER FOUR

4.1 Experience

- i. Learning a new skill: The SIWES programme help to learn new skill that are specific in the organization.
- ii. Improve educational and working skill: Working in this organization have help in improving my educational and working skill.
- iii. Time management: Management effectively is crucial in the industry, and I was to learn prioritize task and meet deadline.

4.2 Problem Encountered

The main problem encountered were getting placement and other problems encountered during the training was attending to different people with different personalities at the reception.

4.3 Conclusion

My four month's industrial attachment at Palmer Memorial Hospital has been one of the most interesting, productive, instructive, and educative experience in my life through this training, I have gained new insight and more comprehensive understanding about the real industrial working condition and practice and also improved my soft and functional skills.

All these valuable experience and knowledge that I have gained were not only acquired through the direct involvement in task but also through other aspect of the training such as work observation, supervision, interaction with colleagues, supervisors, superior and other people related to the field. It also exposed me to some certain things about medical environment. And from what I have undergone, I am sure that the industrial training programme has achieved its primary objective.

As a result of the programme, I am now more confident to build my future career which I have already started with Palmer Memorial Hospital.

4.4 Recommendation

I recommend that all institutions or bodies involve in student industrial working experience scheme, should provides places for industrial attachment for student industrial training fund and also pay some allowances to student and the company should provide more safety equipment to prevent further environmental and health hazards.

Also, to student that are to undergo the training, I recommend that they should take it very seriously, because it is one of the most important parts of their studies which will help them to build a very significant and effective meaning in their career pursuit. And also recommend SIWES students to Palmer Memorial Hospital for their industrial training.

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