A

TECHNICAL REPORT ON

STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

AT

NATIONAL DEFENCE COLLEGE, HERBERT HACAULAY WAY, CENTRAL BUSINESS DISTRICT, ABUJA.

PRESENTED BY

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BHU/20/04/05/0025.

SUBMITTED TO

THE DEPARTMENT OF COMPUTER SCIENCE,

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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN COMPUTER SCIENCE.

NOVEMBER, 2022.

# CERTIFICATION

This is to certify that this report represents the students’ industrial work experience at National Defence College, Herbert Macaulay Way, Central Business District, Abuja, Nigeria.

I hereby certify that **BENSON MICHAEL TAMUNO** with matriculation number **BHU/20/04/05/0025** of the Computer Science department of Bingham University, Karu, Nasarawa state, wrote this report in partial fulfillment of the requirements for the award of Bachelor of Science (B.Sc.).

This report has not been submitted elsewhere.

NAME OF H.O.D NAME OF SIWES CORDINATOR

**DR SILAS FAKI MR YAKUBU IBRAHIM**

SIGNATURE & DATE SIGNATURE & DATE

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NAME OF INSTITUTE BASED SUPERVISOR

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SIGNATURE & DATE

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# ACKNOWLEDGEMENT

I wish to acknowledge and thank Almighty God and everyone who contributed in one way or the other towards success of my industrial training at National Defence College. I also wish to express my sincere gratitude to the organization for giving me the opportunity to undergo my Industrial Training with them. A huge thanks to Mrs Oluwatoyin Adeyemo, Dr. Ibrahim Yakubu and other staff, I also want to thank the entire staff for their unending efforts especially in teaching me amidst their tight schedules as well as their great supervision throughout the period of my SIWES program. My gratitude also goes to all who contributed towards the success of my Industrial Training and my fellow trainees at NDC also I am grateful to my SIWES coordinator in person of Prof. I.O Jerome, The H.O.D. of computer science Dr. Silas Faki, Mrs Ann hassan, Dr. Adamu Usman, Dr Egene Onu, Dr. Felix, Dr. Gaga, Mr Godwin Elekwa, Mr Yusuf Musa, Mr Jenom maikori and Mr Barka Fori, I also appreciate the technologists of the department of computer science Mr. Langthon,, Mr joseph Aremu, Mrs Ipole Nancy. Many thanks to the departmental secretary Mrs Talatu Bowman and other staff of Bingham university.

**-BENSON MICHAEL TAMUNO**

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# DEDICATION

It is of tremendous pleasure that I dedicate this SIWES to my lecturers, supervisors, family and friends, for their contributions towards the success of this training and also dedicate this report to Almighty God for guiding me through the whole experience in my SIWES training.

# ABSTRACT

The Student Industrial Work Experience Scheme established by the Federal Government of Nigeria was aimed at exposing students of higher institutions to acquire industrial skills and practical experiences in their approved courses of study and also prepare students for the Industrial work situation which they are likely to meet after graduation. This technical report is based on the experiences gained during my Six months of Industrial Training at National Defence College (NDC) . This report highlights the major based technologies used in the company and my exposure to media work and ICT learning.

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# CHAPTER ONE

## 1 .0 GENERAL INTRODUCTION TO THE SIWES PROGRAM

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

**Student Industrial Work Experience Scheme (SIWES)** is a compulsory Skills Training Programme that was established by ITF in 1973 to solve the problem of lack of adequate practical skills preparatory for employment in industries by Nigerian graduates of tertiary institutions.

## 1.1 NATURE AND SCOPE OF SIWES

This is based on the number of weeks or months that student is expected to stay for its

attachment. The minimum duration for SIWES should normally be six months, twenty-four

weeks (24) weeks for University Engineers and Technologist. The cumulative total duration

of attachment over the entire period of the course should preferably be not shorter than

240hrs full time which will take place during term-time or long vocation.

Induction sessions which is conducted by teaching departments to install the concepts

of key skills (skills for learning, employment and life), work place safety and professional

expectations, legalities and ethics.

## 1.2 AIMS AND OBJECTIVES OF SIWES

Participation in SIWES has become a necessary pre-condition for the award of Diploma and Degree certificates in specific discipline in most institutions of higher learning in the country, in accordance with the educational policy of the government.

Moreover, listed below are some of her objectives:

* SIWES provides the avenue for the students in institutions of higher learning to acquire industrial skills and experiences in their course of study.
* Prepare the students for the industrial work situation they’re likely to meet after graduation.
* Expose students to work method and techniques in 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 contact for later job placement.
* SIWES provides students with an opportunity to apply their knowledge in real work situations thereby bridging the gap between theory and practice.
* Enlist and strengthens employers involvement in the entire educational process and prepare students for employment after graduation.

## 1.3 BENEFITS OF INDUSTRIAL TRAINING

Experts identified industrial experience as necessity for proper job preparation. This is

because productivity is enhanced by experience graduate or new entrance into the world of

work really needs and early exposure to the value and skills of the industry. Therefore,

without appropriate skills and experiences young graduates are not properly trained on work,

norms and role behaviour among others, these components will ensure success at the job

place.

Today Information and Communication Technology (ICT) is changing the way many

jobs are performed, thus altering the knowledge and skills required of workers. Consequently,

a new level of competency is required of our students. This cannot be sufficiently met by

training facilities in our education institutions hence, the need for collaborative effort

between institutions and industrial sector.

The major benefits accruing to students who participate conscientiously in industrial

training are the skills and competencies they acquire. These relevant production skills (RPSs)

remain a part of the recipients of industrial training as lifelong assets which cannot be taken

away from them. This is because the knowledge and skills acquired through training are

internalized and become relevant when required to perform jobs or functions. Several other

benefits can accrue to students who participate in industrial training.

Provision of an enabling environment where students can develop and enhance

personal attributes such as critical thinking, creativity, initiative, resourcefulness, leadership,

time management, presentation skills and interpersonal skills, amongst others.

# CHAPTER TWO

**2.1INTRODUCTION**

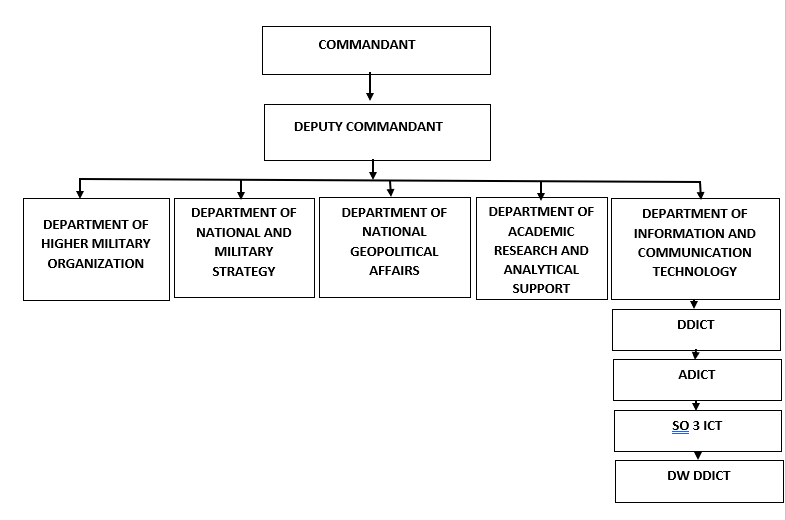
National Defence College (NDC)

## 2.2 HISTORY OF NDC

The National Defence College (NDC) is the apex military training institution for the Nigerian Armed Forces, and centre of Excellence for peace support operations training at strategic level in West Africa. It was established in 1992 as military institution for the training of senior military offices in Nigeria.

**2.3 STRUCTURE OF THE ORGANIZATION**

NDC has an organisation structure ranging from the board of directors to all the organisation staff, below is the organization organogram.



## 2.4 FUNCTIONS OF NATIONAL DEFENCE COLLEGE

1. NDC understand the fundamental concepts and dynamics of international relations as they impact on national interest.
2. NDC understand the role of science, technology and innovation in national security and development.
3. NDC Forge collaboration with national, regional and international partners and similar institutions.
4. NDC undertake advanced academic research at national strategic policy levels.
5. NDC examine Nigeria’s foreign policy and dynamics of international relations as they impact on national interest.

## 2.5 VARIOUS DEPARTMENTS IN NDC

* Department of higher military organization.
* Department of national and military strategic.
* Department of national and geopolitical affairs.
* Department of academic research and analysis support.
* Department of Information, communication and technology.

# CHAPTER THREE

**INDUSTRIAL WORK**

During my 5 months at NDC I worked at the main ICT office and I helped with installation of software, a bit of networking, I learnt about software installation, primary networking and computer hardware, below are the tools I used at NDC and how they were beneficial to me.

**3.0 INTRODUCTION TO COMPUTER**

A computer system be it micro, a mainframe or super computer consist of both hardware and software. It is an electronic machine capable of accepting data, process the data into a meaningful information as output. A computer is a machine or tool, which is capable of taking input data, storing the input data, processing the input data, and producing the output report on paper or computer store for human being to use The term computer is obtain from the word compute. A computer is an electronics device that inputs (take in) facts (known as data) and then processes (does something to or with it).

1. **INFORMATION TECHNOLOGY**

 In simple language, information technology (I.T) is the overall technical where withal required for an efficient gathering, storage, processing utilizing computers, the internet and other electronic tools like camcorders, mobile or cell phone etc.

1. **INPUT AND OUTPUT DEVICES**

 Some of the Input Devices include:

1. Keyboard

2. Mouse

3. Joystick

Output Devices Include:

1.Monitor

2.Printer

3. speaker

**III. PART OF A COMPUTER**

There are two main parts of computers, hardware and software.

1. **HARDWARE:** are all part of computer he computer you can see and touch or visible part of a computer which means is the physical device one can see and touch. Eg (keyboard, mouse and printer).
2. **SOFTWARE**

 are list of instructions needed by a computer to perform specific tasks. Software is often called a program, most times they are compilation of codes written in specific language. There are type of software such as utility software, application software etc.

1. **APPLICATION OF COMPUTER**

 Computer has varying applications ranging from the most mundane and simple tasks to the highly sophisticated and seemly complicated. Computers can be applied to basic office jobs like typingmemos,letters,graphicdesign, photo imaging and massive data analysis in different fields such ascommunication, engineering, crime control, medicine and other technology based field to mention but few. Computer has made it possible to keep reliable records, to manage large files to conduct near impossible searches, to manage and protect databases and promote secure and efficient payment system.

1. **CONNECTING COMPUTER TO POWER**

 This is very crucial and never learn it by trial. Let a competent technician demonstrate it to you. Truth however is that it is as simple as connecting a video player and television set to themselves and then to power. Once the technician has demonstrated this at least twice-then you are good to go. The use of inverter and stabilizer for any computer is recommended, because of power fluctuation.

## 3.1 SOFTWARE INSTALLATION

I also installed software applications such as antivirus mainly Kaspersky and Microsoft office by either disk or bootable flash drive and also activated Microsoft office and backed up computer systems.

## 3.2 INTRODUCTION TO MICROSOFTWORD

Microsoft word is an application used to create, edit and print documents such as letters, stories, newspapers, reports and memos.

**FEATURES OF MICROSOFTWORD**

1. Used for captions
2. Use style
3. Use comments
4. Embed things like objects

## INTRODUCTION TO MICROSOFT EXCEL

Microsoft excel is an application used to analyse and calculate data.

**FEATURES OF MICROSOFT EXCEL**

1. To Insert rows, columns and worksheet.
2. To add header and footer.
3. To rename work sheet.
4. Text direction/ orientation.

## 3.2 INTRODUCTION TO MICROSOFT POWER POINT

Microsoft power point presentation is an application used to communicate and present ideas in form of a presentation.

**FEATURES OF MICROSOFT POWER POINT**

1. Presentation and slides.
2. Slide layout.

**CHAPTER FOUR**

# 4,0 KNOWLEDGE GAINED DURING SIWES

The student industrial work experience scheme (SIWES) exercise has contributed greatly in my academic

Carrier, because I have gained some experience which is very useful to my field of study. Some of the advantages include:

1. My knowledge on computer component improved I.e. hardware and software, how to lunch computer packages such as Microsoft Word, Microsoft excel e.t.c.
2. SIWES gave me the opportunity to gain first experience of the office profession.
3. I gained knowledge of software installation like microsoft office and antivirus.
4. My use of media work improved.
5. I gained knowledge in the working experience of life.

## 4.0.1LIMITATIONS, CHALLENGES AND ADEQUATE RECOMMENDATION

The emergence of any training comes along with its limitations, challenges and adequate recommendation. The major benefits awarded to students who participate conscientiously in industrial training are the skills and competence they acquire. This is because the knowledge and skills acquired through training are internalized and become relevant when required to perform /jobs or functions but this should not be over emphasized.

Some of the difficulties and limitations encountered before, during and after SIWES period are being discussed in this chapter along with a few suggestions to future SIWES students.

## 4.0.2 LIMITATIONS OF THE TRAINING

* Difficulty in securing an IT placement.
* The inability of SIWES to have uniform assessment of students with the same criteria being applied by all tertiary institution

## 4.0.3 CONCLUSION

Conclusively, during SIWES period (from April to October 2022), I got to experience work in government body learning that necessary steps are critical when working in such environments and any environment generally.

Skills which includes forms, troubleshooting network related issues, configurations of wireless networks on both computers and hand-held devices, installations of computer hardware components, troubleshooting faulty lines in most challenging situations and mostly exposure to technology used in the ICT department.

It also gave me a broader view to the importance and relevance of Computer Science in the society and the world at large.

## 4.0.4 RECOMMENDATIONS

* The University should create mutual relationship with employers so as to enhance the acquisition of industrial training placements for its students.
* The government should enforce a law that compels industries to employ students to be trained under them. This will help to reduce the number of students who do not undergo this exercise.
* It is recommended that higher institution revise their curricula so as to introduce new courses to meet the needs of employers in the public and private sector.
* There should be uniformity in the school calendar so that companies will know exactly when to employ students for training, and the minimum duration of 6 months will be achieved before the next semester commences.
* The SIWES Coordinator should seek out ways in order to persuade lecturers to comply with this supervision.
* There’s the need for future SIWES participants to ensure that they apply to the establishment on time so that the duration of the exercise will be completed before the next session begins.
* Students should try as much as possible to apply in firms where their course of study is practiced; but shouldn’t be limited by it because the working experience is even more important.
* Students should be aware of the Safety standards and Hazardous risk associated with the working environment before carrying out any task.

## 4.0.5 SUGGESTIONS TO FUTURE SIWES STUDENTS

Students should take their SIWES very seriously and gain as much as possible, because it’s the only period the theory of classroom can be felt and seen in practical form to be appreciated.

Also, students should be made to do their industrial attachments anywhere in the world provided it is applicable to their course of study. And when trying to select a place, money or allowance paid should not be the utmost priority, but a place where they can be impacted with great practical knowledge and skill to back up all the theories being learnt in school.

## 4.0.6 REFERENCES

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